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Retraction

Retracted: Tourism Resource Evaluation and Countermeasures Based on Network Communication and TOPSIS 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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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] W. Xie and Y. Ma, "Tourism Resource Evaluation and Countermeasures Based on Network Communication and TOPSIS Algorithm," *Wireless Communications and Mobile Computing*, vol. 2021, Article ID 8172282, 13 pages, 2021.

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Research Article

Tourism Resource Evaluation and Countermeasures Based on Network Communication and TOPSIS Algorithm

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Tourism resources are the basis of tourism activities. Affected by traditional values and the reusable characteristics of tourism resources, tourism resources have been regarded as worthless for a long time. In recent years, people have begun to establish correct values of tourism resources. However, due to the particularity of tourism resources, the issue of their value evaluation has been controversial. Value evaluation is value recognition or evaluative recognition. In order to develop a cost-effective method to obtain tourism resource evaluation and countermeasures, this paper has done a research on tourism resource evaluation and countermeasures based on network communication and the TOPSIS algorithm. For this reason, we selected a tourist attraction to conduct survey experiments. During the experiment, network communication was used to realize the exchange and sharing of their information between different people through specific media. At the same time, the TOPSIS method is used in the selection of the plan, based on the calculation results of the combined weighted TOPSIS, and the SPSS is used for the principal component factor. The suggestion and the exact conditions of the local tourism resources are combined to establish a model of the tourism resource evaluation system in this place. The experimental results show that the relative importance of viewing value is prominent in the evaluation of tourism resource value. Its weight reaches 0.509, and its popularity weight is 0.257. The evaluation and countermeasures of tourism resources based on network communication and TOPSIS algorithm are effective.

1. Introduction

In recent years, the tourism industry has become a leisure and entertainment service industry, which has attracted the attention of people in our society, and many people want to travel. However, the speeds and extent of the development of the tourism industry have been greatly improved, and the industrial structure has also been steadily improved, which has a clear promotion effect on the regional, especially for the tourism economy which has a very good help. Tourism resources are the basic conditions for the growth and development of tourism in a region. In order to transform the potential benefits of tourist sources into actual economic benefits, it is necessary to analyze the scale, quality, distribution, and isolation of tourist sources, conduct in-depth research and accurate statistics, and then understand its important significance. Therefore, the scientific and professional nature of tourism resources is an important foundation for the scientific development and safety of tourism resources and the guarantee for the healthy development of tourism in the region. Its scientificity is mainly reflected in the distribution of tourism resources; at the same time, with the rapid development of economy and society and the improvement of people's living standards, after the material needs of the masses have been met, the demand for services and spiritual products has begun to increase. At the same time, leisure time has also increased, and leisure tourism activities have become popular. This can greatly enrich the management methods of tourism resources. An indispensable part of the tourism industry is developing rapidly in the world, and tourism demand is also showing a diversified development trend.

With the improvement of people's living standards, tourism activities have gradually become an extremely common phenomenon. Because of its more and more significant impact on social and economic development, tourism research has also begun to become an issue of concern to scholars. The progress of tourism research is inseparable from the development process of tourism. For the study of tourism, most of the social science researchers are based on the perspective of phenomenology, that is, to analyze the essence and essence of the problem, starting from the observed phenomenon. Therefore, the progress of tourism research is inseparable from the development process of tourism. With the rapid growth of tourism demand and the increasingly significant role of the tourism economy, the country has paid more and more attention to the tourism industry and disciplines, and my country has also made great achievements in tourism research. In the exploratory stage, methodological research is still lacking. Methodological research is more difficult in the early stage of information processing. Our research on tourism is mainly from the perspective of learning and business. The former is the basic problem of tourism research, which provides a theoretical basis and points out the direction for the development of tourism; the latter focuses on application and guides industrial development and practical problems with research results.

In the research on tourism resource evaluation and countermeasures, Yuqing et al. proposed that under the current government's strategy of constructing the Silk Road Economic Belt, tourism in China's border counties is becoming more and more popular. Studying the tourism competitiveness of China's border counties has considerable theoretical and practical significance, because several significant factors are involved. This study constructed a tourism competitiveness evaluation model based on eight factors: natural environment, tourism resources, location and transportation, social environment, tourism service facilities, border ports, tourism industry clusters, and tourism market. Then, five types of border counties were identified: resource advantage type (RA), border port advantage type (PA), location advantage type (LA), agglomeration advantage type (AA), and relative balance type (RB), and conducted a test in 2006, summed up the correlation between the tourism market competitiveness of each county in 2011 and internal competitiveness factors. Their method can be used to formulate tourism strategies according to different county types. However, it is not applicable to tourism resource evaluation and countermeasure analysis [1]. Hu and Zhang said that red tourism featuring spiritual culture, resource integration, and historical socialization is an outstanding innovation with Chinese characteristics. It is a bright spot in the development of China's tourism industry. They will make an objective and correct evaluation of tourism resources. First, the methods of theoretical analysis and expert evaluation were used, and then, the fuzzy comprehensive evaluation method and the analytic hierarchy process were used to draw conclusions and related suggestions. Obviously, the combination of this method will easily produce a lot of errors [2]. Banerjee et al. said that various methods have been used to assess the economic viability of tourism public investment. He used the advantages of computable general equilibrium and cost-benefit analysis techniques to develop an integrated method to evaluate public investment in the tourism industry. From the perspective of the multilateral development bank and the beneficiary government, he applied this method to the evaluation of Uruguay's tourism investment of US$6.25 million. These views are different in the cost-benefit analysis (CBA) due to the difference in the time when the cost is incurred. The power of the integrated method is that it captures the first round and subsequent investment impacts of benefits and costs; resource transfer and constraints are considered, and the benefit estimates are consistent with CBA's welfare economics basis. But their research method ignores the practicality of tourism resources [3]. Katerusha and Matzarakis pointed out that climate is the main component of nature. In addition to being a precious resource, it also determines the possibility of the development of tourism. Obviously, climate and its characteristics determine tourism demand. When choosing a place for vacation or entertainment, tourists mainly prefer the best climate and weather conditions. Human biometeorological resources characterize the relationship between climate and human thermal state and health, recreational characteristics, and environmental health assessment. However, the influence of climate on the evaluation of tourism resources is too great, so their method is not good enough [4]. Li said that he has researched and implemented a tourism network resource monitoring system. The main work completed is to propose and construct a topic collection algorithm and establish a starting point, topic keywords, and prediction mechanism. The algorithm includes three stages: the first climbing stage, the learning stage, and the continuous climbing stage. A tourism network resource monitoring system is established to provide users with customizable, omnidirectional, and real-time tourism network resource collection, extraction, and retrieval service monitoring travel resources. This method is theoretically feasible, but it is not good enough for practical applications [5]. Zhu et al. said that land use optimization usually focuses on quality structure, with the goal of maximizing economic, social, and ecological benefits. However, the scope of tourism resource evaluation is not limited to land use [6]. Chen proposed a regional tourism data distribution model in China based on data visualization technology. Tourism is an industry that is relatively independent of different sectors of the national economy. However, two industries, such as consumers, enterprises and management, resource development, and product analysis, have an interdependent relationship. However, his research plan is too limited for the evaluation of tourism resources [7].

Most scholars mainly use qualitative methods to evaluate tourism resources, and there are few quantitative methods. They are mainly based on the AHP method and fuzzy comprehensive evaluation method, and the evaluation method is relatively single. The innovation of this article is to use a combination of quantitative and qualitative methods, use the TOPSIS algorithm and BP neural network to evaluate tourism resources objectively and truthfully, and try to build

a tourism resource evaluation model with universally applicable significance and strive to achieve tourism resource evaluation. This is an innovation in the method of automation and intelligence.

2. Network Communication and Tourism Resource Introduction and Evaluation Algorithm Model Establishment

2.1. Network Communication. Network communication is a new technology that has gradually become popular after the emergence of the Internet and enables people to communicate online. Understanding it has great significance for the research of this article [8]. It makes people's communication much easier and promotes communication between the two parties. Network communication is a terminal service that enables two or more people to use the network to communicate in text, voice, files, or video. Usually, people identify online users on the Internet and exchange information with them in real time. Since its inception, the popularity of instant messaging has been very fast, and today's instant messaging tools are no longer a simple chat tool and are already integrated information that integrate communication, entertainment, information, e-commerce, and office [9, 10]. The definition of "network communication technology" is quite controversial, and there is no special work to describe it systematically. From the definition of "communication" alone, not only Tencent, Fetion, etc. belong to communication, but now, popular social tools such as Sina Weibo and Tencent Weibo are also connected to the Internet for instant and online communication. Anyone who uses them can take photos, videos, or write current moods anytime and anywhere and then post them online, so that other people can share and communicate together, so to a certain extent, they can also be called instant and convenient communication tools [11]. Therefore, here, we can use various communication tools to conduct online, instant, and multiparty communication and interaction under the connection of the network, which are collectively referred to as network communication technology. The development trend of network communication tools is very good, in line with the needs of the current society. Under today's technical conditions, the update and development of network communication tools are very fast, they have won the favor of the public, and they have become one of the most popular communication tools in the new century, and the communication of science and technology is also a hot spot that countries are paying attention to [12]. The network communication tool greatly simplifies the steps of the experiment. Combining the two here is of greater significance. The schematic diagram of the network communication is shown in Figure 1.

Network communication has the advantages of reliable communication, low cost, greater flexibility, better mobility, high throughput, and good security [13]. In addition to this, there are other methods for tourism resource evaluation research. It can be expected that in the era of ubiquitous information in the future, wireless networks will rely on their incomparable flexibility, mobility, and strong scalability to enable people to truly enjoy simple, convenient, and fast connections. The network communication equipment is shown as in Figure 2.

The network uses physical links to connect different workstations or servers to form a data connection and then conducts a resource sharing and mutual communication behavior [14]. Communication is the exchange and sharing of their information between different people through a specific medium. Network communication can be through wireless network equipment which is a combination of various isolated devices through this technology. They can use the intercommunication of information and data to complete the communication between people, people and computers, and computers and computers [15]. The most important thing in network communication is the network communication protocol. Figure 3 is a schematic diagram of network communication.

2.2. TOPSIS Algorithm. The weighted improved TOPSIS algorithm is a sorting method that approximates the ideal solution. This method is cost-effective, efficient, and time-saving. It was originally proposed by Hwang and Yoon in 1981. It is a commonly used limited program multiobjective decision-making analysis that is mainly used for benefit evaluation and decision-making in the field of management economy. Since the environmental carrying capacity of regional tourism resources is affected by many factors, the weighted TOPSIS method is the most suitable for this research process [16, 17].

Its basic idea is as follows: the TOPSIS method is a method to evaluate relative merits and demerits based on the closeness of a limited number of evaluation objects to the idealized target [18]. The basic principle of TOPSIS is as follows: to determine the positive and negative ideal solutions of the evaluation index according to the normalized matrix composed of the standardized value of the evaluation index and its weight and then calculate the Euclidean distance between the integrated vector of the evaluation index and the positive and negative ideal solutions. On this basis, the degree of closeness between each evaluation plan and the best plan and the worst plan is calculated, and then, each evaluation plan is evaluated according to the closeness.

When calculating the TOPSIS method, normalization should be performed first; this is because based on the weighted normalized matrix, the optimal solution can be determined. We determine the optimal solution A+ and the worst solution A-, and we determine the distance between each plan and S+ and S-, and then judge the priority of the decision plan according to the relative closeness Ci of each plan [19, 20]. The so-called ideal solution is the optimal solution virtualized in the calculation, and the negative ideal solution is the worst solution virtual in the calculation process. The distance between each solution in the comparison matrix and the ideal solution and the negative ideal solution is the closest to the ideal solution. The solution with the farthest distance from the negative ideal solution is the optimal solution. The TOPSIS algorithm has no special requirements for sample data. It can make full use of the original data

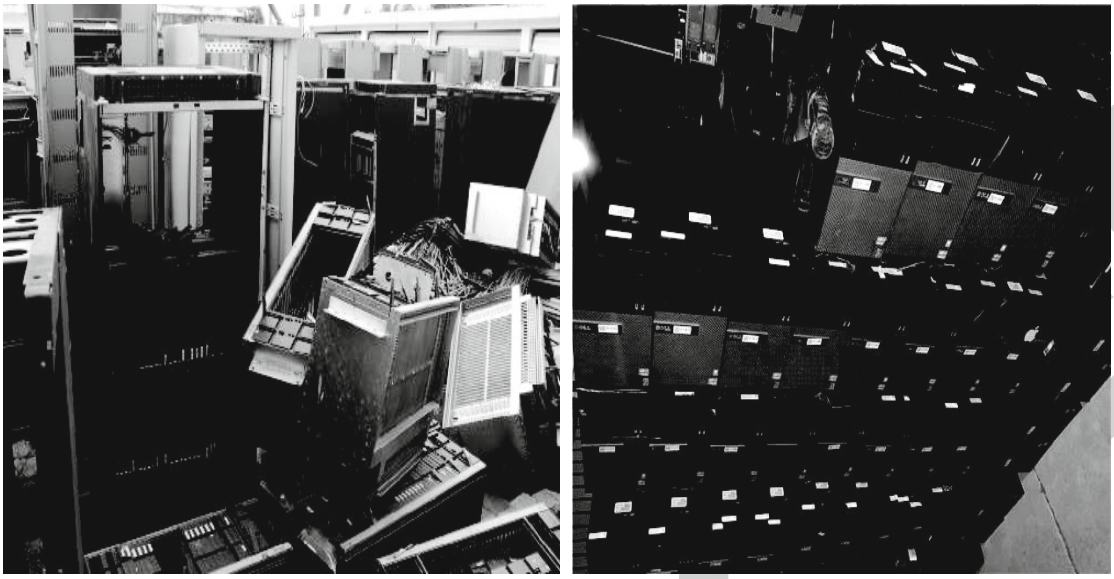

Figure 1: Network communication equipment.

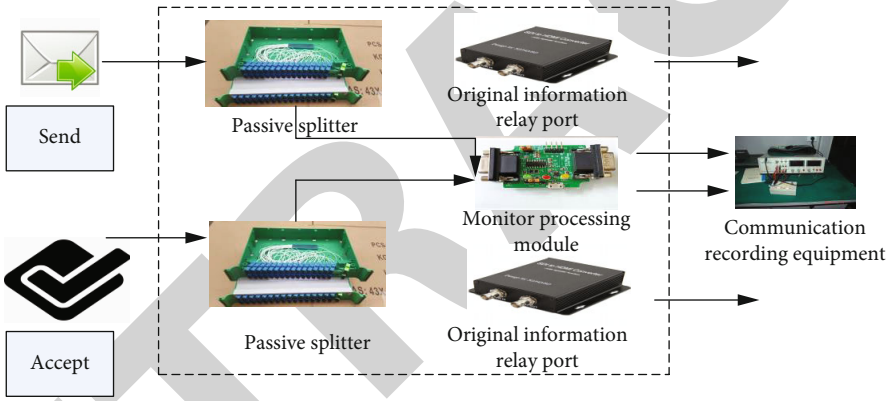

Figure 2: Schematic diagram of network communication.

information and has a low degree of information loss. Therefore, it can actually translate the actual situation relatively speaking.

2.3. Related Theories of Tourism Resource Evaluation. The value factors of tourist attractions are measured, the analysis process is used to analyze the size of tourist attractions, and the value of tourist attractions is calculated. Some experts have proposed a coherent system analysis model to determine the value of travel in the geographic part of travel, using data mining techniques to discover hidden combinations and knowledge of travel value and value, and use modern grouping methods to improve. The model combines the complementary advantages of method and power quantization [21]. Using the travel cost method to design technical routes to estimate the travel value of Dunhuang tourism resources, a method for determining the weight of the maximum travel volume and estimating the cost of rest time is proposed. Aiming at the evaluation of tourism resources, a new evaluation system of tourism resources is proposed, which divides the evaluation of tourism resources into three spatiotemporal stages: one-way evaluation based on tourism, evaluation of the way to obtain tourism resources, and comprehensive evaluation [22]. The evaluation of sports value of foreign tourism resources started earlier, with many research results and systematic evaluation methods and procedures. In addition, many developed countries such as the United Kingdom and the United States have adopted legal frameworks to regulate the entertainment value of tourism resources as environmental determinants. The typical calculation methods of foreign tourist source value include TCM, CVM, and HPM, among which TCM and CVM are the two most popular methods [23]. TCM refers to the travel cost method, which is the first technology to calculate the benefits of noncompliant products. CVM refers to the need for a value-added research methodology, which is a nonmarket value-added method based on research choices and is mainly used in the field of environmental policy. It was first proposed by Ciriacy-Wantrup in 1947 and first implemented in 1963. The stroke source and graphic points are shown in Figure 4.

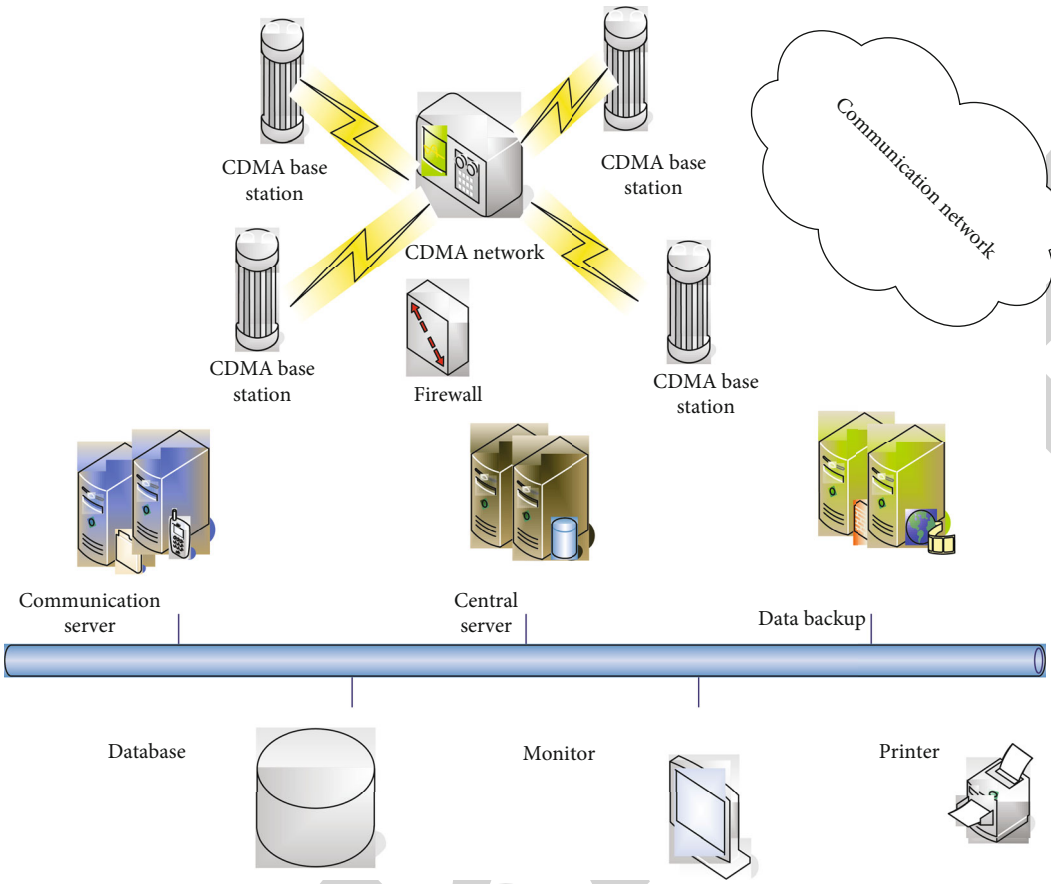

Figure 3: Design and implementation of network communication terminal.

Figure 4: Tourist attraction resource map.

Environmental conditions include four factors: environmental capacity, ecological environmental conditions, resource abundance, and landscape combination conditions. Environmental capacity is the maximum number of tourists that a tourist destination can accommodate on the premise that local tourist activities can proceed normally. Ecological environmental conditions refer to the ecological pros and cons of tourist destinations and environmental protection conditions [24]. Resource richness refers to the number and intensity of small attraction resources that make up tourist attractions. Landscape combination conditions refer to the complementary and coordinated combination of tourism resources.

Tourism conditions include five factors: infrastructure conditions, suitable travel period, location and traffic conditions, management level, and tour guide services. Infrastructure conditions refer to the infrastructure construction of tourist attractions, including the completeness and convenience of basic facilities such as water, electricity, and parking lots. The suitable travel period of tourism refers to the season or period in which a tourist destination is suitable for tourism. The length of the suitable travel period has an important influence on the continuity of tourism activities. Location traffic conditions refer to the superiority of the tourist location's geographic location to attract tourists, the traffic accessibility of tourist activities, and the amount of traffic cost [25]. Management level refers to the completeness of the management system, the rationality of the establishment of tourism management departments, and the quality of management personnel. The specific performance can be reflected in the safety, health, and service of the tourist destination. Tour guide service refers to the situation of the staff who are engaged in tour guide service, as well as the tour guide's familiarity with the scenic spot and service attitude. The hierarchical model tree is shown in Figure 5.

Among them, resource value is an important basic condition for the evaluation of tourism resources, which plays a basic role, including four factors: ornamental value, scientific value, cultural value, and popularity. Ornamental value refers to the pleasure and beauty of tourism resources in terms of viewing, scientific value refers to the value of tourism resources in scientific research, cultural value refers to the scientific knowledge and cultural ideas that tourists can obtain during the tour, and popularity is the degree to which the tourist destination is well-known at home and abroad and surrounding cities.

2.4. TOPSIS Algorithm Model Construction. In order to improve the objectivity of the evaluation, this article will improve the TOPSIS method to make the index weight setting more objective. Entropy method is an important method for multi-index evaluation. Its advantage lies in objectively weighting indexes according to the amount of information provided by data, reducing the influence of subjective factors. The basic principle of the entropy method is as follows: there are m plans to be evaluated and n evaluation indicators, so that the original matrix we need to evaluate is obtained. For an indicator, the greater the gap between the indicator values, the indicator is in the comprehensive evaluation if the index value of a certain index is equally, the index will not play a role in the comprehensive evaluation [26, 27].

The analytic hierarchy process can convert qualitative indicators that are difficult to quantify into quantitative indicators, scientifically test the consistency level in the judgment, and finally conduct a unified comprehensive analysis [28]. The specific operation steps of the analytic hierarchy process are as follows: the judgment matrix is compared in pairs, and then, the weight of each index is calculated. According to the characteristic root equation, the numerical maximum eigenvalue of the judgment matrix C is obtained and normalized, and the eigenvector of the maximum eigenvalue is the weight vector w of the index.

$$\mathrm{CI} = \frac{\lambda_{\max} - n}{n - 1}. \tag{1}$$

We calculate the contribution of the i-th scheme under the j attribute, using the following formula:

$$P_u = \frac{x_{ij}}{\sum_{i=1}^{m} x_{ij}} \quad (i = 1, 2,. \cdots m). \tag{2}$$

We calculate the total contribution of the decision plan to the attribute j.

$$E_j = -K \sum_{i=1}^{m} p_{ij} \ln p_{ij}, \tag{3}$$

where $K = 1/m$.

We calculate the difference coefficient d of the j attribute by the formula

$$d = 1 - E_j. \tag{4}$$

We calculate the weight of each attribute:

$$w_j = \frac{d}{\sum_{j=1}^{n} d_j}. \tag{5}$$

Combining the entropy method and the AHP method to determine the final weight, the AHP method can clearly explain the subject's position, but it has strong subjectivity, so that the calculated weight may be biased, and the use of entropy method for objective weighting can be effective the shortcomings of the AHP method. The combined method obtains the comprehensive weight value:

$$w_j = \frac{\alpha\beta}{\sum_{i=1}^{m} \alpha_i \beta_i}. \tag{6}$$

Suppose there are m decision plans, and each decision plan is composed of n attributes

$$z_{ij} = \frac{y_{ij}}{\sum_{i=1}^{m} y_{ij}^2} \quad (i = 1, 2, \cdots, m). \tag{7}$$

Assuming that the attribute weight value given by the decision maker is w, then

$$x_{ij} = w_i \times z_y \quad (i = 1, 2, \cdots, m). \tag{8}$$

We calculate the distance from each alternative to the ideal solution and the negative ideal solution:

The distance between the solution x and the ideal solution is

$$d_i = \sum_{j=1}^{n} \left(x_{ij} - x_j\right)^2 \quad (i = 1, 2, \cdots, m). \tag{9}$$

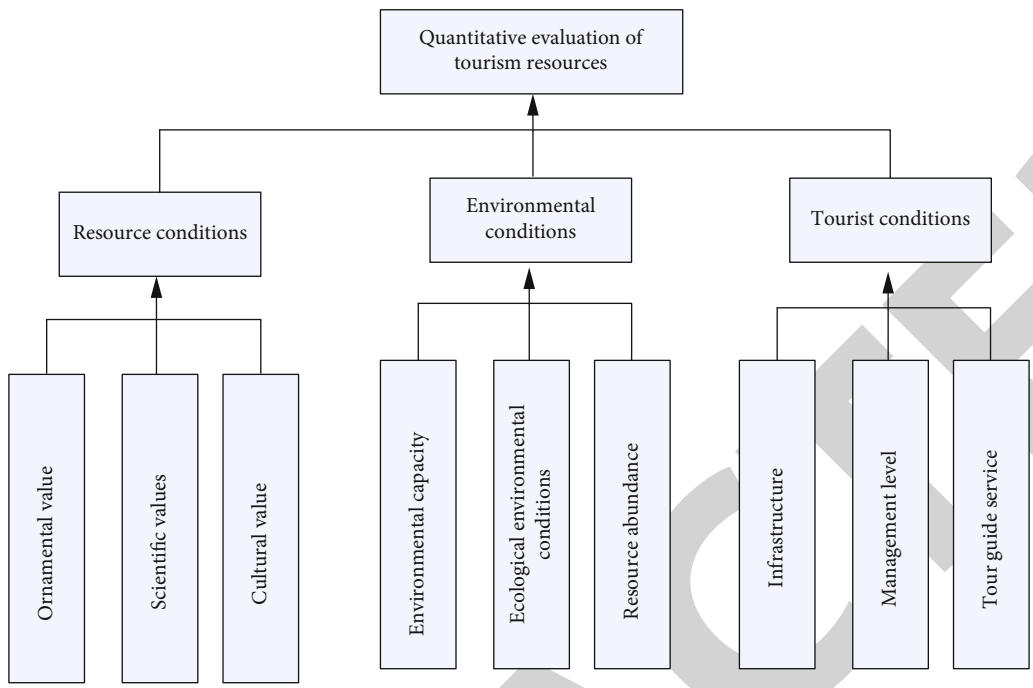

Figure 5: Hierarchical model tree.

The distance between the scheme x and the negative ideal solution is

$$d_i^{\,0} = \sum_{j=1}^{n} \left(x_{ij} - x^{0}{}_{j}\right)^2 \quad (i = 1, 2, \cdots, m). \tag{10}$$

We calculate the comprehensive evaluation index of each plan:

$$C_i^* = \frac{d_i^{\,0}}{d_i^{\,0} + d_i^{\,*}} \quad (i = 1, 2, \cdots, m). \tag{11}$$

According to the group satisfaction matrix ϕ, calculate the ratio of the number of elements 1 in the matrix to the number of matrix elements, that is, the group satisfaction index GSI is

$$\mathrm{GSI} = \frac{1}{qm}\left(\sum_{i}^{m}\sum_{k}^{q} \varphi_{ki}\right). \tag{12}$$

When the decision group satisfaction index GSI meets the group satisfaction threshold GSIO (GSI $\geq$ GSIO) set by the host, the group decision-making activity can be ended, that is, the alternatives can be selected according to the comprehensive closeness value from large to small sort.

$$C_i = \sum_{k=1}^{q} c_{ki}, \quad i = 1, 2, \cdots n. \tag{13}$$

The quadratic error criterion function for each sample P is E, as follows:

$$E_p = \frac{1}{2}\sum_{k=1}^{L} \left(T_k - o_k\right)^2. \tag{14}$$

The total error function of the system for the training samples whose sum is P is

$$E_p = \frac{1}{2}\sum_{p=1}^{p}\sum_{k=1}^{L} \left(T^p{}_k - o^p{}_k\right)^2. \tag{15}$$

3. Acquisition of Experimental Data and Analysis of Results

3.1. Collection of Sample Data of Tourism Resources. There should be a rough judgment on the situation of tourism resources in Laiwu City, Shandong Province. On this basis, according to the actual situation of local tourism resources, expert scoring method and analytic hierarchy process, combined with the suggestions of relevant personnel and the exact status of local tourism resources, a tourism resource evaluation system was established. After comparing and evaluating both sides of the evaluation points, a complete data set was obtained indicating 20 major tourist attractions in the area. We use ArcGIS 9.3 software to establish the level distribution chart of the 20 scenic spots here and then make a clear and simple comprehensive evaluation form for them. Based on the comprehensive evaluation table obtained from this analysis experiment, we will analyze and summarize the development strategies of tourism resources in this area. The technical route is shown in Figure 6.

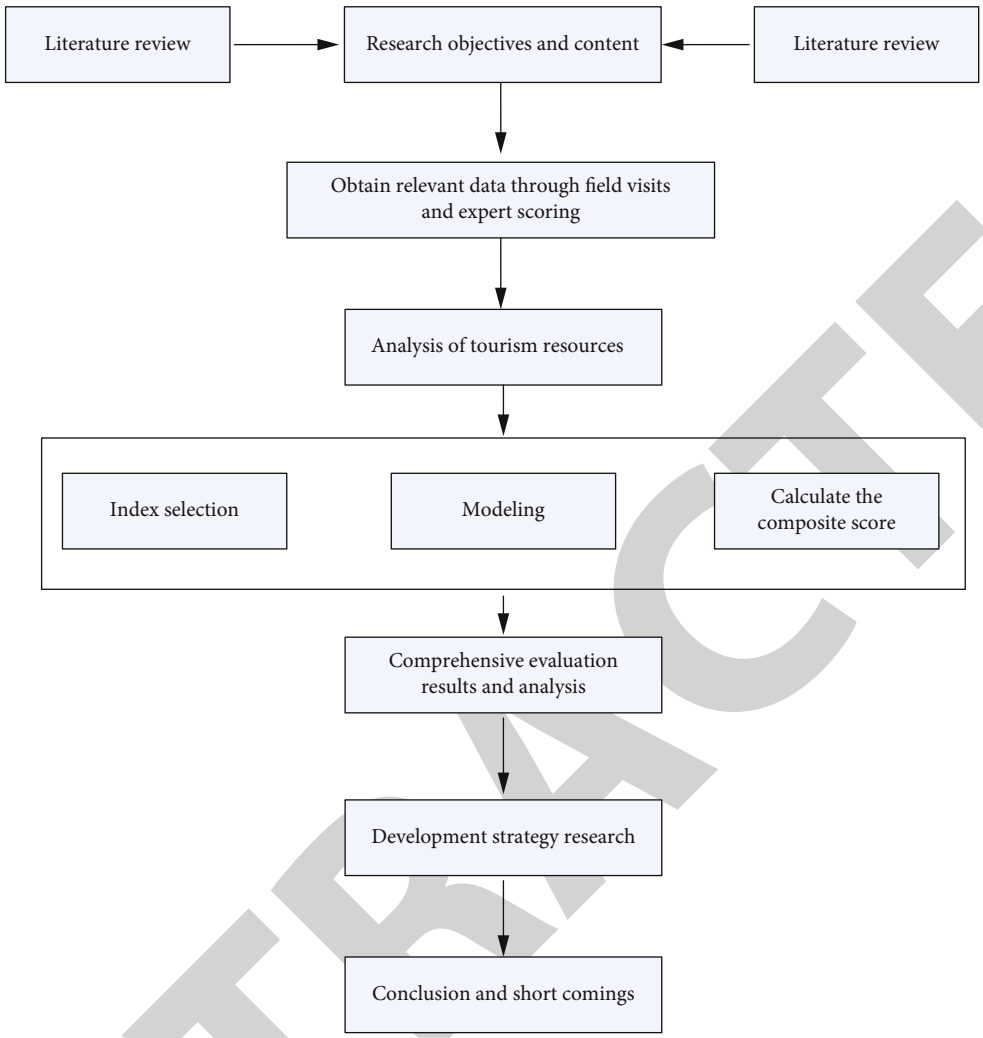

Figure 6: Technology roadmap.

3.2. Experimental Results. According to the determined hierarchical structure model, after clarifying the criteria for determining the relative importance of evaluation factors at the same level, the Delphi method was used to conduct questionnaire consultations, and through face-to-face consultation and e-mail, to the tourism academia, Laiwu City Tourism Bureau, and colleges and universities. Professionals and other related experts and scholars conducted questionnaire consultation, and 23 valid expert consultation questionnaires were obtained. Finally, the analytic hierarchy process was used to determine the weight of the judgment matrix. According to the model tree of quantitative evaluation of tourism resources, the target layer is defined as the A layer, the criterion layer is defined as the B layer, and the factor layer is defined as the C layer, as shown in Table 1.

No matter how good the basic resource conditions of tourist destinations are, if there is no good ecological environment and other environmental conditions, as well as perfect infrastructure, convenient transportation, and other tourist conditions, it will be difficult to give full play to the social, economic, and environmental benefits of tourism resources. The development of tourism will also be greatly restricted. Similarly, the root method can be used to obtain the weight of each impact factor of the resource value B1-C evaluation layer, as shown in Table 2.

In terms of the importance of resource value, the relative importance of viewing value is prominent, and its weight reaches 0.509, indicating that in tourism activities, tourists mainly focus on viewing experience, and obtaining aesthetic experience and physical and mental relaxation during the tour are the main pursuits of tourists. The higher the viewing value of a tourist destination, the higher the value of its tourism resources. Secondly, the weight of popularity is 0.257, which is of great importance to the value conditions of tourism resources. The higher the popularity of a tourism destination, the greater the value of its tourism resources, which further promotes tourism activities, and the increase in tourism activities increases the number of tourist destinations. Popularity forms a virtuous circle, from which we can also see the importance of popularity. The importance of scientific and cultural values is relatively small, which shows that people's main purpose in tourism activities is to watch and

Table 1: Hierarchical structure table of quantitative evaluation of tourism resources.

Target layer	Criterion layer	Factor layer
(A) quantitative evaluation of tourism resources	(B1) resource conditions	(C1) ornamental value
		(C2) scientific value
	(B2) environmental conditions	(C3) environmental capacity
		(C4) ecological environment conditions
	(B3) environmental conditions	(C5) infrastructure
		(C6) location traffic

Table 2: Quantitative evaluation of tourism resource A-B evaluation tier index weight table.

A	Resource conditions	Environmental conditions	Tourist conditions	Weights
Resource conditions	1	4.26	5.82	0.709
Environmental conditions	0.23	1	1.65	0.177
Tourist conditions	0.17	0.56	1	0.114

experience and release pressure. They also learn scientific knowledge and experience local culture during the tourism process, as shown in Table 3.

Tourism is a comprehensive industry, involving various industries such as transportation, accommodation and hospitality, and travel agencies, and each industry is managed by different government departments. Therefore, the development of water culture tourism is inseparable from the cooperation of relevant government departments. Only when departments cooperate to create favorable conditions for water culture tourism can it develop healthily. At the same time, 20 various places cannot be developed in isolation but must be organically integrated with the surrounding areas to form regional cooperation and become an organic whole, as shown in Table 4.

The element value of tourism resources is level one, which is mainly due to the good background value of ecotourism resources, strong cultural atmosphere, appreciation of recreation, and high cultural value. The conditions for the development of ecotourism resources are level two, mainly due to the further improvement of the tourism infrastructure in the area, and there is still room for improvement in the quality of the atmospheric environment, water environment, and vegetation coverage. It shows that the ecotourism resources in this area have good ecological value and development potential, as shown in Table 5.

The carrying capacity of the economic development subsystem has shown an upward trend year by year, with a slowdown from 2017 to 2018, and then showing the characteristics of rapid growth. For the environmental carrying capacity of tourism resources, economic development is like a double-edged sword, with both advantages and disadvantages: On the one hand, the rapid economic development will inevitably consume more resources, especially the extensive economic development of our country. The characteristics are still more obvious. Economic development has caused more serious damage to the tourism environment, and the awareness of governance and protection is weak, which will seriously weaken the environmental carrying capacity of tourism resources in the region. On the other hand, rapid economic development can also provide other resources, such as economic resources and scientific and technological resources; these resources can be used to improve production technology to reduce the generation of pollutants, accelerate environmental pollution control, enhance environmental self-purification capabilities, and improve the environmental carrying capacity of regional tourism resources, as shown in Figure 7.

The carrying capacity of economic development rose from 0.48705 in 2014 to 0.58716 in 2018, indicating that the driving force for economic development is strong. From another point of view, as the carrying capacity of Laiwu's tourism resources and environmental subsystems is declining year by year, the overall tourism resource and environmental carrying capacity of Laiwu are still on the rise. It can be seen that economic development has a bearing on the resources and environment of Laiwu from 2014 to 2018. Power has a major contribution. The period from 2014 to 2018 was an important stage of my country's industrial structure adjustment. Laiwu has a long history of development and a good industrial foundation. In addition, Laiwu City is rich in resources and has caught up with some opportunities, undertaking some transfer industries in the eastern economic zone, continuous optimization of industrial structure, acceleration of industrialization and urbanization, and rapid development of science and technology; Laiwu City has also changed from pursuing scale of economic development to focusing on "green" GDP Production. From 2014 to 2018, the per capita GPD increased by 68%, the per capita disposable income of urban residents increased by 75%, and the per capita net income of rural residents had the highest growth rate, reaching 98%. The proportion of the output value of the secondary and tertiary industries changed slightly, but considering the overall structure in the gradual improvement, it can be seen that the positive impact of Laiwu's economic development on its resource and environmental carrying capacity is greater than its negative effect, and it has made a significant

Table 3: Resource value B1-C evaluation layer weight table.

B1	Ornamental value	Scientific value	Scientific value	Scientific value	Weights
Ornamental value	1	5.58	4.36	1.62	0.509
Scientific value	0.17	1	0.81	0.52	0.104
Cultural value	0.23	1.23	1	0.34	0.112
Reputation	0.62	1.92	2.9	1	0.257

Table 4: Governmental and social investment division.

Investment component	Total investment required	Government sector investment	Social investment
Infrastructure	100%	80%	20%
Sustainable development	100%	90%	10%
Publicity and marketing	100%	40%	60%
Public utilities	100%	100%	0
Tourist facilities and services	100%	5%	95%

Table 5: Comprehensive value evaluation of ecotourism resources.

Types of	First level	Level 2	Level 3	Level 4
Tourist resource prime value	0.6267	0.2797	0.0936	0.000
Tourism resource development condition	0.0905	0.7582	0.1512	0.000
Comprehensive	0.8571	0.1429	0.000	0.000

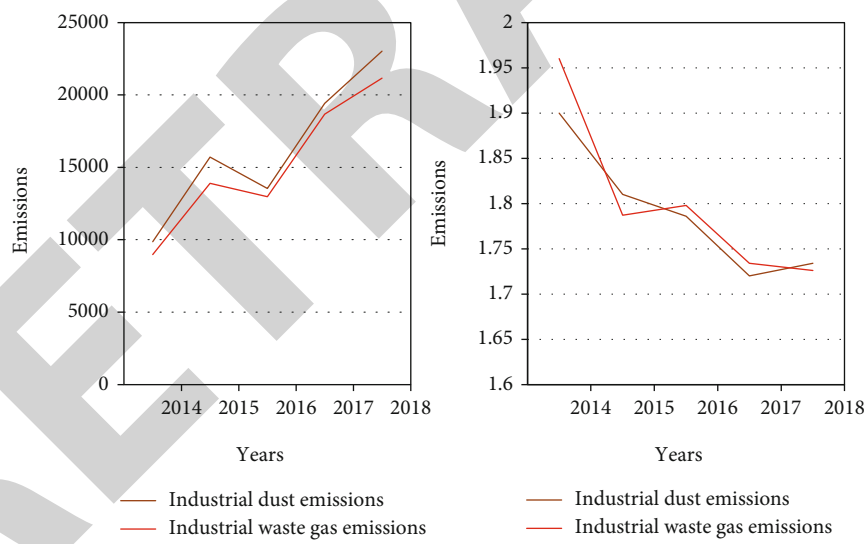

Figure 7: Changes in key factors of the environmental carrying capacity of tourism resources.

contribution to the improvement of Laiwu's resource and environmental carrying capacity, as shown in Figure 8.

The distribution of tourists in a tourist attraction is extremely unbalanced throughout the year. The number of tourists varies significantly with the seasons. There are great similarities in the seasonal distribution of tourists in four years. There will be two peaks in a year, namely, May and October. The number of tourists in the three months of May, October, and November of each year is large, and the number of tourists is on average more than 20,000. During the absolute peak period, that is, during the Xiangshan Red Leaf Festival from October to mid-November each year, Xiangshan has the highest daily number of tourists which can reach 10,000; as shown in the figure, the highest month of tourists can reach 10,000. The average monthly tourists in the three months of May, October, and November are generally more than 190,000, and the rest are off-season and flat season. Taking 2019 as an example, there is a difference of 164,000 visitors between the highest month and the lowest month. The seasonal distribution trend of tourists reflects the obvious characteristics of the seasonal differences in the Xiangshan landscape, and it is also directly related to

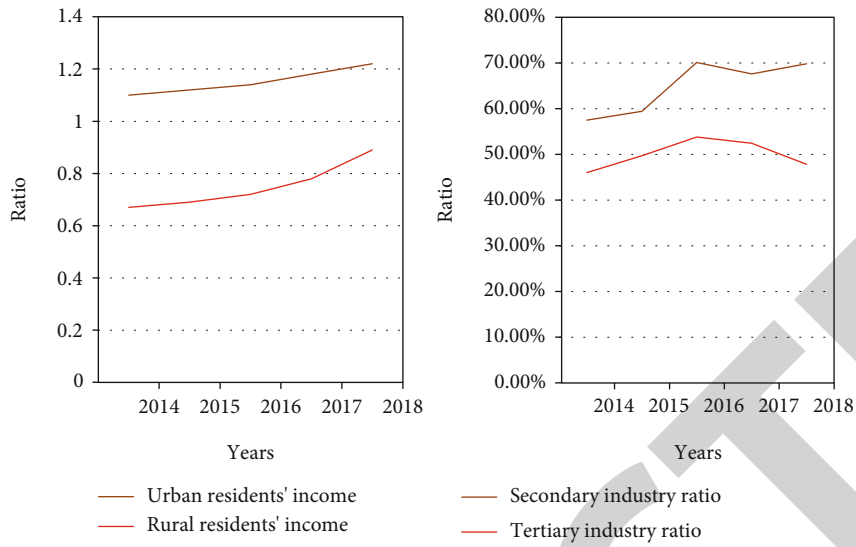

Figure 8: Proportion of income and industry in tourist areas.

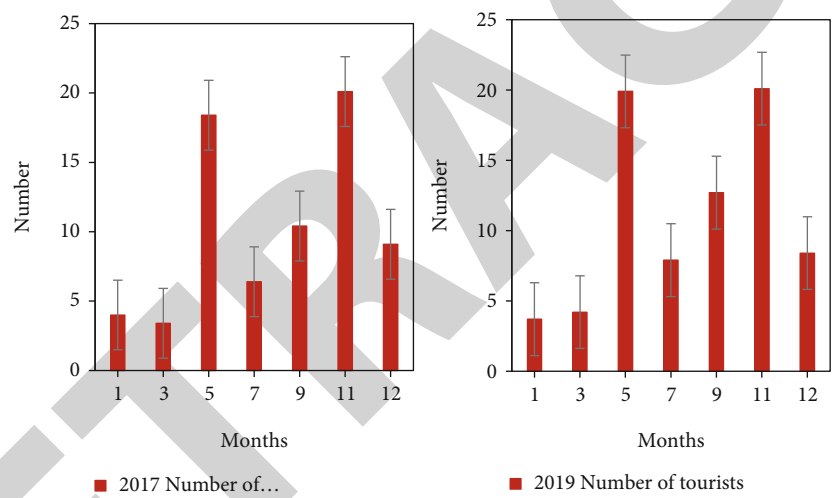

Figure 9: Monthly tourist volume changes in 2017 and 2019.

the opportunities for tourists to travel together during the Golden Week of May 1st and 11th after the reform of the holiday system in my country, as shown in Figure 9.

For the tourism resource economy of Laiwu City, the annual gross production value is an upward trend. The national economy as a whole is stable and continues to develop. Until 2019, Laiwu's annual gross production value reached 63.425 billion yuan, of which the output value of the tertiary industry was 21.31 billion yuan, an increase of 9.7% over the previous year, and the proportion of the tertiary industry rose from 32.8% to 35.2%. The rapid development of tourism directly drives the increase in the proportion of the tertiary industry in Laiwu City and promotes the upgrading of the industrial structure of Laiwu City. From 2012 to 2019, the number of tourists in the city increased from 2.2027 million to 7.253 million, an increase of more than three times; tourism revenue increased from 610 million yuan in 2012 to 3.372 billion yuan in 2012, an increase of nearly 6 times. As shown in Figure 10.

4. Discussion

After the above-mentioned experimental investigation, it is found that among the three indicators of quantitative evaluation of tourism resources, the weight of resource conditions is 0.709, which is dominant. The environmental conditions and tourism conditions are also of considerable importance, which are 0.177 and 0.144, respectively. It can be seen that the resource condition is the basic condition of tourism resources, and it occupies the dominant position in the tourism resource conditions. Good environmental conditions and tourism conditions have an important impact on tourism resources and are also an important aspect of improving the quality of tourism resources. The comprehensive ecological evaluation level of ecotourism resources is level one, which is mainly due to the fact that the element value of ecotourism resources in the region accounts for 0.857 of the comprehensive evaluation weight, and the element value of ecotourism

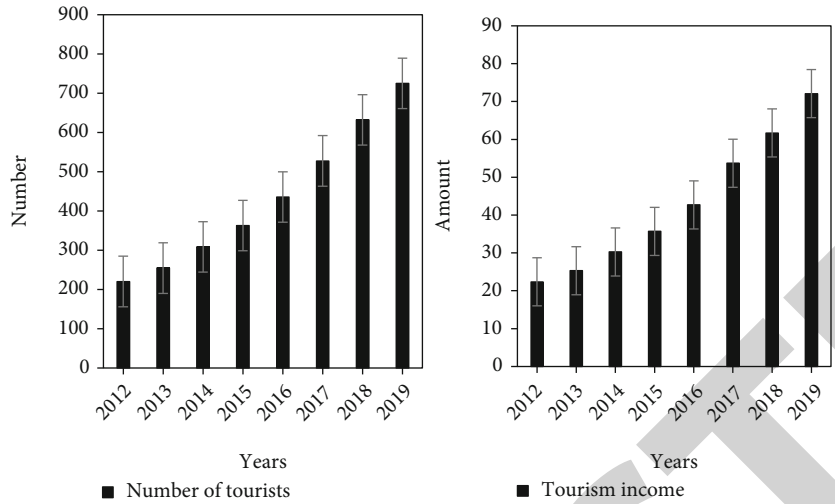

Figure 10: Table of changes in the number of tourists and income.

resources is level one. After analyzing the survey results, it is concluded that the tourism resource evaluation based on network communication and the TOPSIS algorithm is relatively accurate and reasonable.

5. Conclusions

This article uses network communication and the TOPSIS algorithm and uses a combination of qualitative and quantitative methods to conduct a tentative study on tourism resource evaluation. Due to my limited knowledge and ability, coupled with the limited research materials and time, the research level of the article is still low. It is not high enough, and there are the following shortcomings: Although the article adopts a combination of qualitative and quantitative evaluation methods, in the construction of the tourism resource evaluation index system, specific evaluation indicators are selected and the index weights are determined. Experts are asked to compare the importance of the indicators and quantify the tourism resources. In the process of scoring the evaluation indicators in the evaluation, there is a certain degree of subjectivity, which makes the objectivity of the evaluation results insufficient. Therefore, how to scientifically select evaluation indicators, determine weights, and evaluate scoring in empirical research are issues and directions that are worth exploring in future research.

Data Availability

No data were used to support this study.

Conflicts of Interest

There is no potential conflict of interest in this study.

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