

Retraction

Retracted: Influence Analysis of Hotel and Tourism Economic Development Based on Computational Intelligence

Security and Communication Networks

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This article has been retracted by Hindawi, as publisher, following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of systematic manipulation of the publication and peer-review process. We cannot, therefore, vouch for the reliability or integrity of this article.

Please note that this notice is intended solely to alert readers that the peer-review process of this article has been compromised.

Wiley and Hindawi regret 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 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] C. Wei, J. Li, and X. Guo, "Influence Analysis of Hotel and Tourism Economic Development Based on Computational Intelligence," *Security and Communication Networks*, vol. 2022, Article ID 7549628, 9 pages, 2022.

Research Article

Influence Analysis of Hotel and Tourism Economic Development Based on Computational Intelligence

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As the main infrastructure of the tourism industry, the hotel industry is an important part of the tourism industry and one of the important symbols of the development level of the tourism industry. In recent years, with the prosperity and development of the hotel industry, it can not only effectively solve many social work problems but also contribute to the further development of the region's economy. In this paper, the convergence model and fitness function of the GSO-MCM algorithm are evaluated, and the optimal adaptive threshold of the particle swarm is given. The impact of computational intelligence on the development of hotel and tourism economy is analyzed, and the accuracy of computational intelligence method, data mining method, and fuzzy statistical method are evaluated and compared. The computational intelligence method shows better performance. The domestic tourism revenue is predicted using computational intelligence and compared with the actual value, which shows a good prediction effect. The hotel industry, an important tourism infrastructure, is an important symbol of the level of development of the tourism industry. In recent years, the rise of the hotel industry has not only effectively addressed many of the company's labor problems but also made great contributions to the region's economic growth. With this in mind, we are conducting pilot studies on data collection.

1. Introduction

Stochastic optimization and reverse engineering methods, especially modern evolutionary algorithms, are used in various fields because they provide current and future methods and tools to help solve problems. Despite those advantages, all swarm-based search algorithms require excessive CPU time because many candidate solutions are evaluated using expensive computational models. The focus is on reducing the cost of this computation, which makes stochastic optimization efficient and effective. Emphasis is placed on design-dependent methods and the use of alternative or similar models that can replace explicit and costly analysis tools. A literature review of several related methods was conducted following several examples illustrating the benefits of these methods [1]. The model proposed by Denuberg and his colleagues to explain the behavior of ants in their search for water provided an

unexpected inspiration for the success of the ant community. Many of the ACO's artificial ants are in trouble because they use similar circuits as real ants. The ACO supported the snowstorm back. It is hoped that future studies related to the identification of identified diseases will be identified [2]. Image classification is performed in a rule-based manner using the spatial relationships between image regions. In the specific case where image regions correspond to semantically interpretable objects, rules provide a way to demonstrate classification in a way that is familiar to humans. In the work presented here, both bottom-up and top-down information are combined to detect the instances of specific object classes. A rule-based system acts as a model for the configuration of the object space. Experimental results in the motion domain show that despite inaccurate object detection, the spatial relationship allows to effectively distinguish visually similar image categories [3]. Predicting the future based on

collected historical data is a skill that is developed in, among other things, financial planning. Performing time series analysis in the online environment of most industries has been problematic because of computer time and effort. Solutions can be found with modern computer tools, such as neural networks and genetic algorithms. Intelligent calculations that predict the time series of the energy consumption of individual and collective intelligent technologies are made in the chapter. The examples of systems and processes sensitive to each technology are reviewed in detail for quality improvement, model development, and proactive management, selecting appropriate tools and available tools [4]. Comparative mathematics is a set of expressive mathematical constructs that discuss higher-level mathematical objects other than the numbers and introduce the fields of reference mathematics and architecture for dealing with cognitively occurring complex mathematical objects. Computer science, computer intelligence, and software engineering describe vast amounts of information. Three reference algebra models are provided: conceptual algebra, system algebra, and real-time process algebra (RTPA). They describe the application of contextual mathematics to cognitive informatics and computer intelligence. Several case studies demonstrate how to model architectures and cases of iterative and recursive systems using conceptual RTPA constructive algebra and offline machine learning [5]. Cooperation issues arise when working in the economy. Firstly, it assesses the impact of basic equipment and pricing requirements on packages. They then developed a series of Stackelberg games to analyze the collaboration in a decentralized state and found that hotel guests earned more from packages than travel agents because of their higher bargaining power. Finally, volume reduction contracts based on revenue sharing are designed to work together to achieve full compliance. In this contract, the total income from loneliness is equal to the income in the middle scenario [6]. Budget hotels emerged in China in the late 1990s, however, the segment grew as fast as it did in 2003, despite the overall downturn in the Chinese hotel market. The rapid growth and strong competitiveness of the economic sector have since become the focus of attention in the hotel industry with the greatest market potential. Because of the initial development stage of China's budget hotels, most China studies can be described as descriptive, and they attempt to capture the best practices of the time. So far, there are few quantitative studies on the demand structure and pattern and product design of China's budget hotels, and further research on marketing strategies is necessary [7]. In terms of GDP, the tourism sector in Turkey generally belongs to the secondary service sector. Especially in the service sector, its share is gradually increasing. From the perspective of world trade in services, the contribution of almost 30% of trade in services to the national economy is undeniable. Given its importance in the economy, the bank offers reasonable prices, conditions, and options for restrictions on the development of tourism and other businesses. The bank has also launched a new lending assistance program to meet the needs of the sector [8]. With the rise of the mass leisure

tourism market, hotels in the resort area have been divided into two categories, namely star-rated hotels and budget hotels. In recent years, economy hotels have achieved rapid development by virtue of their location advantages in resort areas. The development of economic hotels lies in diversified competition strategies and innovative business concepts, highlighting local cultural characteristics, combining local culture, developing markets through multiple channels, and providing personalized hotel products and services [9]. Tourism is considered to be the most important industry in the 21st century because it contributes to the economic growth and development of the country. These impacts are directly and indirectly related to income and employment, reducing the balance of payment barriers, improving knowledge and transfer, and promoting foreign direct investment. Regional tourism leaks and poor relations with the local and national economies were not included in the report [10]. During the period of reform and opening up, the country's tourism industry developed rapidly with the vigorous development of the national economy. Although it started late, it has become one of the most important pillars of the national economy. Since the implementation of the new tourism law on October 1, 2013, tourism has once again become the focus of social attention. Therefore, it is of practical significance to analyze and study the influencing factors of the tourism market and explain the market changes caused by the new tourism law [11]. According to the status of the national economy in the global market, the tourism development indicators of various countries are analyzed. The question of the impact of international tourism on the national economy has been studied, both in terms of method and practical implementation, pointing out the main challenges of branch operations today [12]. The tourism industry in Qinghai Province has developed rapidly, and the influence of tourism on the local economy has been increasing, however, the scale of tourism is still small. This paper analyzes the contribution of tourism to GDP, tertiary industry, foreign exchange income capacity, tourism income dependence, and employment contribution. Through the statistical analysis of relevant data, the research conclusions are drawn, and policy recommendations to promote the further development of Qinghai's tourism industry are put forward [13]. Tourism has become one of the most popular forms of entertainment. Festival tourism projects with local cultural characteristics are very popular with tourists. Festival tourism has distinct local cultural characteristics, which can make more rational use of urban resources, promote economic development, and cultural progress, and promote the rise of tourism and the improvement of residents' living standards [14]. In a dynamic and competitive environment, tourism in each country must grow sustainably, create significant economic benefits for key stakeholders, and minimize negative environmental impacts. As a result, significant dynamics of the current tourism industry are making tourism destinations very competitive, and long-term success depends on the sustainability strategy adopted and implemented by the governing body. Conservation and management of natural

resources require long-term investment. Find ways to reduce population growth without restrictions and make decisions that harmonize the environment and the national economy [15].

2. Research on Hotel and Tourism Economy

2.1. Analysis of the Current Situation of Hotel Industry Development. With the rapid development of China's economy and the increase in the number of tourists, budget hotels, such as Yangtze River, Zhongjiang Tourism, Home Inn, Motel, GreenTree Inn, and Zhongzhou Express, are emerging. In terms of management level or hotel scale, there is still a big gap compared with the domestic first-line economic hotel brands.

2.1.1. Under the Influence of Internal and External Factors, the Economy Hotel Industry Has Grown Rapidly. With the deepening of the economic crisis, domestic budget hotels represented by Home Inn, Xinjiang Inn, and Seven Days took over the business, hoping to alleviate the impact of the financial crisis. Of course, the economic crisis has made travel customers more flexible in terms of demand and more price-sensitive. In addition, the share of budget hotels continues to grow as companies cut budgets in times of crisis.

2.1.2. The Layout of Budget Hotels Is Mainly Concentrated in Hot Cities and Regions. Generally speaking, in the case of disproportionate regional economic development, the economic development of hotels in the region is bound to appear unequal. In terms of the development of economy hotels in Hainan, developed regions, such as Haikou and Sanya, took the lead in developing economy hotels and gradually built an international tourist island in Hainan. The regional diversity has been reduced, and economy hotels still exist throughout the island.

2.1.3. Economy Hotels Are More Respected by the Capital Market. Due to the welfare impact brought by the listing of Jinjiang Star, Home Express Hotel and 7-day Inn, the sustainable development of the economy and the improvement of the investment environment have had a positive impact on the growth of the hotel industry. With expectations for the location of the renminbi and rising housing prices, the restaurant industry's economy has gained a lot of passive capital. The domestic budget hotel brand Longquan Star also plans to open a number of new budget hotels in the next few years, continuing to promote popular budget hotels. The development status of the hotel is shown in Figure 1.

2.2. Research on the Relationship between Hotel Management and Economic Coordinated Development. Because of the prosperity and development of the hotel industry in recent years, it can not only effectively solve many employment problems in the society but also contribute to the further

development of the region's economy. The main factors that affect the quality and profitability of the hotel industry should be the comfort of rooms, dining, and related travel, which are necessary for the long-term stable development of the hotel, and therefore, for the development of the hotel industry and economy of the area.

2.2.1. The Prosperity of the Hotel Industry Can Effectively Stimulate the Growth of the Regional Economy. The strong demand of the public for the hotel industry has increased and improved with the development of the industry, becoming the first choice for travelers. For some tourist cities, the hotel's economic resources can fully guarantee the sustainable development of the regional economy. The main source of income is the housekeeping department and catering.

2.2.2. The Steady Development of Hotels Is the Product of Economic Development. Economic development follows the principle of progressive prosperity theory. Hence, only sustainable economic development can ensure the prosperity of the hotel industry, especially for some cities that rely on the development of tourism. Hence, the development of hotel management has become more stringent. Hotels are built on the basis of economic sustainability. It is also an important industry that can be stabilized.

2.2.3. The Sustainable Development of the Economy Also Lays the Foundation for the Sustainable Development of the Hotel Business. Social reforms have brought about significant changes in regional economic growth, and relevant ministries have also formulated appropriate development plans for this purpose. The hospitality industry is also booming with the help of various ministries. With the advent of the new era, the types of hotels have become more diversified, which has effectively improved the service quality and related supporting facilities of the hotel. At the same time, it has improved the comfort and satisfaction of the residents to a certain extent, laying a foundation.

2.3. The Role of Hotel Management in Economic Development. The hotel service part is not included in the export trade sector, however, the added value of hotels is higher than other export trade products. Hence, one of the main sources of external income is service trade. Through the management of foreign tourists, hotels can effectively make tourists stay, eat, shop, and consume in tourist cities, thus making a lot of money and ensuring the country's income and expenditure in international trade and economy. Therefore, today's hotels are an efficient economic source for tourism and an important source of foreign exchange. Business people are one of the main customer sources of the hotel, and the hotel is an important place for business people. From a macroeconomic point of view, the more international cities and well-known hotels, the more transactions. In this period of rapid and healthy development of the market economy, hotels have become very important meeting places. Most of

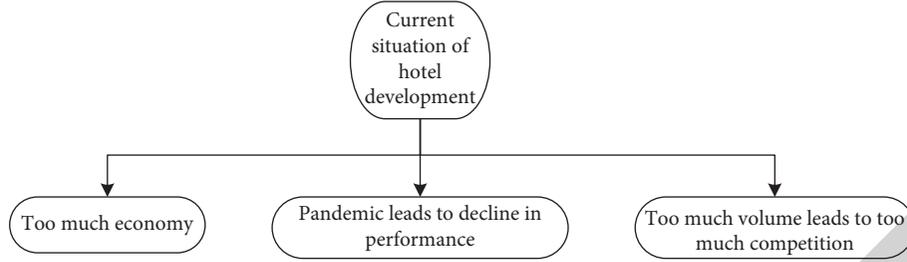


FIGURE 1: Current status of hotel development.

the transactions with a relatively large volume in a region are carried out through mutual exchanges in business hotels. It can also be said that the construction of the hotel has built a huge business platform for people. The role of hotel management on economic development is shown in Figure 2.

3. Computational Intelligence Algorithms

3.1. GSO-MCM Algorithm. (1) Deployment (initialization) of Firefly. (2) Fluorescein renewal stage. (3) Movement probability calculation stage. (4) Position change stage. (5) The field scope update stage. (6) Calculate the result through the formula.

To build a multicast tree subject to various constraints, it is necessary to invest the minimum cost and obtain a certain quality of service. There are multiple parameters and paths under multiple constraints in the network model, so that the multicast tree generation algorithm may generate a multicast routing tree for multiple QoS metrics. Firstly, the multicast tree is encoded as individuals in the search space of the GSO algorithm. The availability of encoding and decoding must be considered here. The purpose is to avoid loops in the multicast tree. A typical naming convention for an X multicast tree is as follows:

$$X = (\text{Prior}_1, \text{Prior}_2, \dots, \text{Prior}_3). \quad (1)$$

X is a polynomial tree, and a priori nodes not included in the nodes of the polynomial tree are sequentially represented by "0." The previous node of the original node is itself. In the traditional GSO algorithm, firefly i moves to firefly j according to the following equation.

In the formula, X is a multicast tree, and the a priori nodes that do not belong to the multicast tree nodes are uniformly represented by "0." The prior node of the source node is itself. In the traditional GSO algorithm, the movement of firefly i to firefly j is done according to the following formula:

$$X_i(t+1) = X_i(t) + s^* \left(\frac{X_j(t) - X_i(t)}{|X_j(t) - X_i(t)|} \right). \quad (2)$$

In the formula, I represents the person who will move the position, j represents the person with a large number of fluorescein selected by probability, such as the topic I processed in a chronological order, and s represents the move step size of the multicast QoS tree, which is below some limit. During development, we will modify formula (1)

to match the formation of the mixed tree. In GSO-MCM, the motion of fire i to fire j is as follows:

$$X_i(t+1) = X_i(t) \oplus X_j(t). \quad (3)$$

The digestive process may include cycles. To avoid these loops, the newly created multicast tree must be re-encoded using the multicast tree encoding method proposed above. As for the dynamic decision range, the result is more accurate because the dynamic decision range is fixed in the multicast tree.

Loops may occur during the merge process. To eliminate these vulnerabilities, the codec multiplication method proposed above requires the re-encoding of the newly constructed data. Dynamic decision regions are mapped to multiclass trees. Therefore, GSO-MCM does not need to be updated. Furthermore, the unit of measure for GSO-MCM is the similarity between individuals in the polydisperse tree, not the common distance. Similarity is defined as the same number of previous nodes between individuals in a multi-diffusion tree. Typically, the size is set to half the raster width area.

$$N_I(t) = \{j: \text{same}(X_j(t)), X_i(t) > r_x\}. \quad (4)$$

The aggregation rate and the value of mixed wood were used as evaluation criteria. The speed of merging has two parts: the time of merging and the probability of merging. The formula for calculating the mixed cost is as follows:

$$\cos t(T(S, M)) = \omega_1^T \times \frac{PLR(T(S, M))}{\text{average}(PLRT(S, M))}. \quad (5)$$

In experiments and practical tests, the value of fluorescein is inversely proportional to the value of the price function, calculated as follows:

$$l_i = \frac{1}{\cos t(t)}. \quad (6)$$

For a continuous system, the differential equation describing the system can be expressed as follows:

$$\frac{dx}{dt} = x(t) = \Phi[x(t), u(t)], t \in R^+. \quad (7)$$

The corresponding systems are n -order, p -input, and m -output systems, which are, respectively, defined by the following equations:

$$\Phi: R^n \times R^p \longrightarrow R^n \varphi: R^n \longrightarrow R^m. \quad (8)$$

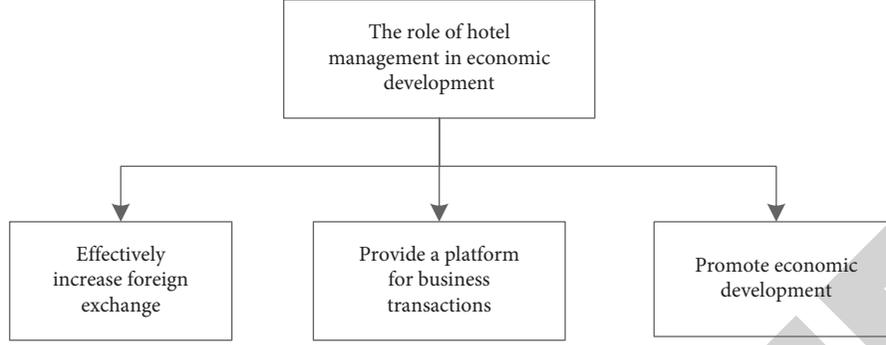


FIGURE 2: The role of hotel management in economic development.

For discrete systems, the description system can be represented by the difference equation, which is as follows:

$$\{x(k+1) = \Phi[x(t), u(t)], \quad (9)$$

where $x(\cdot)$, $u(\cdot)$, $y(\cdot)$ represent the state sequence, input sequence, and output sequence of the system, respectively, and let $u(k)$ be a uniformly bounded function. For the nonlinear system described by the formula, $y(k)$ can establish a set of nonlinear differential equations.

$$y(k) = \Psi[x(k)]. \quad (10)$$

But solving this set of differential equations is difficult. Because of its unique properties, neural networks can be used as recognition models to identify nonlinear systems.

3.2. Convergence Factor Model. The particle swarm optimization algorithm originated from the modeling of social systems, and it was only in the last few years that attempts have been made to establish a mathematical foundation for the algorithm itself. So far, Clare (1999) has not demonstrated that the use of limiting factors can be applied to algorithms. PSO Clerc Demo: the mathematical algorithm analysis verifies the convergence factor model shown below.

$$k = \frac{2}{2 - \omega - \sqrt{\omega^2 - 4\omega}}, \quad \omega = c_1 + c_2, \quad \omega > 4, \quad (11)$$

$$x_m^{k+1} = x_m^k + v_m^k. \quad (12)$$

In early experiments and applications of the algorithm, v_{\max} was set to a maximum value, say 100,000, since the parameters were considered trivial when using the convergence coefficient model. Subsequent studies have shown the constraints of v_{\max} . The PSO algorithm is an excellent tool for minimizing numerical functions. Kennedy and Abethart (1997) extended this and introduced the discrete binary algorithm PSO. Clerc (2002) summarizes this work by examining a discrete version of the PSO algorithm and applying this work to the traveling salesman problem (TSP) with good results. The main difference between the Discrete Binary PSO algorithm and the original PSO algorithm is the difference in the equations of motion. The equation of motion for the discrete binary algorithm PSO is as follows:

$$v_m^{k+1} = v_m^k + c_1 \cdot r_1 \cdot (p_m^k - x_m^k) + c_2 \cdot r_2 \cdot (p_m^k - x_m^k), \quad (13)$$

$$\text{then } x_m^{k+1} = 1; \text{ else } x_m^{k+1} = 0. \quad (14)$$

The discrete PSO algorithm extends the capabilities of the basic PSO algorithm, especially in the class of combinatorial optimization problems.

3.3. Fitness Function. The choice of the fitness function directly affects the integration speed of the genetic algorithm and whether it will find the best solution, since, in general, the genetic algorithm does not use external information to search for evolution but only uses the fitness function correction. Since the complexity of fitness functions is an important element of the complexity of genetic algorithms, the development of fitness functions should be as simple as possible to reduce computational time complexity.

The fitness function is selected using the squared error measure for fitness evaluation.

$$f_k = \frac{1}{E_K} = \frac{P}{\sum_{i=k-p+1}^K (y_d(i) - y(i))^2}. \quad (15)$$

Adaptability is the key to guiding the search. To avoid early encounters and guarantee the diversity of people in the group, fitness must be adjusted linearly. Consider the above two conditions that must be satisfied in the linear fitness transformation process.

$$F' = aF + \beta. \quad (16)$$

In the formula, the dimension of F is equal to the number of individuals in the group, which can be calculated.

$$a = \frac{(c_{\text{mult}} - 1)f_{\text{ave}}}{f_{\text{max}} - f_{\text{ave}}}, \quad \beta = \frac{(f_{\text{max}} - c_{\text{mult}}f_{\text{ave}})f_{\text{ave}}}{f_{\text{max}} - f_{\text{ave}}}. \quad (17)$$

Linear transformation bridges the gap between initial fitness and maintaining population diversity. The α and β coefficients vary linearly.

$$(c_{\text{mult}} - 1)f_{\min} + f_{\max} - c_{\text{mult}}f_{\text{ave}} < 0. \quad (18)$$

The obtained minimum value $f_{\min} < 0$ of the adjusted fitness, at this time, needs to be adjusted. Find the following:

$$a = \frac{f_{ave}}{f_{ave} - f_{min}}, \beta = \frac{-f_{min}f_{ave}}{f_{ave} - f_{min}}. \quad (19)$$

It is an evolutionary computing technology based on the swarm intelligence method. It has given a general introduction to the PSO algorithm and given the particle update equation.

$$V_i(k+1) = wV_i(k) + c_1r_1(p_i - x_i(k)), \quad (20)$$

$$X_i(k+1) = X_i(k) + V_i(k+1)\Delta t. \quad (21)$$

It is easy to see from the equation that as the basic particle clustering algorithm repeats, more particles approach the good particles in the swarm, lose momentum, and become less active. They are reactivated and redefined as follows:

$$f = \frac{1}{n} \sum_{i=1}^n f_i, \sigma_f^2 = \frac{1}{n} \sum_{i=1}^n (f_i - f)^2, \quad (22)$$

where f is the fitness of the i^{th} particle, n is the particle swarm size, f is the average fitness of all particles, and σ_f^2 is the variance of fitness reflects the degree of convergence of the population. The definition is as follows:

$$\tau^2 = \frac{\sigma_f^2}{\max\{(f_i - f)^2, (j = 1, 2, \dots, n)\}}. \quad (23)$$

A particle swarm system is considered immature if τ^2 is smaller than a specified lower threshold and no theoretical optimal solution or expected optimal solution to the problem has been found at present, which is the definition necessary to introduce passive particles and alienate them to some extent.

$$\frac{f_g - f_i}{\max\{(f_i - f)^2, (j = 1, 2, \dots, n)\}} \leq \theta. \quad (24)$$

The assumption is that a lower threshold is the fitness of the optimal particle. It is reactivated by applying random Gaussian interference to a specific part of particle i that satisfies the inequality.

4. Analysis of the Impact of Hotel and Tourism Economic Development under Computational Intelligence

4.1. Research on Hotel and Tourism Economy under Computational Intelligence. In the data of hotel and tourism economy under intelligent computing, we can clearly see the economic development status of hotel and tourism industry. The evaluation accuracy of the algorithm using computational intelligence is higher, and the experiment has also carried out the confidence of other methods. The comparison results are shown in Figure 3 and Table 1.

Based on the experimental data in Figure 3, we can see that the computing intelligence computational accuracy is the highest of the three methods when the number of iterations is 50. Estimation accuracy can be 80, and the statistics are incorrect.

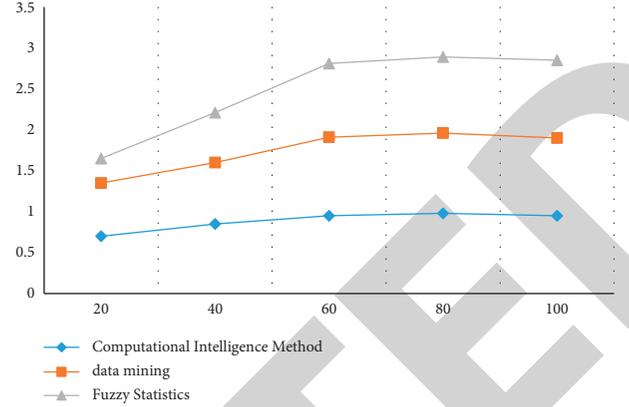


FIGURE 3: Evaluation accuracy comparison test chart.

TABLE 1: Evaluation accuracy comparison.

| Number of iterations | 20 | 40 | 60 | 80 | 100 |
|-----------------------------------|------|------|------|------|------|
| Computational intelligence method | 0.7 | 0.85 | 0.95 | 0.98 | 0.95 |
| Data mining | 0.65 | 0.75 | 0.96 | 0.98 | 0.95 |
| Fuzzy statistics | 0.3 | 0.61 | 0.9 | 0.93 | 0.95 |

Based on the data from Figure 4 and Table 2, it can be concluded that the proposed calculation algorithm model, after being carried out on a test set, can achieve an accuracy rate of 98.36% and a satisfaction level of 92.46%. What is the type with the highest indicator value among the three algorithms. The accuracy of the imprecise statistical method is 75.14%, which is the lower of the four systems, and the mining model is midtable. From the curves of these two algorithms, we can also see that the curvature of the computational intelligence score of the model is veryD stable and is on the 0.9 level. The price curve is very steep. In addition, the experimental results also show that the performance of the computational intelligence algorithm is optimal.

4.2. Research on Hotel and Tourism Economy under Computational Intelligence. Tourism is based on tourism resources. It provides tourism services and engages in tourism and tourism social activities. As the main tourism infrastructure, the hotel industry is an important part of tourism and an important symbol of tourism development. In recent years, because of the continuous improvement of people's living standards, tourism has become an important form of public leisure and entertainment. Domestic tourism has also developed rapidly. The forecast and actual value of domestic tourism revenue from 2017 to 2022 are shown in Figure 5 and Table 3.

The experimental data of Figure 5 shows that with increasing time, the domestic tourism revenue is increasing, showing a steady upward trend. In 2017, the domestic tourism revenue was only 1,257.9 billion yuan. At that time, we found that domestic tourism revenue rose to 3,419.4 billion yuan. It can be seen that the domestic tourism revenue is showing a steady upward trend. The error value of domestic tourism revenue using computational intelligence also showed first a trend of rising and then falling.

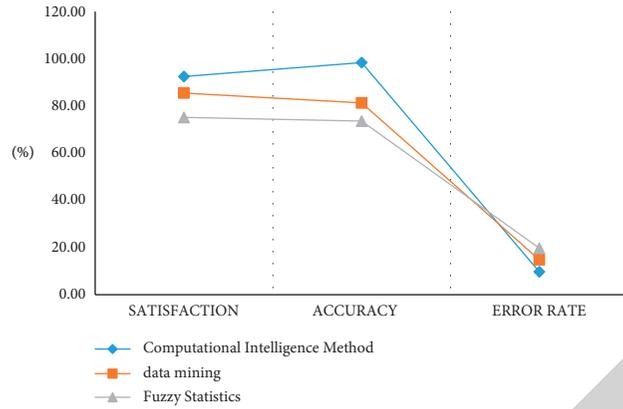


FIGURE 4: The performance of each algorithm on the test set.

TABLE 2: The performance of each algorithm on the test set.

| Algorithm | Satisfaction | Accuracy | Error rate |
|-----------------------------------|--------------|----------|------------|
| Computational intelligence method | 92.46% | 98.36% | 9.68% |
| Data mining | 85.45% | 81.28% | 14.79% |
| Fuzzy statistics | 75.14% | 73.58% | 19.68% |

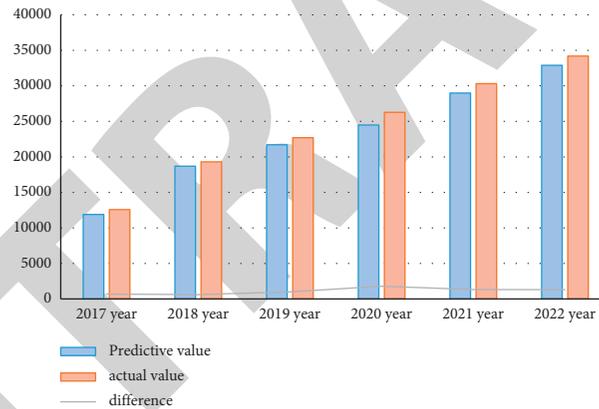


FIGURE 5: Comparison of domestic tourism revenue from 2017–2022.

TABLE 3: Forecast and actual value of domestic tourism revenue from 2017–2022.

| Data mining | 2017 year | 2018 year | 2019 year | 2020 year | 2021 year | 2022 year |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Predictive value | 11893 | 18689 | 21706 | 24484 | 28988 | 32893 |
| Actual value | 12579 | 19305 | 22706 | 26276 | 30312 | 34194 |
| Difference | 683 | 616 | 1000 | 1792 | 1324 | 1301 |

The experimental data in Figure 6 shows that the largest share of revenue from tourism is accommodation payments, accounting for 52%, followed by the scenic spot ticket fee, accounting for 18%, and finally the bus fee, accounting for 15%. The hotel industry is an important part of the tourism industry and one of the most important symbols of the level of development of the tourism industry. The increase in hotel revenue is in line with the increase in tourism revenue.

4.3. Analysis of the Impact of Tourism Economic Development. Tourism is an important part of the service industry and plays an important role in providing employment opportunities and solving employment problems. The employment advantage of tourism relative to other industries can provide other employment opportunities. The higher the employment rate, the lower the employment threshold. The tourism industry has many levels of work. On the one hand, it needs quality management and technical talents, and on

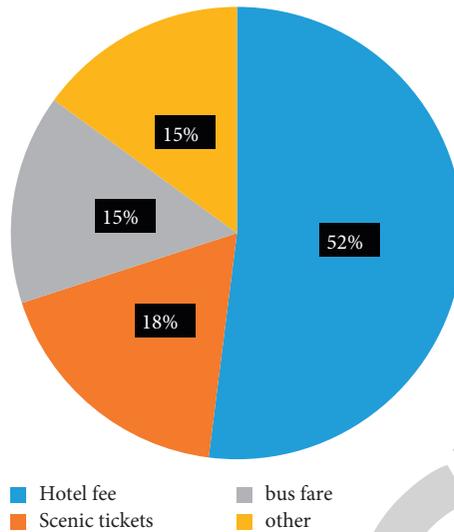


FIGURE 6: The proportion of tourism revenue.

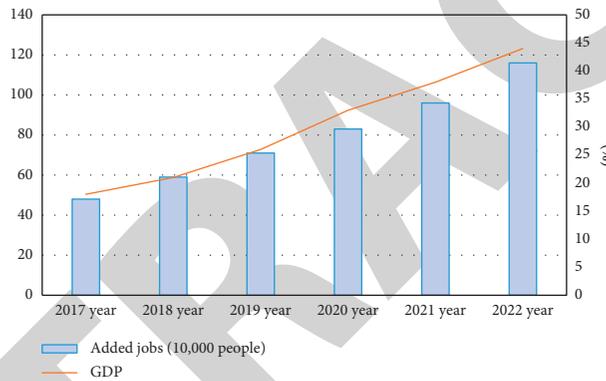


FIGURE 7: The jobs created by the tourism industry and their proportions.

TABLE 4: Jobs created by tourism and its proportion.

| years | 2017 year | 2018 year | 2019 year | 2020 year | 2021 year | 2022 year |
|------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Added jobs | 48 | 59 | 71 | 83 | 96 | 116 |
| GDP | 18% | 21% | 26% | 33% | 38% | 44% |

the other hand, it needs many jobs, especially in tourism, transportation, catering, and tourism commodities. Positions in tourist attractions, with low educational requirements and low age requirements, are helpful to young people without technical knowledge. The jobs created by tourism and its share of GDP are shown in Figure 7 and Table 4.

Through the data in Figure 7, we can see from 2010 to 2015 that the number of jobs added by the tourism industry has been increasing steadily, and the number of jobs added has also increased from 480,000 in 2017 to 1.16 million in 2022, and the proportion of tourism revenue in GDP is also rising steadily. We can also see that tourism revenue is also rising. The proportion of GDP is also increasing.

According to the data in Figure 8, we can see that with the continuous improvement of people’s living standards, tourism has become an important way of public leisure and entertainment, and domestic tourism has also developed

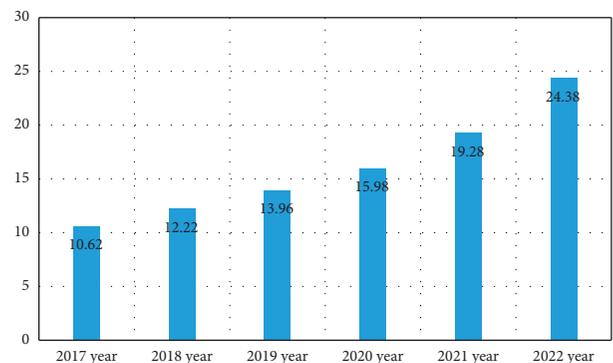


FIGURE 8: Number of tourist receptions in 2017–2022.

rapidly, showing a steady upward trend from 1.062 billion in 2017 to 2.438 billion in 2022, indicating that the domestic tourism industry has been developing toward a better trend.

5. Conclusion

The rapid development of China's tourism industry has made great progress in the growth rate and scale of the industry, and it occupies an important position in the global tourism market. The prosperity and development of the hotel industry can not only effectively solve many social employment problems but also promote the further development of the region's economy. The main factors that affect the quality and profitability of hotel management should be the comfort of the hotel department, the comfort of the catering department, and the comfort of traveling. These factors are very important to the long-term sustainable development of the hotel. Therefore, the relationship between hotel economic development and regional economic development is very close.

Data Availability

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

Conflicts of Interest

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

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