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Precise performance model for a complex system using the self-adaptive learning-based Autonomous test framework

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Abstract

With the persistent change of schooling in our nation, increasingly more consideration has been paid to the development of understudies' athletic skill. Nonetheless, the current assessment techniques for understudies' actual capacities are single and don't accord with the instructive idea of "individuals arranged". Along these lines, the plan and development of the assessment arrangement of actual capacity of understudies in the world dependent on neural organization BP calculation were advanced in this paper, and the neural organization BP calculation was clarified using self-Adaptive learning based autonomous mobile network. Through the trial test, it tends to be reasoned that the assessment framework can exhaustively think about the understudies' circumstance and do distinctive assessment measures. Furthermore, the last assessment of understudies is somewhat sensible, which can excite the eagerness of understudies, and raise the consciousness of understudies' deep-rooted work out using the self-adaptive learning-based Autonomous test framework. To look for the improvement opportunity and stage coordinating with the world, many countries have accepted the games as the advancement point, and the games advancement has become the public key advancement project. In this unique situation, how to deal with the games business has become the focal point of examination. In this paper, the current home ground and worldwide games the board model was investigated, and the working component of sports the executive's mode was talked about; joined with the poll review strategy and the master scoring technique, the

upsides of the current games the board instrument were examined based on the SWOT examination, in order to add to the improvement of the games the executive's framework and the advancement of the improvement of sports endeavours.

Keywords: BP (Back Propagation) algorithm, Mobile network, Mode advantage, Operating mechanism and SWOT analysis.

1 Introduction

Amidst the ongoing transformation of education, the spotlight has shifted to ensuring the quality education of college students in higher education. This is particularly relevant due to the rising standards of living, which have inadvertently led to a decline in the physical fitness and activity levels of many college students. A noteworthy concern is the absence of comprehensive and standardized evaluation criteria for students' athletic capabilities within university settings. Often, the final examination results are solely relied upon as the ultimate yardstick for assessment [1]. Simultaneously, an imbalance has emerged between the emphasis on training students' physical prowess and the inadequate attention given to their evaluation methodologies. Consequently, this misalignment culminates in unscientific and illogical evaluation outcomes, diverging from the foundational educational principle of "student-centered" learning [2]. Thus, constructing a rational and scientifically grounded assessment framework for college students' physical abilities has emerged as a focal point of academic exploration and is the central theme of this article.

In light of thorough exploration and inquiry, discernible variations in the physical aptitude of current college students have been established. Esteemed experts concur that the physical fitness of college students globally lags behind that of their peers in five distinct regions. Furthermore, concerns have arisen over the limited understanding and engagement of college students in lifelong physical activity [3]. A global self-evaluation survey of college students underscores that while most students possess commendable foundational physical ability objectives, their execution and success rates remain subpar. This glaring discrepancy between students' fitness goals and their actual athletic training highlights a significant gap, hindering sustained exercise engagement and resilience. Employing a self-adaptive learning-oriented autonomous testing framework [4], this predicament can be attributed to three primary factors: firstly, improved living standards paradoxically correspond to diminished opportunities for physical activity; secondly, the realm of College Students' sports training remains in an exploratory phase, leading to a deficiency in scientific and structured evaluation systems, thereby impeding the accurate diagnosis and comprehension of students' athletic capacities [5]; finally, as college students are still in the process of ideological development, their perspective on athletic training remains skewed, necessitating heightened consciousness and reinforcing their appreciation for physical exercise and personal ideological growth.

In recent years, scholarly discourse has predominantly revolved around two key perspectives. Firstly, students' physical abilities encompass their aptitude for understanding and mastering sports, with a subsequent ability to adjust the manner and approach of their participation in physical activities, based on psychological and behavioural considerations [6]. This perspective encompasses five pivotal factors: students' cognitive competence in sports, their physical prowess and adaptability, the ability to engage in scientifically sound exercise, and the faculty for assessing physical activities. On the other hand, a contrasting viewpoint postulates the division of students' sports prowess into two categories: general and specialized abilities. The former encapsulates the capacity to grasp the "three fundamental components" of physical education and undertake self-assessment of exercise abilities, while the latter encompasses psychological and physical attributes, physical fitness, and adaptability [7]. However, both these stances hold distinct emphasis and, on their own, fall short in providing a comprehensive evaluation of college students' physical abilities.

This article delves into the existing landscape of sports management models through a domestic

and international research lens, dissecting their operational mechanisms. It proceeds to leverage SWOT analysis, questionnaire surveys, and expert evaluations to formulate a comprehensive questionnaire, subsequently investigating the strengths inherent in these sports management models. Moreover, it dissects the pivotal factors influencing sports management based on survey findings. The concluding section encapsulates a comprehensive synthesis of the entire discourse, culminating in conclusive insights that endorse the analysis of sports management models using the self-adaptive learning-oriented autonomous testing framework, supported by SWOT analysis technology.

2 Related Works

Presently, the evaluation framework for college students' physical abilities faces a set of challenges, encompassing the subsequent aspects:

Foremost, the current evaluation approach lacks a seamless continuity throughout the evaluation procedure. Typically, college students' physical prowess is gauged solely through midterms and finals, sidelining the consideration of their overall performance and practice efforts. Consequently, this approach renders the evaluation process and its outcomes inherently flawed, lacking in scientific rigor and objectivity due to its partial nature. This deficiency underscores the need for a more comprehensive and holistic evaluation system [8].

Secondly, the prevailing sports ability evaluation system exhibits a certain fragility in its underlying principles. This frailty materializes primarily within the evaluation process, where an inadequate focus on the integration of students' physical and mental growth becomes evident. As a result, the guiding principles and resultant evaluations lack the requisite scientific foundation to accurately measure students' overall abilities [9].

Thirdly, the current assessment of students' physical capabilities demonstrates a notable lack of efficacy. This shortcoming stems from an overemphasis by instructors on the students' athletic achievements, subsequently employing these outcomes as the exclusive basis for evaluation. This undue emphasis on results has given rise to a concerning trend where students prioritize outcome-driven performance and undervalue the cultivation of foundational skills [10]. To illustrate, consider the assessment of students' basketball shooting abilities: while speed plays a crucial role in this evaluation, students frequently concentrate on speed alone, neglecting the nuances of effective shooting techniques. Figure 1 graphically represents the points of assessment and evaluation of specific sports within university settings.

SWOT analysis, often referred to as situation analysis, is a strategic framework encompassing four key aspects: strengths, weaknesses, opportunities, and threats. This analytical approach offers a comprehensive methodology by dissecting all influential factors into two primary categories: internal factors and external factors. The internal factors are further categorized into two subgroups: the dominant factor and the inferior factor, at the same time, the external factors are divided into two sub categories: opportunity factor and threat factor. The researchers divide the factors into four parts, and arrange them in a matrix, and then analyze the four parts of the system. SWOT analysis method is easy to operate, the limiting factors are less, and the conclusion is clear image, it can provide a clear idea for the study, so that researchers can grasp the key problems and analyze them, and then come up with convincing measures or suggestions. Therefore, SWOT analysis method has been favored by many managers, especially managers, and has become one of the most important strategic methods for management researchers.

Since the beginning of the twenty-first century, the rapid advancement of Internet technology, coupled with the integration of the global economy and the rise of economic globalization, has led to the seamless integration of worldwide networks and information into the fabric of people's lives [11]. Electronic commerce, often known as e-commerce, has emerged as a novel and cost-effective avenue facilitated by the internet [12]. This

transformative approach has significant implications for individuals, companies, and enterprises, constituting a pivotal trend in global development [13]. Aided by the synergy of the Internet and the Internet of Things, diverse forms of e-commerce continue to evolve and expand [14]. The bedrock of e-commerce rests on the harmonious convergence of information networks, financial flows, and logistical operations [15]. Notably, the efficient distribution of goods through logistics holds pivotal significance in realizing successful e-commerce transactions. It stands as a critical component within the realm of e-commerce. In essence, the absence of modern logistics technology and infrastructure would render the transformative effects of e-commerce ultimately unsustainable, akin to a mere fleeting phenomenon.

Logistics companies must align the evolution of their logistics systems with the progress of society[16]. In the current social environment, the logistics system needs to be able to coordinate and develop with e-commerce [17]. Logistics informatization of the company is based on the development trend of the social environment, the existing logistics process and predictable development direction of the company, and the requirements for the collection, storage, exchange and distribution of logistics information [18]. Through the use of the company's internal information systems, external logistics data information, the Internet and other resources, the development of logistics information market, mobile network and digitalization can be promoted, the existing logistics management system can be improved, and new opportunities can be discovered and analyzed, so as to make better logistics strategy. Viewed from a holistic standpoint, this approach stands as a principal avenue for enhancing national competitiveness and propelling swift national economic growth. Concurrently, it serves as a vital strategy for augmenting the competitive edge of enterprises [19]. The logistics industry has a low threshold and a small scale. The related management level is low, and the technical level is relatively backward [20]. Logistics infrastructure needs further improvement. To enhance the holistic performance of the logistics sector and effectively enhance the quality of macroeconomic functioning within a limited timeframe, both enterprises and governmental entities have recognized the imperative to initiate actions at the vulnerable juncture of logistics information. By targeting this particular weak link, a catalyst can be set in motion to stimulate broader transformations within the logistics landscape. This strategic endeavour aims to revitalize various facets of logistics reform and address the prevailing challenges inherent in the e-commerce domain.

By extensively harnessing the capabilities of information technology, logistics information technology has the potential to elevate the management standards and enhance service quality within the logistics sector. Simultaneously, it offers the prospect of mitigating energy consumption and minimizing environmental impact, thereby fostering a shift in the trajectory of economic growth [21]. It mainly includes three aspects: the first one is the construction of the basic environment. Logistics related laws and regulations should be developed, and the construction of the logistics core technology and other infrastructure should be carried out. The second one is the construction of public logistics information platform. An open network information platform can be provided for all kinds of users to share information and services. And the third one is the construction of the internal information system of logistics enterprises. The construction of internal information system is the basis of logistics informatization.

In the process of the theory and application of logistics industry, the logistics informatization is an important issue. In twentieth Century, some scholars have pointed out that one of the long-term development trends of international logistics industry is logistics informatization [22]. In twenty-first century, there are more and more researches about the present situation and problems of logistics informatization. Through the classification of the different levels of logistics information, some scholars have summed that, the current situation of logistics information is low, the logistics information system is few, and the information

system is less, such as the lack of relevance [23]. The ultimate goal of logistics informatization is to improve enterprise benefit. Foreign scholars have carried on the research to the logistics information and the enterprise benefit. Some scholars have believed that in the logistics supply chain management, integrating information flow is as important as integrating material flow. Some scholars have believed that the integration of information flow can improve logistics efficiency. Some scholars have believed that, in the process from the supplier to the consumer, the coordination of each main body of supply chain in the operation of logistics is the integration of logistics. The main goal is to improve the efficiency of the supply chain, so as to improve the efficiency of individual enterprises. In addition, many foreign scholars have believed that the simple information system is not more important than the strategic information sharing. Thus, the essence of logistics integration is the consideration of safety production and service.

It can be seen from the above that the key to improve the efficiency of enterprises is the integration of logistics information. However, from the point of view of practical application, in the company's internal and supply chain, the logistics information is rarely truly integrated. It also shows that the theory of logistics informatization needs further study. Based on the rapid development of e- commerce in recent years, the new theory of information logistics is studied in this paper.

3 Methods and Materials

With the application of management theory and the emergence of interdisciplinary subjects, SWOT analysis has gradually entered the field of sports. By using the SWOT analysis method, through the comprehensive and systematic analysis and the study of the internal and external environment of the object, the author puts forward some countermeasures for the further development of the subject, which is of great significance. Specifically, the characteristics of the SWOT analysis are shown in the following table.

Table 1 Characteristics of SWOT analysis using the self-adaptive learning-based Autonomous test framework

Characteristic	Description
Qualitative analysis and quantitative analysis	**SWOT analysis method combines with quantitative analysis and qualitative analysis; it makes up for the lack that a single method is prone to missing.**
Comprehensive consideration of internal and external factors	**By meticulously analyzing both internal and external factors pertaining to the subject of study, the current state of affairs of the research subject is comprehensively taken into account. and the one sidedness of the problem is avoided; and then, the four parts are discussed separately, which can increase the possibility of logic and avoid the single problem.**
Simple and easy to master	**It can quickly spread from the field of business management to the management, public utilities and other management areas.**

3.1 Questionnaire Validity Test

The questionnaire's validity was assessed through an examination of its stability. After completing the first questionnaire seven days later,10 people in the first survey of experts were tested with the same questionnaire, the correlation coefficient of the questionnaire was obtained by correlation analysis and significance test of the data: $R=0.84$, $P<O.01$. The reliability of the questionnaire was significant, and the validity of the questionnaire met the requirements of the investigation. Concrete data is presented in the subsequent table.

Table 2 Basic situation of expert scoring

Expert constitution	Professor	Associate professor	Total
The number of people	9	1	**10**
Percentage	**90%**	**10%**	**100 %**

Table 3 Expert validity evaluation

	Reasonable	Quite reasonable	Commonly	Unreasonable
The number of people	4	5	1	**0**
Percentage	**40%**	**50%**	**10%**	**0%**

Through the above analysis, this paper analyzed the advantages of sports management mode, and the following advantages were obtained through the statistical analysis of the effective questionnaire.

Table 4 Analysis of the advantages of sports management mode using the self-adaptive learning-based Autonomous test framework

Advantages	N(20)	Percentage
It helps to ensure the rapid development of competitive sports	19	**95%**
It uses administrative means to complete the task of competitive sports ability	17	**85%**
The advantages of the project can be maintained	16	**80%**
Administrative centralization can effectively integrate all kinds of resources	15	**75%**
The management subject has authority	**10**	**50%**

Drawing from the preceding analysis, this study has identified the pivotal SWOT factors within the sports management system, and designed the second expert questionnaire. On the basis of the results of the first questionnaire, the same group of experts chose the important factors of the sports management mode, and a five-degree of importance scale was designed in each aspect; the values were 5, 4, 3, 2, 1 from very important to unimportant, and the average value of the main factors was not less than 3, as Concrete data is presented in the subsequent table.

Table 5 The key factors of sports management mode using the self-adaptive learning-based Autonomous test framework

	N	Mean value	Standard deviation
It helps to ensure the rapid development of competitive sports	20	4.05	**0.471**
It uses administrative means to complete the task of competitive sports ability	20	4.0	**0.943**
The advantages of the project can be maintained	**20**	**3.85**	**1.699**

rom the questionnaire survey and expert interviews conducted, it becomes evident that a substantial majority of experts maintain the perspective that a comprehensive national system holds the potential to catalyse the swift advancement of competitive sports [24]. Internally, this system offers notable advantages, particularly in its capacity to safeguard and facilitate the rapid growth of competitive sports; the administrative means can quickly and effectively achieve the goal of competition, and can maintain the dominant position of the traditional advantages of the project. Although the advantages of the internal of the whole nation system are obvious, and there are a lot of external opportunities, the disadvantages and threats are also obvious. In particular, the whole nation system is not suitable to the market economy, which will bring a lot of external threats. The developmental disorders caused by the whole nation system of competitive sports have gone beyond the advantages and opportunities of the national system for its own development space, and have become the main factor restricting Considering the challenges influencing the growth of the competitive sports system, this paper proposes several recommendations to enhance the sports management approach: (1) The management framework for competitive sports should actively address its inherent weaknesses, with the attitude of positive change, absorb the external threats and transform it into own advantages. (2) On the basis of the national policy, the government should exercise the administrative means with the condition and purpose and make full use of the government's financial backing to facilitate the rapid advancement of competitive sports, so as to improve the distribution of interests under the pattern of diversification of interests to resolve conflicts among different interests; at the same time, it is necessary to respect for athletes and coaches, and the state administration of physical education should keep self-restraint and give full play to the initiative of athletes and coaches in the process of sports training, so as to improve the training mechanism and retired mechanism of athletes, and Place emphasis on fostering the cultural refinement of professional athletes. (3) It is necessary to make full use of stable external environment to exert the superiority of the system; the government only retains the basic functions of supervision and management functions, and the main body is operated by the market, so as to gradually promote the industrialization and marketization of competitive sports.

The difference between logistics information and information logistics is that: logistics informatization is the form of using information technology to increase and improve logistics efficiency in the existing logistics resource's structure using the self-adaptive learning-based Autonomous test framework. After the use of information reaches a certain height, the information flow will highlight its own impact on the existing logistics resources matching, logistics methods and business model reform, so as to break through the existing framework of logistics information resources and transform the existing logistics into information flow.

3.2 Characteristics of Information Logistics

Information logistics has the following characteristics: the first one is the openness. Each main body in the logistics supply chain can voluntarily join or withdraw from the system. In the information logistics system, each subject can choose the type of logistics according to their own resources and technical expertise. The supervision mode of information logistics system is changed from the traditional examination and approval system to the post legal responsibility system. The second one is the publicans. Information logistics is the basic construction of logistics information and related services. Each logistics participant can join or withdraw independently. The information logistics system can provide the participants with more technology and matching services, and logistics information help. This allows most of the logistics participants, especially small and medium logistics join the social logistics division with low cost. In other words, the information logistics system reduces the technical threshold of social logistics resources, giving more opportunities for participants, especially small and

medium participants. The third one is the ecological behavior. Through the sharing and processing of logistics information, all the participants in the logistics information system can form a collaborative logistics community.

In recent years, with the development of science and technology, globe's e-commerce trade is also developing rapidly. 2011-2013, these three years are taken for example, as shown in table 6.

Table 6 E-commerce market data sheet

Year	National e-commerce transaction volume	Growth rate
2011	6 trillion	**33.3%**
2012	7 trillion and 800 billion	**30.6%**
2013	**10 trillion and 100 billion**	**29.8%**

At the same time, the requirements for electronic commerce are more and more strict. Logistics informatization needs to adapt to the development of the society. In order to better explain the new theory of information logistics, it is necessary to carry out research and Analysis on the basis of logistics Informatization [24]. Through the principal component analysis, the level of logistics informatization is evaluated. Then through the comprehensive finishing, the related factors of information logistics are obtained. The main idea of the principal component analysis is to avoid the subjective thinking, integrate a number of indicators into a small number of indicators, reduce the number of related variables, and get a lot of information and comprehensive analysis of the specific objectives of the problem [25].

3.3 Determination of Initial Indicators of Logistics Informatization

There are many factors that influence the level of logistics informatization, which must be based on the systematic, hierarchical, comparable, general and economic principles. Combined with the characteristics of logistics related companies, with the help of expert advice, market research, questionnaire survey and other methods, the evaluation indicators of logistics information are obtained.

Table 7 The initial evaluation index system of logistics informatization level using the self-adaptive learning-based Autonomous test framework

First grade index Ai	Second grade index Bi
A1 Information infrastructure	**B11 computer networking rate; B12 hardware installation level; B13 software advanced level; B14 information activity level; B15 information utilization value rate; B16 information sharing rate; B17 hardware facilities stability; B18 management system sound rate; B19 information input proportion; B20 information technology talent proportion**
A2 Business operation status	**B21 order processing time; B22 order processing accuracy; B23 supply guarantee rate; B24 contract fulfillment rate; B25 service informatization level; B26 decision level**
A3 Customer service level	**B31 damage rate; B32 the standard rate; B33 customer satisfaction; B34 average delivery date**
A4 Cost and profitability	**B41 unit logistics cost; B42 proportion of logistics costs; B43 logistics cost control level; B44 inventory unit cost; B45 capital turnover rate; B46**

information contribution to profitability

By using the principal component analysis method, the information evaluation index and the weight distribution of the index are determined. In each principal component, the load value of the original index and the difference of the factor values reflect the size of the effect, which can provide the basis for determining the weight of each index, and reduce the interference of human factors.

Table 8 Initial evaluation index system of weighted logistics informatization level using the self-adaptive learning-based Autonomous test framework

First grade index Ai	Second grade index Bi (the weight is in the brackets)
A1 Information infrastructure (0.42)	B11 hardware equipped level (0.215); B12 software advanced level (0.182); B13 information activity level (0.111); B14 information utilization value (0.115); B15 management system sound rate (0.073); B16 proportion of information input (0.119); B17 proportion of information technology professionals (0.185)
A2 Business operation (0.28)	B21 order processing time (0.112); B22 order processing accuracy (0.151); B23 supply guarantee rate (0.095)
A3 Customer servicelevel (0.12)	B31 damage rate (0.105); B32 customer satisfaction (0.145); B33 average delivery time (0.085)
A4 Cost and profitability (0.18)	B41 unit logistics cost (0.065); B42 logistics cost proportion (0.105); B43 logistics cost control level (0.275); B44 capital turnover (0.185); contribution rate of B45 information to profit (0.165); B45 contribution of informatization to profit (0.165)

4 Results and Discussion

The main body of the operation includes two groups of logistics provider and demander, which are also important parts of information logistics. Logistics provider is the supplier of logistics related activities, such as warehouse, classification, distribution and other services. Logistics provider is the main body of logistics operation, which is also an important participant in the information logistics system. The demand side is the one who needs logistics. The main basis of the customized product planning and development planning is the demand side's logistics demand information.

The support system is the combination of the information logistics and the related interests. Logistics operation main body, support system, information platform constitute the information logistics cost network. Logistics is a comprehensive industry, derived from the useful combination of different operations, but also requires a large number of matching services to support, such as maintenance of logistics equipment, upgrade information systems, etc.

Information platform is the central nervous system of information logistics system. Information platform is the medium of information exchange and information sharing among different subjects. Logistics information platform and e-commerce platform constitute the information platform. Its main function is to collect, sort out and send the logistics operation information to the participants in the system. Logistics information platform is to provide information on logistics services, while e- commerce platform is to provide information services required by logistics.

Information logistics system is a socialized logistics system. As the system, the logistics operation information is its input, and the logistics infrastructure service is its output. In theory, logistics demand, supply and logistics are regarded as the information of logistics operation. Logistics demand information generally refers to information put forward by logistics service demand side about logistics and time and space requirements. It includes the nodes in the process of logistics operation, the effectiveness of logistics services, product packaging and transportation requirements. Logistics supply information refers to the information provided by the logistics provider on the quality of logistics services, including the transport capacity, storage capacity, freight prices, etc. The logistics intermediate information includes the weather, the corresponding market information, and the traffic condition and so on. The details of these three types of information are shown in table 9. They can be converted into commercially available information through the adoption of an information-based logistics system.

Table 9 The main logistics operation system in information logistics system using the self-adaptive learning-based Autonomous mobile framework

Logistics demand information	**Logistics intermediate information**	**Logistics information**
Logistics service demand side generation	Provision of social institutions	**Logistics service provider**
1. Spatial Information	Weather information	**1. Capacity information**
Logistics starting information	Temperature information	**Daily order quantity**
Logistics terminal information	Wind information	**The number of logistics vehicles**
Logistics route information	Humidity information	**Business coverage**
	...	**...**
2. Time information	2. Road information	**2. Storage capacity**
Logistics timeliness information	Traffic information	**Logistics centers at all levels**
Logistics start time information	Rate information	**Warehouse area**
...	...	**...**
3. Cargo information	3. Policy information	**3. Service level**
Weight	National macro logistics policy	**Average number of delivery times per unit time**
Volume	...	**Unit distance average transit time**
Store information	4. Market information	**...**
Transportation information	Industry research	**4. Price information**

...	Economic environment	**Self-pricing basis**
4. Price information	...	**Competitor reference pricing**
Demand price		**...**
...		

Information logistics is an open social logistics system. Ideally, each part of the system is able to independently access to resources matching, operation and other related logistics information, so as to make the most favorable program. At the same time, from the perspective of the overall situation of social development, through the information logistics system, different participants in the logistics industry can develop harmoniously, survive together and compete effectively.

Logistics information plays an important role in traditional logistics operation. Information flow has little effect on the increase of logistics benefit. In other words, because of the lack of a mechanism to coordinate, enterprises will lose the benefit when sharing logistics information. The reason is that one of the central resources of the company's business is logistics operation information, which has a profound impact on the company's logistics business strategy and implementation. The company can't share its own logistics information without benefit, so it is difficult to integrate the social logistics information. After summing up, the reasons for the inadequate use of logistics information are: 1. Technical problems. Logistics information level is not enough so that the logistics company's ability to collect, integrate and process information is not enough. Logistics demand is too scattered, changeable, which has a higher demand for information acquisition capabilities. 2. Benefit mechanism problem. The important resource of the enterprise is the logistics information. The company is lack of power to share information with others. In other words, due to the lack of a mechanism to coordinate, the company will lose the benefit when sharing logistics information.

4.1 Technical basis

The information logistics system has changed the present situation of technical problems. The development of Internet, cloud computing and other high-tech has provided a technical support for the collection and integration of logistics information. And the openness and sociality of the information logistics system have provided opportunities for the individual companies to integrate into the broad market. Participants are able to break through the time and space constraints of the real economy.

4.2 Benefit mechanism

Information logistics system can provide a variety of basic logistics services for the company. E- commerce platform has a large number of logistics demand information, which breaks the current situation of the monopoly of the logistics demand information, and reduces the status of logistics demand information in the company. Therefore, the logistics demand information is devalued in the information logistics system.

Due to the emergence of information logistics system, more companies can have a broader market docking capabilities, and can collect logistics demand information in the market. In the information logistics system, the information resources can be fully utilized, and the information resources can be changed from static to timely, which is more conducive to the development of the logistics industry.

In this study, a sample of 10 college students, comprising 5 males and 5 females, was selected for the evaluation of their physical abilities. Specifically, the 100-meter running test was administered to this group. Conventionally, the passing time for the 100-meter race for male university students is set at 3 minutes and 30 seconds, while for female students, it is 3 minutes and 50 seconds. However, the standardized evaluation outcomes proved unsuitable for certain students. To address this, an alternative approach was adopted, considering each student's individual physical aptitude along with observations

and assessments from routine instruction. Utilizing the neural network Backpropagation (BP) algorithm, the study predicted the 100-meter running performance of these 10 students, and the results are documented in Table 10.

Table 10 Utilizing the self-adaptive learning-based autonomous test framework, students' projected passing scores for the 100-meter running test were estimated.

Number	Boys	Girls
1	3'05"01	3'58"21
2	2'59"22	4'11"02
3	3'31"43	3'21"55
4	2'41"32	3'13"24
5	3'43"45	4'05"33

In this study, an all-encompassing evaluation of students was conducted by integrating the projected outcomes, their everyday performance, and achievements. This comprehensive assessment was juxtaposed against the variances in individual students' physical aptitude, while simultaneously comparing the projected results to their real performance. Utilizing the neural network Backpropagation (BP) algorithm for computation, a pass or fail determination was made if the value fell within a specified margin of error. The error range for student projections and actual performance, along with the corresponding outcomes, are displayed in Table 2.

Table 11 Divergence between students' forecasted outcomes and their actual achievements, along with the corresponding results, based on the error range, are presented below:

Prediction (P)	Actual Achievement (A)	Result
> 0.91	< 0.36	Excellent
> 0.79	< 0.51	Good
> 0.69	< 0.65	Pass
≤ 0.69	≥ 0.65	Unqualified

A comparison was drawn between the actual test scores and the predicted outcomes for the 15 students participating in the 100-meter run. Analyzing the data from the table reveals that the majority of students exhibited errors within the pass range, with only a small subset displaying greater deviations. It's worth noting that apart from the diversity in students' physical capabilities, numerous additional factors are at play. Given this context, it becomes crucial to assess the final scores of the 100-meter run in alignment with customary benchmarks. Students who exhibit noteworthy advancements in their overall performance deserve recognition and affirmation through their scores.

Table 12 Evaluating the genuine test scores and anticipated performance of 15 students in an 100-meter run through the utilization of the self-adaptive learning-based Autonomous test framework.

NUMBER	BOYS	ACTUAL ACHIEVEMENT (BOYS)	GIRLS	ACTUAL ACHIEVEMENT (GIRLS)
1	3'05"01	3'02"15	3'58"21	3'57"01
2	2'59"22	2'59"01	4'11"02	4'16"43
3	3'31"43	3'33"01	3'21"55	3'39"24
4	2'41"32	2'41"29	3'13"24	3'10"12
5	3'43"45	3'59"12	4'05"33	4'01"55

Figure 1 depicts the outcomes of the university student's physical ability assessment system, established through the neural network BP algorithm. Examining the data portrayed in the figure, it's evident that a substantial majority of students find the

evaluation system more rational compared to standard evaluations. This system is capable of rendering a relatively objective and accurate appraisal of each student's capabilities based on their actual performance. Students with lower physical fitness levels experience affirmation and acknowledgment for their personal endeavors, thus fostering self-confidence in their exercise pursuits. Furthermore, this approach kindles enthusiasm among students for honing their athletic abilities.

This evaluation methodology shifts the focus from singular final tests to the broader integration of physical aptitude instruction throughout the curriculum. Consequently, it serves as a catalyst to enhance college students' awareness of lifelong physical activity. However, certain students posit that the system falls short in assessing their day-to-day performance and underscores the need for further refinement.

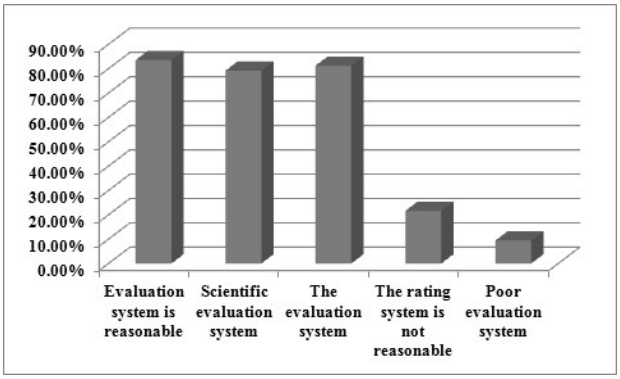

Figure 1 The assessment outcomes of the college students' physical ability evaluation system utilizing the neural network BP algorithm are presented in the figure.

5 Conclusion

The evolution of science and technology undoubtedly ushers in convenience to daily life while also influencing the physical activity patterns of college students. Constructing an optimal, systematic, and rational assessment framework for students' physical aptitude holds immense importance in enhancing their sports capabilities and nurturing a lifelong exercise ethos. This study embarked on designing and implementing a college students' physical ability evaluation system grounded in the neural network BP algorithm. The specific algorithmic components of this system were elaborated upon.

By evaluating college students' 100-meter achievements, the efficacy of the evaluation system was tested. From the empirical data, it becomes evident that the system offers a more reasonable prediction of students' physical capabilities, amalgamating seamlessly with their routine performances to facilitate comprehensive evaluation. The consideration of individual differences in students' physical attributes tailors' assessments to each student, reflecting their efforts in sports proficiency training. This personalized approach also ignites students' enthusiasm, sidestepping the pitfalls of uniform standards in traditional evaluation methods and curbing the tendency to prioritize outcomes while neglecting skill application.

However, a certain gap remains in assessing students during normal periods, warranting further enhancement. This study employed a combination of SWOT analysis, questionnaire surveys, and expert scoring to design a questionnaire addressing factors pertinent to the strengths of the sports management model. The analysis illuminated several internal advantages, including the capability of the nationwide system to effectively ensure the rapid growth of competitive sports, administrative measures expediting competitive goals, and the perpetuation of traditional project-based advantages.

Addressing the weaknesses and threats within the management model, this paper proposes corresponding enhancement strategies. Actively reforming and optimizing interest allocations within the sports management mode is crucial, along with capitalizing on external factors to further augment the sports management system.

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