

Development and Quality Improvement of Lianqingshan Scenic Spot in Tengzhou City

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Abstract Since the 21st century, China's overall national strength has increased continuously. With the rapid development of the tourism industry, people have an increasingly strong demand for travel. Firstly, tourists' satisfaction to Lianqingshan Scenic Spot was surveyed, and then the types of tourism resources, current development situation and problems in the scenic spot were analyzed. Finally, some countermeasures and suggestions for its development and quality improvement were put forward. It is found that based on the environmental quality, safety and service quality of Lianqingshan Scenic Spot, the basic situation of the development of the scenic spot was investigated, and the comprehensive satisfaction of each item is 3.30, 3.24 and 3.32. The tourists of the scenic spot is mainly from Tengzhou City and its surrounding cities, and the popularity of the scenic spot is relatively low. The management personnel of the scenic spot needs to increase the tourist flow by improving its exposure. The problems of the scenic spot include low popularity, poor environmental quality, low safety of tourists, poor operating condition of catering industry and service quality of service personnel.

Keywords Lianqingshan Scenic Spot, Problems, Countermeasures

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In recent years, China's economic strength has increased rapidly, while the tertiary industry has risen rapidly. The development of tourism plays a vital role in promoting the comprehensive national strength of China. Since the outbreak of the global corona virus disease 2019 (COVID-19) in 2020, the development of tourism is facing an unprecedented test^[1]. At present, under the normal state of the epidemic in China, the development of tourism has improved, but the tourism policies of various places are also constantly changing with the development of the local epidemic situation. Therefore, reasonable local tourism can not only meet the needs of tourists, but also drive the development of local tourism economy accordingly, which is particularly important for the recovery of tourism industry.

In the post-epidemic period, tourists are more eager to feel the charm of nature to relieve anxiety and fatigue brought by various life pressures^[1]. Under the current new situation of tourism industry development, tourism has entered a new era, and ecological tourism has been advocated. The development of ecological tourism has ushered in new opportunities. The rural revitalization strategy has proposed new ideas and ushered in new opportunities. At the same time, it is also faced with new challenges such as the contradiction between the protection and development of natural tourism resources, the renewal and iteration of the tourism market, and the diversified impact of ecotourism resources on the audience^[1]. With

the rapid development of China's economy and society, people's environmental protection awareness has been enhanced, and they are more inclined to green tourism and natural tourism. Since the 18th National Congress of the Communist Party of China, the state has paid more and more attention to the issue of tourism environmental protection, emphasized the harmonious coexistence of human beings and ecology, adhered to sustainable development, and strengthened the construction of ecological civilization in China to make fuller preparations for building a beautiful China^[2]. China has rich ecological tourism resources, and ecological parks and scenic spots are increasing day by day. However, there are still many problems in the development of eco-tourism in China, and how to obtain sustainable development of eco-tourism requires more serious study and exploration.

The study of Lianqingshan Scenic Spot is conducive to finding the general situation in the development and management of 3A mountain tourist attraction at the present stage, and analyzing some problems that the relevant management staff of the tourist attraction need to solve in the future work, and the overall development of Lianqingshan Scenic Spot in the future. In this paper, according to the development status of Lianqingshan Scenic Spot in Tengzhou City, the feedback from tourists on the scenic spot was obtained based on online comments from Ctrip, Meituan and Dianping as well as questionnaires, and the subjective

feelings of tourists during the travel process were analyzed and summarized. Moreover, corresponding suggestions were put forward to promote the development of local tourism economy in Tengzhou City.

In China, some scholars have been studied the development trend of tourist attractions. For instance, Yuan Erjun et al.^[3] made a dynamic analysis of the development and protection process of Qinghai Beishan Park based on SWOT analysis, and mainly discussed the development and protection issues of Qinghai Beishan Park. Based on the actual situation of Jiaozishan Nature Reserve, Zhao Changyou et al.^[4] mainly analyzed the composition of stakeholders of Jiaozishan, and mainly studied the difficulties faced by the development of eco-tourism in Jiaozishan. Huang Zichen et al.^[5] put forward new ideas for the development of eco-tourism routes based on the perspective of global tourism. Shi Dongfang et al.^[6] applied the two-dimensional structure theory of place attachment to evaluate the elements of mountain tourism in areas with concentrated mountain resources, and proposed the idea of building core characteristic mountain tourism projects. Wang Zhongke et al.^[7] conducted a questionnaire survey on tourists of Detian Waterfall in Guangxi through random sampling, and studied the factors affecting the non-use value of the scenic spot with "green hills and clear waters" and existing problems. Based on the survey project of cultural and tourism resources in Peng'an County, You Shuisheng et al.^[8] conducted a survey, classification and

evaluation of tourism resources according to the *Classification, Investigation and Evaluation of Tourism Resources in Sichuan Province (Trial)*, and summarized the current situation of protection and development and existing problems of tourism resources in Peng'an. He Shuqiang et al.^[9] analyzed the resource value of the Ancient Tea Horse Road, and discussed the deficiencies in the development of tourism resources of the Ancient Tea Horse Road on the basis of literature research. Song Chuan et al.^[10] used RMP (Angspectrum) analysis method and AHP (hierarchy) analysis method to build an evaluation system of eco-tourism products by analyzing tourist resources, tourism market and tourism products in the scenic spot, and concluded that forest health tourism products had the highest weight. Shi Dan et al.^[11] carried out qualitative and quantitative evaluation of forest ecotourism scenic spots, built an evaluation indicator system for the development potential of forest ecotourism scenic spots in Jilin Province, analyzed the development potential of four representative forest ecotourism scenic spots by using fuzzy analytic hierarchy process, and put forward some relevant suggestions.

To sum up, China's theoretical basic research on tourist attractions and the development and management of tourism resources has basically reached maturity. However, few researchers in the field of tourism and other related disciplines have conducted in-depth studies on the development of tourism resources, protection of natural resources and government policy support in the Lianqing Mountains in recent years. How to balance the relationship between tourism development and resource and environmental protection is a problem that needs to be paid more attention to in the future development of Lianqingshan and other natural eco-tourism scenic spots.

1 Overview of the study area and research methods

1.1 Overview of the study area

As a provincial geological park in Shandong Province and a national 3A scenic spot, Lianqingshan Scenic Spot is located in Dongguo Town, Tengzhou City, bordering Dianzi Town and Zhangzhuang Town^[12]. The forest coverage rate of the Lianqing Mountains reaches 93%, and the coverage rate of vegetation on the main peak Motianling is basically above 95%^[13]. There are two railway stations in Tengzhou City, and Lianqingshan Scenic Spot has high traffic accessibility and wide open roads^[13]. The Lianqing Mountains have rich natural tourism

resources, profound historical and cultural deposits, beautiful ecological environment and complete landscape types, and are known as "the first love mountains in the world"^[14].

1.2 Research methods

1.2.1 Field investigation method. The application of field investigation method in tourism science mainly involves the investigation of tourism resources. That is, tourism scholars investigate tourism resources in a certain tourist place, and it is the most direct and authentic investigation method.

1.2.2 Questionnaire survey method. In the basic research of tourism, questionnaire survey method mainly uses the questionnaire star system platform to design the contents of the questionnaire according to the data to be obtained. The questionnaires were published on the network social platform or filled in on the spot.

1.2.3 Online satisfaction survey. The network survey of tourism information mainly means collecting the subjective evaluation of tourists through mobile APP such as Ctrip, Meituan and Dianping, understand the real feelings of tourists, and give feedback on their opinions and suggestions.

1.2.4 Comprehensive evaluation method. Comprehensive satisfaction means that the satisfaction of each sub-item multiplied by its weight (namely the degree of importance), and then divided by the sum of the weight of each sub-item. By issuing questionnaires on the questionnaire star platform, the content to be evaluated was scored according to five levels of 1, 2, 3, 4 and 5. Afterwards, the five satisfaction scores were added together and then averaged. The higher the average score, the more satisfied the visitors were. The average score of more than 3 points is a reasonable value. The calculation formula is as follows:

$$F_{\omega} = \sum_{i=1}^i X_i P_i / \sum_{i=1}^i P_i$$

where, F_{ω} is the total average score of each evaluation item; X_i is the score of each item; P_i is the total number of items evaluated; i is grades 1–5; ω is the content evaluated. Scores 1–5 mean very dissatisfied, dissatisfied, general, satisfied, and very satisfied.

2 Present situation of development of tourism resources in the Lianqing Mountains

2.1 Natural scenery tourism resources

There are many large and small mountains in the Lianqing Mountains, of which Aozhi Mountain, lotus pond, bluestone cliff, Motianling are the main mountain peaks. The main peak,

Motianling, is 603 m above sea level, and is the second highest peak in southern Shandong after the Yiyun Mountain^[13]. Mountain view, landscape, valley view, forest view, water view and other landscape series are complete.

2.2 Cultural landscape tourism resources

2.2.1 Tourism resources of historical relics and monuments. Ming King's mausoleum is located at the foot of Tianzhufeng, with obvious style of mausoleums of kings in the Ming Dynasty, and it is one of the ancient tombs unearthed in Tengzhou City. Lianqing Temple was built in the Tang Dynasty, where there is a gate, Tianwang Hall, Daxiongbao Hall, Bell and Drum Tower, monk room, meditation abode and east and west side hall.

2.2.2 Modern man-made landscape tourism resources. Lianqingshan Dinosaur Park is an impressive modern dinosaur museum, as well as an original ecological park built on the natural ecological landscape of the Lianqingshan Mountains. Lover's Valley is a cultural landscape built by China's ancient traditional love stories as the main line.

2.2.3 Leisure and entertainment tourism resources.

(1) Mountain ice and snow tourism sports. Since China successfully bid for the Beijing Winter Olympic Games, the nation's enthusiasm for ice and snow increases, and ice and snow tourism has developed rapidly in China. China has achieved the goal of "driving 300 million people to participate in ice and snow sports"^[15]. Lianqingshan Ski Resort relies on its unique geographical environment, and create different grades of ski according to its terrain. Air lift, ski equipment and other related facilities are fully equipped.

(2) A variety of recreational activities. With the increase of people's tourism demand, the types of modern tourism resources are more diverse^[7], and natural scenery scenic spots no longer only have mountain climbing as a single tourism activity^[16]. The management and development personnel of Lianqingshan Scenic Spot built a rainbow slide with a length of about 1 km according to the advantage of its mountain drop. The rafting of the Lianqingshan Mountains has a drop of 288 m, with a total length of 4 km, and a total rafting time of about 1 h.

3 Development status of Lianqingshan Scenic Spot

3.1 Development status of tourism resources

In Lianqingshan Scenic Spot, there are mainly natural tourism resources and cultural

tourism resources, such as Lianqingshan ski resort, Lover Valley, Lianqing Temple and other tourist attractions. In Lianqingshan Scenic Spot, water rafting sports are conducted in summer, and skiing tourism projects are carried out in winter to adapt to the development of tourism activities in different seasons. Lover Valley, Dinosaur Park, etc. are theme parks built on the terrain characteristics of the Lianqingshan Mountains, and tourists can experience the local customs in the process of climbing the mountains.

3.2 Popularity of the scenic spot

Through the cross-analysis of age and occupation, it can be concluded that the tourist group of Lianqingshan Scenic Spot is mainly 25-35 years old, among which the proportion of students is the highest, up to 68%, followed by teachers (16%) (Fig.1). The tourists of Lianqingshan are mainly from Tengzhou City and its surrounding cities, with the majority of tourists from Shandong Province (Fig.2).

3.3 Current situation of ecological environment in the scenic spot

Tourists' satisfaction with various aspects of ecological environmental health in the scenic spot is shown in Fig.3. Among them, tourists' satisfaction with road environmental health and ski equipment in the ski resort is the lowest. The comprehensive evaluation score of environmental health in Lianqingshan Scenic Spot is 3.3, ranging from 3-4, indicating that the management staff of Lianqingshan Scenic Spot fail to provide a high-quality tourism environment for tourists in the scenic spot.

3.4 Analysis of the overall operation status of the scenic spot

3.4.1 Basic operation status of the scenic spot. Lianqingshan Scenic Spot receives about 230,000 people annually, with an annual income of about 11.4 million yuan from tickets and 46 million yuan from other sources. Dining, entertainment, accommodation and other facilities in the scenic spot are complete. The outdoor snack square in the scenic spot mainly provides a variety of dining dishes, special barbecue snacks and all kinds of national food. Lianqingshan Scenic Spot is mainly promoted by travel agencies, radio and television platforms and network social platforms, and professional management personnel are employed to provide tourists with basic tourism services.

3.4.2 Tourist safety of the scenic spot. The scores of safety in all aspects of the scenic spot are shown in Fig.4. The respondents have the lowest satisfaction with the safety of ski equipment and related equipment in the ski

resort and the quality of food and beverage in the scenic spot. The overall score of tourists' satisfaction with the safety of Lianqingshan Scenic Spot is 3.27, and it is basically in line with the reasonable degree range of tourists' satisfaction.

3.5 Evaluation of the overall service quality of the scenic spot

3.5.1 Overall operation status of catering industry. Based on the survey questions set by the catering quality evaluation of Lianqingshan Scenic Spot and the feedback from tourists, the satisfaction of tourists to the comprehensive operation of the catering service industry in Lianqingshan Scenic Spot is shown in Fig.5. The score of comprehensive satisfaction of tourists to the catering service quality of Lianqingshan Scenic Spot is 3.27. The satisfaction of tourists to the consumer price of catering and the environmental health of catering service places is low, followed by the satisfaction of the quality of catering products.

3.5.2 Service quality of staff in the scenic spot. The evaluation of service quality of staff in the scenic spot is shown in Fig.6. The score of the comprehensive satisfaction of tourists to various service personnel in the scenic spot is 3.37. Among them, tourists have the highest satisfaction with the catering service staff in the scenic spot, and the satisfaction to other staff is basically the same. However, more than 60% of the tourists believe that the staff in the scenic spot did not perform their job duties well, and have poor quality and low service quality (Fig.7).

4 Problems in the development of Lianqingshan Scenic Spot

According to the survey results, the development status of the scenic spot and the feedback of tourists on the internet, it can be concluded that there are still many problems in the development stage of Lianqingshan Scenic Spot, such as low popularity of the scenic spot, poor environmental quality, low safety of tourists, poor operating condition of catering industry, and low service quality of tourist service personnel in the scenic spot.

4.1 The popularity of the scenic spot is low

The popularity of Lianqingshan Scenic Spot is not high, and tourists mainly come from Tengzhou City and surrounding cities. It is far from enough to only rely on the publicity of local radio and television platforms, travel agencies, and official platforms. Foreign tourists may only know Mount Taishan in Shandong Province, but few people know that there are

Lianqing Mountains in Tengzhou.

4.2 The environmental health quality in the scenic spot is poor

The number of garbage cans in Lianqingshan Scenic Spot is small, and garbage is mostly left on the mountain roads or near the mountains. The management staff has not been able to clean up tourists' remains in time. The waiting area of the ski resort has dense personnel, poor ventilation, and poor health environment quality, and ski equipment can not be cleaned and repaired on time. The surrounding environment of recreational facilities is poor. For example, there is lake garbage in the alpine rafting area, and the lakes and rainbow slides in the scenic spot are susceptible to natural weather, resulting in increased natural environmental pollution, and the staff of the scenic spot fails to clean it up in time.

4.3 The safety of tourists is not guaranteed

Lover Valley in Lianqingshan Scenic Spot is the main route for tourists to experience the natural scenery, but some road protection measures on this tourist route are lacking, which is easy to cause tourism safety accidents^[19]. The safety and reliability of skiing equipment are poor in the process of skiing, and there are risks in tourist transportation facilities such as aerial cable cars and buses.

4.4 The overall operation of the catering industry in the scenic spot is poor

In Lianqingshan Scenic Spot, food and beverage environment hygiene is poor, and there are mostly outdoor business snack shops. Tourists litter everywhere. The service quality of catering staff is low, and they fail to take care of the needs of each customer in a timely manner. Food and beverage products have the risk of long-term exposure to the outdoor environment, and are susceptible to external environmental pollution, leading to low food safety and quality. The price of food and beverage products is higher than that outside the scenic spot, and some stalls raise prices maliciously. The quality of food and beverage service is poor.

4.5 The service quality of tourist service personnel in the scenic spot is low

The overall service quality of the relevant staff in Lianqingshan Scenic Spot is poor, and the tourism service personnel seriously lack service awareness and patience, have poor service attitude, and fail to perform their job responsibilities. For example, the service attitude of the scenic ticket sales staff is not sincere, perfunctory, and the problems raised by tourists

can not be timely feedback. The management staff fail to inform the basic situation of the scenic spot in time, and tourists are vulnerable to “fraud”.

5 Paths for the development and improvement of Lianqingshan Scenic Spot

5.1 Strengthening tourism publicity and improving the popularity of the scenic spot

The tourists of Lianqingshan Scenic Spot is mainly from Tengzhou City or surrounding cities, showing that the popularity of the scenic spot is low in the province and even the country. While improving local popularity, the scenic spot should also strengthen their publicity efforts in other cities^[18]. Live broadcast can be carried out in some short video live broadcast platforms, such as “Douyin, Kuaishou” and other mobile apps. The official website of Lianqingshan Scenic Spot should publish relevant tourism information and adjust the price of tourism products in a timely manner to attract more foreign tourists^[17].

5.2 Strengthening the protection of natural resources and improving the environmental quality of the scenic spot

In the process of development of tourism

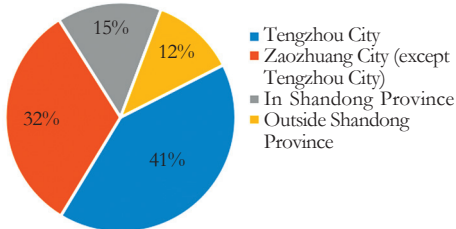


Fig.2 Sources of tourists of Lianqingshan Scenic Spot

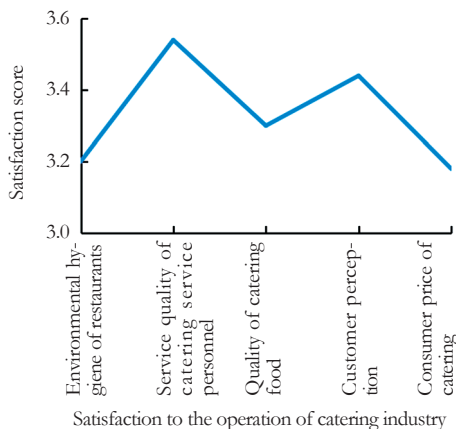


Fig.5 Satisfaction to the comprehensive operation of catering industry in Lianqingshan Scenic Spot

resources, Lianqingshan Scenic Spot must protect its natural geographical environment, and strengthen the protection of tourism resources^[8]. The main management personnel of Lianqingshan Scenic Spot should organize personnel to regularly clean up environmental pollutants in the scenic area, strengthen the publicity of tourists' awareness of environmental protection, and improve the environmental

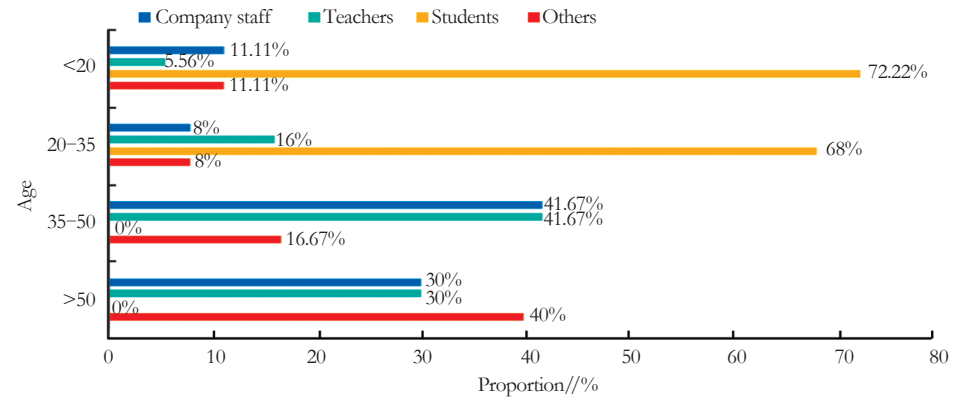


Fig.1 Age and occupation of tourists of Lianqingshan Scenic Spot

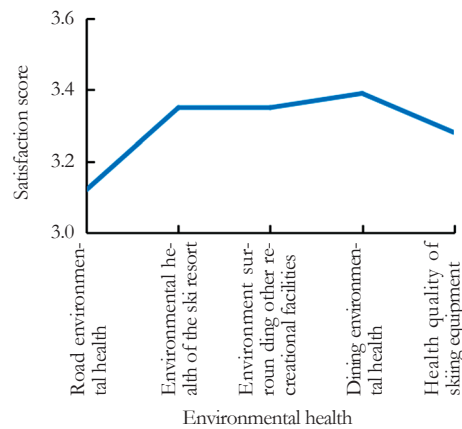


Fig.3 Environmental health assessment of Lianqingshan Scenic Spot

quality of the ski resort and the hygiene of facilities and equipment.

5.3 Improving tourism facilities and equipment to ensure the safety of tourists

The management personnel of Lianqingshan Scenic Spot should improve the construction of tourism supporting infrastructure equipment, improve the safety quality of various recreational

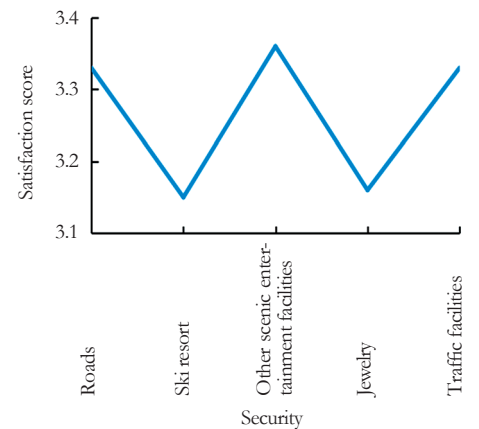


Fig.4 Evaluation of security of Lianqingshan Scenic Spot

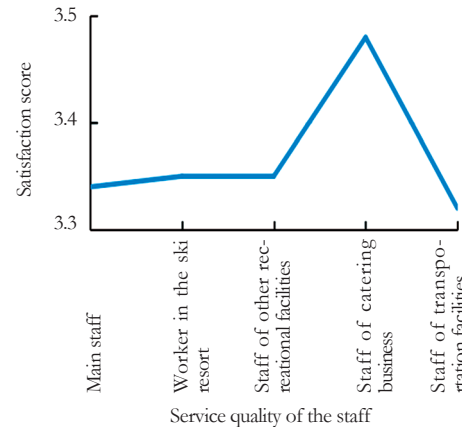


Fig.6 Evaluation of service quality of the staff in Lianqingshan Scenic Spot

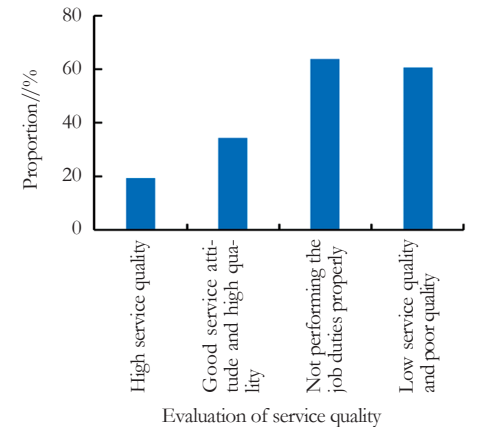


Fig.7 Evaluation of service quality of the staff in Lianqingshan Scenic Spot

facilities and equipment, increase the number of tourist rest areas and parking spaces, strengthen the road safety construction, and increase the number of broadcasts in the scenic spot, so that tourists can timely understand the information released by the scenic spot, and strengthen the awareness of tourists' outdoor tourism safety.

5.4 Enhancing the quality management of catering service in the scenic spot

The restaurant operators in the scenic spot should improve the environmental health quality around restaurants, formulate reasonable prices of catering products that meet the public psychological expectations, strengthen the safety and quality of catering products, enhance their own service awareness, and meet the catering needs of various tourists as much as possible. The management staff of the scenic spot should continue to reasonably optimize the business standards of catering operators.

5.5 Strengthening the training of tourism service personnel and improving the quality of tourism service

The management personnel of Lianqingshan Scenic Spot can invite professional service training personnel to conduct regular training for all kinds of staff in the scenic spot to strengthen their service awareness. Tourism service personnel in the scenic spot should improve their ability to change their thinking, think more from the perspective of tourists, correct their service attitude, and leave a good impression on tourists.

6 Conclusions

Based on evaluation factors such as scenic safety, environmental quality and service quality, the overall development of Lianqingshan Scenic Spot in Tengzhou City is studied through field investigation, questionnaire survey and collection of network evaluation information, and the following conclusions are drawn.

(1) From the cross-analysis of age and occupation, it is found that the main consumer group of Lianqingshan is local young students aged 20–35. Lian Qingshan is not widely known like Mount Tai, but it is popular with local tourists or tourists from surrounding cities. Based on the evaluation factors such as scenic safety, environmental quality and service quality, it is concluded that the overall satisfaction of tourists to Lianqingshan Scenic Spot is low.

While focusing on the development of tourism resources, the management and development personnel of the scenic spot need to pay attention to the subjective feelings of tourists and improve the feedback information of tourists in time.

(2) According to the relevant investigation, Lianqingshan has a low reputation and poor environmental quality; the safety of tourists is not guaranteed, and the overall operating condition of catering industry and the service quality of service personnel is poor.

Lianqingshan Scenic Spot has great potential for development in the future. It is also necessary to enhance the popularity of the scenic spot, pay more attention to training and introducing eco-tourism professionals, strengthen the environmental awareness of staff and tourists in the scenic spot, and improve the quality of the ecological environment, so as to realize the sustainable development of the local tourism industry.

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