

# Improvement of Tourism Service Quality in Tai'an Tianyi Lake Scenic Area

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**Abstract** In order to better enhance the tourism service quality and tourist satisfaction of scenic spots, this study applies the theory of tourism service quality to Tai'an Tianyi Lake scenic area, exploring the current situation and existing problems of its tourism service quality through field investigation and questionnaire surveys, and proposing specific promotion strategies, with the aim to improve tourist satisfaction and enhance the competitiveness and attraction of the scenic area.

**Keywords** Tai'an Tianyi Lake scenic area, Tourism service quality, Promotion, Investigation, Satisfaction

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As a national AAAA-level tourist attraction and provincial scenic spot in China, Tai'an Tianyi Lake scenic area attracts a large number of tourists with its unique natural scenery and rich cultural connotation. However, with the rapid development of the tourism market and the diversification of tourist demand, the area is facing new challenges and improving demand in terms of tourism service quality. From improving tourist satisfaction and competitiveness to promoting the sustainable development of local economy and culture, improving service quality has become an important issue for scenic spot managers. In addition, with the development of new technology, how to effectively use digital and intelligent chemical tools to improve the service experience has also become the key direction to improve the quality of tourism service. Therefore, studying the current situation, problems and improvement strategies of the tourism service quality of Tai'an Tianyi Lake scenic area is not only of great significance to improve the service quality and market competitiveness of the scenic area, but also has a positive impact on promoting the healthy development of regional tourism.

## 1 Current situation of tourism service quality in Tai'an Tianyi Lake scenic area

### 1.1 Overview of Tai'an Tianyi Lake scenic area

Located in Tai'an City, Shandong province, Tianyi Lake scenic area, covering an area of about 200 hm<sup>2</sup>, is a comprehensive tourist attraction integrating natural scenery and modern leisure and entertainment. The scenic area is renowned for its unique geographical location and rich natural resources, featuring picturesque scenery surrounded with lakes and mountains<sup>[1]</sup>. The main landscapes in the scenic area include

Tianyi Lake, water park and ecological park. Tianyi Lake, a large-scale artificial lake, is equipped with perfect pedestrian paths and sightseeing facilities, serving as a premier leisure destination. The water park attracts a large number of young tourists and family tourists with its exciting water activities. As tourism demand continues to surge, Tianyi Lake scenic area is also facing the challenge of enhancing service quality, especially in managing high visitor volumes during peak period to ensure an optimal visitor experience while safeguarding its natural ecosystem.

### 1.2 Current situation of tourism service quality in Tai'an Tianyi Lake scenic area

**1.2.1 Service facilities construction.** The construction of service facilities in Tianyi Lake scenic area has been significantly strengthened and improved in recent years to meet the growing demand of tourists. The infrastructure in the area encompasses well-developed transportation networks, parking facilities, washing rooms, and rest areas, all constructed and maintained in accordance with high standards to ensure the convenience and comfort of tourists. Despite these facilities, it still faces some challenges in the peak tourism season: maintenance and upgrades struggle to keep pace with surging facility usage, while congestion persists in some areas. These problems require targeted optimization efforts from park management to sustain service quality.

**1.2.2 Environmental sanitation management.** Tianyi Lake scenic area prioritizes environmental sanitation management, striving to provide a clean and tidy environment for tourists. There is a dedicated sanitation management team responsible for daily cleaning work, including garbage collection, waste sorting, greenbelt maintenance and waterway cleaning. It is noted that in the tourist intensive areas (like catering

areas, sightseeing routes and rest areas), the sanitation work is particularly frequent and thorough. The scenic area also actively promotes environmental awareness and encourages tourists to participate in environmental protection by setting up environmental education display boards and organizing cleaning activities. Nevertheless, the scenic area still faces certain environmental pressure in peak season, such as the increase in garbage disposal caused by the increase in tourists.

**1.2.3 Marketing promotion.** Tianyi Lake scenic area has adopted a multi-channel marketing strategy, which has effectively boosted its popularity and attraction. Leveraging an integrated online-offline approach, the area conducts targeted social media campaigns, partners with leading travel portals, and secures booth placements at international tourism fairs. In addition, the scenic area has also established cooperative relations with a number of travel agencies and online tourism platforms to attract more domestic and foreign tourists. However, there is still substantial untapped potential for promotion, such as improving the publicity in newspapers, magazines, television, radio and the Internet.

**1.2.4 Tourist souvenirs.** Tianyi Lake scenic area has also pioneered innovative souvenirs that deeply integrates regional cultural identity. There are many souvenir shops in the scenic area, which sell all kinds of goods related to Mount Tai culture and the natural scenery of Tianyi Lake scenic area, such as handicrafts, local specialties and souvenirs themed with the area's landmark attractions. These souvenirs are not only an important part of tourism revenue, but also a medium for tourists to recall their travel experience. However, there are some systemic merchandising challenges, such as the high price of tourist souvenirs.

## 2 Investigation and analysis of tourism service quality in Tai'an Tianyi Lake scenic area

### 2.1 Questionnaire design

In this study, a questionnaire was designed on the tourist satisfaction of Tianyi Lake scenic area, which was divided into 3 parts: the first part is the introduction, which expounds the purpose of the survey and seeks the support and cooperation of tourists; the second part is to collect the basic information of tourists, including gender, origin and age; the third part is the main body of the questionnaire. Based on the integration of 4 operational vectors—factors influencing visitors' satisfaction, ways to know the area, overall satisfaction of the tourist experience and the willingness to recommend to others<sup>[2]</sup>, the Likert scale was used to carry out visual calculation for some algorithmic problems, which could make it possible to get a more scientific and effective satisfaction distribution map<sup>[3]</sup>.

### 2.2 Questionnaire distribution and recovery

The questionnaire survey was conducted online and offline. A total of 200 questionnaires were distributed and 200 valid questionnaires were recovered. The recovery rate of valid questionnaires reached 100%.

### 2.3 Survey data analysis

#### 2.3.1 Basic tourist information

In this survey, 71% of the respondents are women and 29% are men. This gender distribution deviation may be due to the randomness of the questionnaire distribution process. Geospatial analysis shows that 89.5% of the respondents coming from Tai'an City and adjacent areas, versus merely 10.5% from other provinces, indicating that the scenic area is mainly attractive to short-distance tourists, but less attractive to tourists from far away areas.

**2.3.2 Tourists' ways to learn.** According to the statistical results of the questionnaire, 1.5% of the tourists get to know the area through official website, 20.5% from social media, 47.5% by the recommendation from friends or family recommendation, 3% introduced by the travel agency, and 27.5% through the other ways. Most people are familiar with the Tianyi Lake scenic area because they have lived in Tai'an and its surrounding areas for a long time, or come here through the recommendation of others. In contrast, fewer tourists come to visit Tianyi Lake scenic area through learning from newspapers, magazines, television, radio and the Internet, which reflects the lack of publicity and media investment in Tianyi Lake scenic area.

**2.3.3 Tourist satisfaction.** According to the results of the questionnaire survey and the feedback of tourists, the vast majority of people are satisfied with the information consultation, indication system, scenic spots and route layout of Tianyi Lake scenic area. However, there are still many problems in the intangible services of the scenic area, especially when the tourists encounter difficulties and seek the help of service personnel, they can not find service personnel or the solutions provided by service personnel fail to meet the needs of tourists in time.

The results of the questionnaire indicate an overall high satisfaction level from tourists to the scenic area: 22% highly satisfied, 63.5% satisfied, 14.5% neutral, 0% dissatisfied. For the evaluation on various services, critical improvement is expected to make for the cleanliness of the water environment, the number of surrounding parking facilities, the number of service personnel and the service of service personnel.

## 3 Problems in tourism service quality of Tai'an Tianyi Lake scenic area

### 3.1 Optimization needed for construction of service facilities

**3.1.1 Traffic congestion during peak tourism periods.** In Tianyi Lake scenic area, traffic congestion during the peak period of tourism is an important pain point in the tourist experience, particularly during holidays and peak tourism periods, when the traffic situation around the scenic area has become a significant problem. Insufficient parking spaces and frequent traffic congestion not only reduces the satisfaction of tourists, but also has a negative impact on the overall image of the scenic area. Such problems stem from its popularity among the locals and short-distance tourists, whose concentrated visits during public holidays and weekends result in traffic congestion at the main entrances and exits.

**3.1.2 Little real-time information on official website.** The lack of real-time information provided by the official website of Tianyi Lake scenic area is another key issue affecting the tourist experience. At present, the information about the real-time situation of the scenic area on the official website is not updated in time, which leads to many tourists unable to obtain the information they need, thus affecting their visits and experience quality. According to the results of the questionnaire, most tourists hope that the official website can provide more real-time or more frequently updated information.

Especially during the peak period, the lack of such information on the official website or the delay in updating often cause inconvenience and trouble to tourists during the actual visit. Such problem can subdue tourists' willingness to visit to a certain extent, especially for those who come from far away areas, visit for the first time or plan to visit all day.

### 3.2 Environmental health management to be strengthened

In Tianyi Lake scenic area, environmental health management is one of the key aspects to improve the tourist experience, but according to the latest survey data, it needs to be strengthened. Environmental sanitation is directly related to the health and satisfaction of tourists, especially in public areas such as catering area, rest area, washing rooms and other high flow areas. According to the survey, about 23% of tourists express moderate or lower satisfaction with the environmental sanitation of the scenic area. Tourists report that the sanitary conditions in some relatively hidden or crowded areas, such as the rest area far from the main tourist path and some toilets, are often unsatisfactory.

### 3.3 Price of tourist souvenirs too high

Survey feedback reviews that approximately 50% of the respondents perceive souvenir prices within the scenic area as disproportionately high relative to product quality or uniqueness. Tourists tend to recalibrate purchasing decisions when encountering misaligned price-value propositions, and higher than expected prices often lead to reconsideration of purchase decisions, especially in the current situation where consumers pay more and more attention to cost performance. In addition, some tourists have also point out that compared with other tourist attractions, the souvenirs of Tianyi Lake have no advantage in price, which reduces its competitiveness and affects the overall consumption experience of tourists.

### 3.4 Little promotion investment

The survey results show that about 47.5% of tourists learn about the Tianyi Lake scenic area through the recommendation of friends and family, while the proportion of tourists who learn about it through mainstream media, social media or other advertising channels is significantly lower. This suggests insufficient utilization of modern marketing tools and digital platforms for publicity, especially in the use of the Internet and digital media. On the whole, Tianyi Lake scenic area needs intensified promotional efforts focused on digital marketing optimization and strategic social media engagement to improve its market coverage and brand visibility, so as

to attract more domestic and foreign tourists. In the meantime, updating and diversifying promotional content will also help to stimulate tourists' interest and participation, thereby fostering higher satisfaction levels and long-term loyalty.

### **3.5 Lacking in professional ability of service personnel**

The survey results reveal critical service deficiencies at Tianyi Lake scenic area: approximately 33% of visitors reported inadequate consulting services provided by the service staff in the scenic area, while 49.5% of tourists indicated that the solutions provided by the service personnel in the scenic area can not solve the problems of tourists at that time, reflecting systemic gap in service professionalism and operational preparedness. These problems not only diminish attractions to tourists but also threaten the long-term competitiveness of the scenic area. In addition, many tourists also noted that the absence of dedicated guides or guidance services, forcing them to walk long distances to certain commercial zones for assistance from other relevant service personnel, such as catering attendants or amusement facilities attendants, which caused great trouble to tourists. Moreover, 72.5% of tourists highlighted the lack of personalized services, directly undermining the quality of tourists' experience.

## **4 Strategies for improving the tourism service quality of Tai'an Tianyi Lake scenic area**

### **4.1 Improving construction of service facilities**

**4.1.1** Optimizing road network and strengthening traffic management and promotion. In order to alleviate the traffic congestion at the peak of tourism in Tianyi Lake scenic area, comprehensive road network optimization and advanced traffic management are imperative. First of all, reasonable tourism transportation lines should be designed to form ring lines as much as possible and reduce the number of back roads<sup>[4]</sup>. The improvement of road design of the entrance and exit can increase road capacity and optimize traffic flows. For example, set up multiple entrances and exits to disperse the flow of tourists and reduce the pressure at a single point. Secondly, intelligent transportation systems, such as electronic guidance signs and real-time traffic monitoring, should be introduced to update traffic information in real time and guide tourists to choose the best route. In addition, collaborative initiatives with local transportation departments should be

strengthened, so as to temporarily increase public transport vehicles during holidays or activities, provide free or preferential public transport services, and encourage tourists to use public transport.

**4.1.2** Adding a real-time information and guidance section on official website. A real-time information and guidance section should be added to the official website of Tianyi Lake scenic area to provide more convenient information services and enhance the visitors' experience. First, the official website should dynamically update all kinds of information in the spot in real time, including weather conditions, activity arrangements, tour route recommendations, to help tourists effectively plan their itinerary. In addition, an interactive navigation map should be added to the official website. In this way, tourists can quickly obtain the detailed information of the place (such as historical background, visit time and relevant tips) by clicking on the scenic spots on the map. At the same time, the official website should provide online customer service function to answer tourists' questions and provide personalized travel suggestions. These measures can not only improve the digital service level of the scenic spot, but also enhance the pre-visit expectation and satisfaction of tourists.

### **4.2 Improving frequency of environmental cleaning**

In order to improve the environmental health status of Tianyi Lake scenic area, the key is to increase the cleaning frequency and improve the cleaning quality. The management party shall regularly evaluate and adjust the cleaning work plan, especially during the peak period of tourists, to ensure that the cleaning frequency of high flow areas such as food stalls, rest areas, entertainment facilities and toilets is significantly increased. Specific measures include expanding the cleaning team and introducing more part-time or temporary workers to strengthen cleaning efforts when necessary. In addition, the scenic area should add more garbage cans, especially classified garbage cans, in a prominent position to encourage tourists to sort garbage and reduce environmental pollution. Advocate civilized tourism and strengthen the education and guidance of tourists<sup>[5]</sup>. These measures can significantly improve the overall cleanliness of the scenic area and the satisfaction of tourists, thus creating a healthier and more pleasant tourism environment.

### **4.3 Optimizing price of tourist souvenirs**

To address the disproportional high price of tourist souvenirs in Tianyi Lake scenic area,

optimizing the pricing strategy is the key to improve sales and tourist satisfaction. The management should first conduct market research, compare the prices of souvenirs in peer attractions, pay attention to the cultural connotation in the design, highlight brand differentiation, and enhance the practical function<sup>[6]</sup>, so as to ensure the market competitiveness of souvenirs in Tianyi Lake scenic area. In addition, the cost and tourist affordability should be considered to develop a more reasonable pricing model. For example, the multi-level price strategy can be introduced to provide different products from high-end to economic type to meet the needs and budgets of different tourists. The scenic area can hold regular promotional activities, such as holiday discounts, member exclusive discounts, to attract tourists to buy. Through these measures, Tianyi Lake scenic area can improve the cost performance of souvenirs, increase tourists' purchase intention, and improve the overall satisfaction and loyalty of tourists.

### **4.4 Expanding positive and authentic promotion**

In order to enhance the popularity of Tianyi Lake scenic area and attract more tourists, it is essential to expand positive and authentic promotion. The management should prioritize resource allocation toward all-round publicity activities, especially on digital media and social platforms. Efforts can be made to strengthen the cooperation with well-known tourism bloggers and influencers, develop content marketing strategies, and release attractive videos, articles and high-quality pictures, to display the natural beauty and cultural characteristics of Tianyi Lake scenic area. In addition to digital marketing, cooperation with traditional media (such as television, radio and tourism magazines) should also be strengthened, to expand the coverage of publicity.

### **4.5 Enhancing professional ability of service personnel**

**4.5.1** Introducing professional service talents. To address the service quality gaps at Tianyi Lake scenic area, it can introduce a group of professional tourism service talents. The managers should pay attention to service issues. In terms of attracting tourism service talents, the scenic area can attract relevant talent teams through funds, resources, and establish various incentive mechanisms; in terms of the selection of tourism service talents, priority should be given to talents with rich experience and comprehensive professional knowledge, and absorbing and introducing relevant



tourism service talents play an important role in improving the core competitiveness of the scenic area. In the early stage of the development of scenic spots, tangible services such as infrastructure can certainly improve the competitiveness of scenic spots, but in the middle and late stage of the development of scenic spots, improving the intangible service quality of scenic spots can attract more tourists and enhance the influence of scenic spots.

**4.5.2 Providing professional training for service personnel.** Regular training should be carried out to the scenic area service personnel, including service skills, service attitude, industry knowledge and communication skills<sup>[7]</sup>. For example, a two-month study to Sheraton Jinan Hotel can be arranged for the staff of the catering business center, covering reception, service awareness, service process and service standards. Relevant teaching materials and cases should be provided to help employees deeply understand and master relevant knowledge and skills. The service personnel themselves should apply the service theory they have learned to the service practice. At the same time, they should master some emergency handling skills on the basis of learning theoretical knowledge. The service personnel team should timely find the problems in the service process and report them to the superiors, and finally put forward targeted suggestions through decision-making. For example, the uniform problem can be easily addressed by wearing eye-catching clothes, which

can make it easy for tourists to find the service personnel. In addition, as for the problems strongly complained by the tourists, such as the lack of professional personnel, service personnel should be timely arranged to cooperate with the guide map to provide corresponding guidance services for tourists. These measures can improve the service quality of service personnel in Tianyi Lake scenic area and enhance tourist satisfaction<sup>[8]</sup>.

## 5 Conclusion

As a tourist attraction with natural beauty, Tai'an Tianyi Lake scenic area has great development potential and ability to attract tourists. However, there are still some deficiencies in service quality, facility construction, environmental health management and professional ability of service personnel, which directly affect the experience and satisfaction of tourists. The implementation of targeted improvement measures and strategic adjustments can improve its service quality and enhance the tourist experience, so as to promote the long-term development and brand building of the scenic area, thereby becoming a more popular tourist attraction for tourists and making greater contributions to the development of regional economy.

## References

- [1] Guo, X., Gao, Y. (2017). Digital techniques for smart making design of Tianyi Lake Children's
- and their application forms in gardens. *Modern Horticulture*, (19), 130-132.
- [2] Editorial Board of Flora of Anhui (1990). *Flora of Anhui* (volume III). Beijing: Prospect Press of China.
- [3] Yin, Q., Yu, Y. W. & Xue, D. (2012). Application and research progress of aromatic plant resources in landscape healthcare. *Northern Horticulture*, 33(5), 182-185.
- [4] Hu, Y. X., Zhang, N. & Yang, S. Y. et al. (2013). Anxiolytic efficacy of 4 kinds of essential oil. *Journal of Shanghai Jiaotong University: Agricultural Science*, 31(4), 58-63.
- [5] Hefei Municipal Government. *Shanghai Liaison Office of Hefei Municipal Government*. <http://www.hefei.gov.cn>, 2019.
- [6] Hefei Municipal Government. *Statistical bulletin of national economic and social development of*

Experience Pavilion and Application of Digital Technologies. *Architectural Journal*, (5), 30-35.

- [2] Wang, N.J. (2021). *Research on the expansion of Suichang tourist source market in Zhejiang* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [3] Zhang, Z.Q., Wang, F.L. & Zheng, H.Y. et al. (2020). Research on higher vocational students' learning satisfaction based on Likert scale. *Technology Wind*, (18), 247-248.
- [4] Chen, L.Q. (2022). *Research on the improvement of tourism service quality in Y scenic spot* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [5] Li, Y. (2023). *Research on the improvement of tourism service quality in Qinghai Lake Scenic Area* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [6] Yao, Y. (2015). *Research on the evaluation and improvement of the service quality of scenic spots: A case study on Quzi Temple scenic spot* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [7] Shi, G.Q., Yang, Y. & Zhou, J.P. et al. (2023). Research on improving tourism service quality of Zhangye colorful Danxia scenic spot based on SERVQUAL model. *Journal of Hexi University*, 39(1), 50-59.
- [8] Wang, Y.D. (2023). *Research on service quality improvement of Qingxiu mountain scenic spot in Nanning* (Master's thesis). Retrieved from China National Knowledge Infrastructure.

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transitioning from resources to industries by converting aromatic plants into material industrial resources such as essential oils, herbal medicines and floral teas, can maximize their value.

Looking into the future, the scientific development of aromatic plant resources in Hefei City can promote eco-city development and achieve the "dual-carbon" goals. Future research should further explore strategies to establish Hefei as an "olfactory landscape city" with the coordinated development of "ecology, economy and culture" in the Yangtze River Delta through multidisciplinary collaboration and global planning.

## References

- [1] Liang, L. (2019). Functions of aromatic plants

Hefei in 2023. <http://www.hefei.gov.cn>, 2024.

- [7] Kang, X. Q. (2018). Evaluation on plantscape of eight parks in Guilin by AHP method. *Journal of Northwest Forestry University*, 33(6), 273-278.
- [8] Hu, J., Hu, C. Y. & Zhang, M. Y. et al. (2023). Study on evaluation of plant landscape of comprehensive parks in Zhaoqing City. *Horticulture & Seed*, 43(9), 49-53.
- [9] Liang, Q. Y., Guo, L. L. & Xu, B. X. et al. (2023). Comprehensive evaluation of fragrant plants for garden application of 43 aromatic plants in Yulin. *Shaanxi Journal of Agricultural Sciences*, 69(8), 62-67.
- [10] Liao, Y. L., Bao, S. F. & Zhao, J. Y. et al. (2021). Application of aromatic plants in gardens. *Modern Horticulture*, 44(19), 120-121.