

Research on Tourist Satisfaction of Yantai City Park Based on Importance-Performance Analysis Method

Jiayin Zhu ^a, Yuanli Wang ^b, Yuanchen Wang ^c

China Agricultural University YanTai Institute, Yantai, Shandong, China

^azhujiayinjiayin@163.com, ^b2218022460@qq.com, ^c2537633269@qq.com

Abstract. Yantai is a famous seaside tourism city, and its tourism industry has developed vigorously in recent years. City parks not only provide leisure and entertainment places for Yantai city residents, but also are the main components of urban tourism resources, and have become the embodiment of the overall level of urban tourism development. In this study, seven representative urban parks in Yantai were selected for field investigation, and Importance-Performance Analysis method was used to find out the shortcomings of the development of urban parks in Yantai, in order to put forward feasible suggestions for the construction of urban parks in Yantai, and promote park managers to carry out marketing according to different dimensions.

Keywords: Questionnaire investigation, Tourist resources, Urban environment, Tourism marketing.

1. Introduction

Urban park is the main leisure and recreation place for urban residents, which is related to the citizens' sense of access to the urban ecological environment and is conducive to the sustainable development of the city. At the same time, urban parks have become the main part of the development of urban tourism resources in major cities and the embodiment of the overall level of tourism development in their places. With the improvement of people's living standards and the change of values and aesthetic perspective, higher expectations have been generated for urban parks, which puts forward higher management requirements for park environment and service level. Therefore, it is of great practical significance to investigate and analyze the tourist satisfaction of Yantai urban parks.

Combing the literature, it is found that the concept of tourist satisfaction comes from customer satisfaction. In the 1960s, kardozo (1965) put forward the expectation difference theory. Since then, most definitions of tourist satisfaction are based on this theory [1]. At present, tourist satisfaction is mostly defined as the result of the comparison between tourists' expectations of the destination and their experience at the destination. If the tourism experience at the destination is higher than expectations, the tourists are satisfied; On the contrary, tourists are not satisfied [2].

At present, the indicators used in tourist satisfaction evaluation mainly include SERVQUAL (service quality) [3], SERVPERF (service performance) [4], IPS (importance performance analysis) [5], etc. Among them, the IPA model was proposed by Marilla et al. (1977), and Evans et al. (1989) applied the IPA method to the study of tourist destinations, which proved the effectiveness of measuring tourist satisfaction according to this method [6]. Researchers can put the relevant attributes of service products into the importance satisfaction two-dimensional matrix, get the satisfaction displayed in an intuitive form, and put forward practical suggestions according to its distribution quadrant. Therefore, IPA method has been widely and effectively applied [7-11]. Based on the construction of the tourist satisfaction evaluation index system of Yantai urban parks, this study uses the questionnaire survey method and IPA method to evaluate the tourist satisfaction of Yantai urban parks, obtains the shortcomings of the development of Yantai urban parks, and puts forward some suggestions.

2. Research design

2.1 Evaluation index system

Based on the formation mechanism, evaluation method and model construction of tourists' satisfaction, this paper constructs the evaluation index system of tourists' satisfaction in Yantai City Park through the theoretical knowledge by collating literature research and the characteristics of Yantai City Park by making an on-the-spot investigation. Details are shown in table 1.

Table 1. Tourist Satisfaction Evaluation Index System of Yantai City Park

Dimension	Variables
Service facility K1	Parking, H1
	Public rest facility, H2
	Travel indication sign, H3
	Tourist Safety Facility, H4
	Public toilets and other sanitation facilities, H5
Landscape Quality K2	Natural Ecological Environment, H6
	Humanistic Landscape Layout, H7
	Leisure and Entertainment Environment, H8
	Shopping environment, H9
Environmental Sanitation K3	greening degree, H10
	Crowd condition, H11
	Health status, H12
	Civilization degree of the park, H13
Comprehensive Management K4	consulting service, H14
	Complaint service, H15
	Employee service attitude H16
	Catering Categories and Features, H17
	stall management order, H18
	category and price of Tourism commodity, H19
Cultural Experience K5	Theme Feature, H20
	Cultural atmosphere, H21
	Interactive participation, H22
	Introduction, H23
	Holiday Decoration, H24

2.2 Questionnaire design

Based on the evaluation index system of tourist satisfaction, the characteristics of Yantai City Parks and related theoretical knowledge, the questionnaire is mainly designed into two parts. The first part is the basic information of tourists, which is mainly used to describe the socio-demographic characteristics of the respondents. The second part is the survey of the importance and satisfaction of tourists to all aspects of urban parks. Tourists evaluate 24 factors of five major evaluation projects: service facilities, landscape quality, environmental sanitation, comprehensive management and cultural experience of urban parks. The Likert Scale is used to measure the scale. The importance options are "very important" "more important" "general important" "less important" and "very insignificant" in turn. Satisfaction options are: "very satisfied" "more satisfied" "general satisfied" "less satisfied" and "very dissatisfied". Importance and satisfaction are given 5, 4, 3, 2, 1 five scores in order.

2.3 Data statistics and processing methods

This survey was conducted in seven urban parks, including Yuhuangding Park, Yantai Mountain Park, Nanshan Park, Tashan Park, Phoenix Mountain Park, Yantai Seaside Park and Wandering River Park, from April to June in 2021. The respondents were tourists visiting the park. Through offline interviews and online answering questions on social platforms, 360 questionnaires were distributed and invalid questionnaires were eliminated. A total of 344 valid questionnaires were recovered, with an effective rate of 95.6 %.

The collected data were collated and the reliability analysis of SPSS22.0 statistical software was used to test the reliability of the questionnaire. The results show that the Cronbach α coefficient of this questionnaire is 0.979, indicating that the questionnaire survey results have good reliability.

3. Results & Discussion

3.1 Descriptive analysis of tourists ' basic information

Table 2. Statistical table of sample basic characteristics

Index	Sample Numbers	Frequency	Percentage
Gender	males	152	44.19%
	females	192	55.81%
Age	Under 25 years old	148	43.02%
	26-40 years	81	23.55%
	41-60 years old	37	10.76%
	Over 61 years	78	22.67%
Education Degree	Junior high school and below	67	19.39%
	High or secondary school	129	37.52%
	Undergraduate or college	141	40.91%
	Postgraduate and above	7	2.18%
Monthly Income	Under 3000 yuan	191	55.43%
	3001-6000 yuan	108	31.52%
	6001-10000 yuan	35	10.09%
	10001 or more	10	2.96%
Occupation	Civil servants	17	4.82%
	Institutions	32	9.42%
	Enterprise	65	18.79%
	Freelancers	20	5.92%
	Students	131	38.18%
	Retirees	71	20.57%
	Other	8	2.33%
Start Point	Yantai City	190	55.33%
	Suburb counties of Yantai	71	20.62%
	Shandong Province	53	15.47%
	Outside Shandong Province	30	8.66%
Number of arrivals to destination parks	First	92	26.74%
	Second	100	29.07%
	three or more times	152	44.19%

As shown in table 2, the proportion of men and women is equal, accounting for 44.19 per cent and 55.81 per cent of the total number of samples, respectively, with slightly more women; in terms of age, people under 25 years old are the most, followed by those aged 26 – 40 years old and above 61 years old, and those aged 41 – 60 years old are less. From the educational background, undergraduate

or college degree slightly accounted for the majority, followed by high school or secondary school degree, graduate and above degree accounted for less; from a professional point of view, the largest number of students, followed by retirees and business staff, other professionals are less; from the source of respondents, the most respondents came from Yantai, followed by respondents from suburban counties of Yantai, less from outside Shandong Province; from the monthly income, monthly income below 3000 yuan is the most, followed by 3001 ~ 6000 yuan, monthly income above 10000 yuan is less; from the number of visits to the destination scenic spot, three or more visitors are the largest, and the first visitor is the least.

3.2 Comparative analysis of importance and satisfaction

Tourists' evaluation of urban parks can be divided into pre-travel importance (I) evaluation and post-travel satisfaction (P) evaluation. When $P-I \geq 0$, tourists will be satisfied and when $P-I \leq 0$, tourists will be disappointed. It can be seen from Table 3 that the value of each variable in the dimension of cultural experience is positive, that is, the satisfaction is higher than the importance, indicating that Yantai City Park has great attraction to tourists in terms of theme characteristics, cultural atmosphere, interactive participation, publicity and holiday decoration. In the three dimensions of landscape environment, health level and comprehensive management, there are more negative variables, that is, satisfaction is lower than its importance, indicating that Yantai City Park has room for improvement in natural and cultural landscape, environmental health level and management services. In particular, the degree of greening, health status, employee service attitude and tourist commodities and price satisfaction is lower, the absolute value of the difference between satisfaction and importance is more than 0.25.

Table 3. Mean difference of importance and satisfaction of evaluation index

Dimension	Variable	Importance's Mean (I)	Pleasure's Mean (P)	P-I
K1	H1	3.754	3.970	0.216
	H2	4.058	4.080	0.022
	H3	3.886	3.990	0.104
	H4	4.191	4.020	-0.171
	H5	4.460	4.310	-0.150
K2	H6	4.198	4.160	-0.038
	H7	4.263	4.020	-0.243
	H8	4.108	4.070	-0.038
	H9	3.824	3.950	0.126
K3	H10	4.468	4.200	-0.268
	H11	4.186	4.080	-0.106
	H12	4.372	3.990	-0.382
	H13	4.537	4.330	-0.207
K4	H14	4.185	4.120	-0.065
	H15	3.993	4.180	0.187
	H16	4.444	4.180	-0.264
	H17	3.895	3.890	-0.005
	H18	4.140	3.990	-0.150
	H19	4.160	3.890	-0.270
K5	H20	4.073	4.210	0.137
	H21	4.160	4.270	0.110
	H22	4.023	4.230	0.207
	H23	3.988	4.060	0.072
	H24	4.081	4.240	0.159

3.3 IPA grid analysis

The IPA square diagram is divided into four quadrants according to the mean value of satisfaction and the mean value of importance. Each evaluation index is located in the corresponding position of the four quadrants one by one according to its importance and satisfaction, which forms an intuitive IPA analysis map. Among them, the first quadrant is the dominant area, and the index of this quadrant should continue to maintain its advantages in future operation; the second quadrant is to maintain the area, this quadrant index in the future operation without spending too much energy to adjust, should follow its nature; the third quadrant is the vulnerable area, and the indicator of this quadrant belongs to the object of low priority development; the fourth quadrant is the improvement area, and the indicator of this quadrant should be improved in the future operation, which is the aggregation point of countermeasures and suggestions.



Fig. 1 IPA Location Analysis Diagram

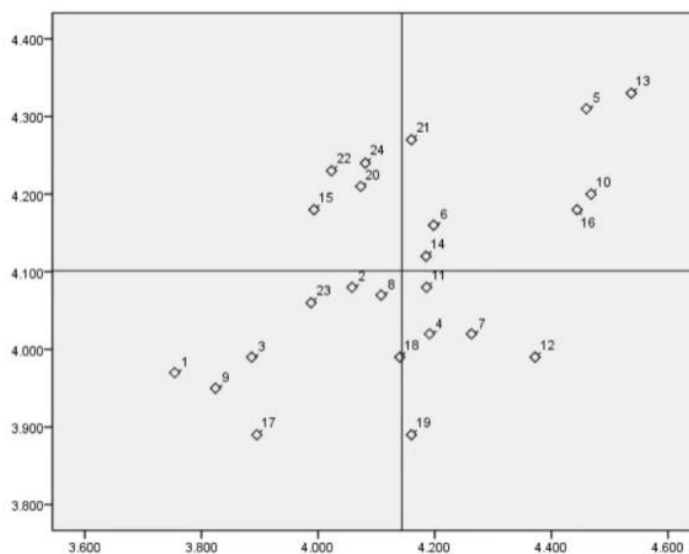


Fig. 2 IPA positioning analysis chart of tourist satisfaction evaluation index of Yantai Park

(Icon corresponding indicators: 1 parking lot; 2 Public rest facilities; 3 Tourism indication sign; 4 Tourist safety facilities; 5 sanitary facilities such as public toilets; 6 Natural ecological environment; 7 Human landscape layout; 8 Leisure entertainment environment; 9 Shopping environment; 10 greening degree; 11 congestion; 12 Health status; 13 Park civilization degree; 14 Consultation services; 15 Complaints services; 16 Employee service attitude; 17 Catering types and characteristics; 18 Order of the operation of the points; 19 tourism commodity types and prices; 20 Theme features; 21 Cultural atmosphere; 22 Interactive participation; 23 Propaganda; 24 Holiday Decoration)

The mean of importance and the mean of satisfaction of 24 observation variables are marked as the horizontal and vertical coordinates, as shown in Fig. 2. The total mean of respondents' importance of 24 evaluation indexes is 4.144, and the total mean of satisfaction of 24 evaluation indexes

corresponding to the importance P is 4.101. Through the IPA grid mapping, a total of 7 observation variables are located in the dominant area, 4 in the retention area, 8 in the vulnerable area and 5 in the improvement area.

1) Advantage areas

Figure 2 shows that there are 7 evaluation indicators fall into the dominant area, which are public toilets and other health facilities, natural ecological environment, greening degree, park civilization degree, consulting services, employee service attitude and cultural atmosphere. Tourists believe that these evaluation indicators are of high importance. At the same time, they are satisfied with them after the visit, and their satisfaction is basically flat or even higher than the expected importance before the visit, so they should continue to strive to maintain.

Yantai is located in the northeast of Shandong Province, near the Yellow Sea and the Bohai Sea, the climate is suitable, rich in product resources, many grass, papaya fruit, good sea flavor, which attracted a large number of tourists to visit. Most parks in Yantai are natural eco-parks, which are developed according to the mountains and rivers. Therefore, greening and environment can make tourists look bright and even visit many times. At the same time, Yantai City Park, relying on its long history and strong cultural atmosphere, can arouse the spiritual resonance of tourists. Taking Yantai Mountain Park as an example, it has a variety of characteristic landmarks such as Dragon King Temple, Loyal Shrine, White Lighthouse and Anti-Japanese Hero Monument, showing China's national feelings and loyalty thoughts from ancient times to the present. It is the embodiment of Yantai civilization, with high historical and educational significance, and is a good extracurricular lecture. These regional characteristics and cultural heritage well meet the needs of tourists.

2) Retention area

Figure 2 shows that four evaluation indicators fall into the retention area, namely complaint service, theme characteristics, interactive participation and holiday decoration. Tourists' satisfaction with these evaluation indicators is much higher than the importance of their prediction, indicating that tourists have low expectations for the above indicators. However, if tourists' actual park experience exceeds their expected feelings, tourist satisfaction will be greatly improved.

3) Vulnerable areas

Figure 2 shows that eight evaluation indicators fall into the vulnerable areas, namely parking, public rest facilities, tourism indicator signs, leisure and entertainment environment, shopping environment, catering types and characteristics, stalls management order and publicity introduction. These evaluation indicators are not satisfied with tourists and have low importance, belonging to low priorities. They can be further improved under the condition of improving other evaluation indicators and remaining resources. However, if these indicators are effectively improved, they can be transformed into the maintenance area and improve the overall satisfaction of the park.

The vulnerable areas of Yantai Park can be roughly divided into two categories. The first category is mostly the construction of hardware facilities, such as indicator identification, parking and public rest facilities. In the case of unclear indication, it is difficult for tourists to find interesting tourist areas intuitively, which also makes the park more crowded. When the flow of people is large, the parking problem will greatly reduce the attraction of the park to tourists, but also give visitors a bad impression. The second kind is catering and shopping problems, such as shopping environment, catering types, order and publicity, Yantai City Park sales form is mostly a stall sale, often appear not fixed, high prices, uneven quality and other issues, easy to cause bad shopping experience, for the park economy is also a loss.

4) Improvement area

Figure 2 shows that there are five evaluation indicators fall into the improvement area, namely, tourist safety facilities, cultural landscape layout, congestion, health status and tourism commodity types and prices. These evaluation indicators are considered important but not satisfied by tourists, and belong to the field of key improvement. Yantai City Park is built on the mountain and seaside, which puts forward higher requirements for tourist safety facilities. However, the security facilities in most parks are old and aging, and the security identification is not obvious, which poses risks to

the personal safety of tourists. Most parks in Yantai are open to the public free of charge. As a result, the economic income of parks is relatively small, and the management and maintenance are lagging behind. Therefore, the network platform and technology cannot be well used for management, resulting in poor congestion and sanitation when the population flow is large, and it is difficult to retain returnees. At the same time, the layout of cultural landscape in the park is relatively simple and fixed, and lacks diversity, which cannot meet the needs of tourists of all ages for cultural landscape. The types of tourism commodities in the park are relatively single and the price is high, which is difficult to meet the needs of tourists for souvenirs or gifts.

4. Conclusions and suggestions

To sum up, visitors are in overall positive evaluation to Yantai City Park. However, the evaluation of individual factors such as parking, leisure and entertainment environment, catering types and characteristics is low. Therefore, it is suggested that Yantai City Park should focus on improving these factors in the future development so effectively improves the satisfaction of tourists to the park.

4.1 Improving the service facilities of scenic spots and enhancing the comprehensive management level

To strengthen infrastructure construction such as park parking and public rest facilities, temporary parking can be opened flexibly to provide more convenience for tourists when the population flow is large. Further improve the public service facilities such as tourism consultation, tourism indication signs, so that tourists can visit the region of interest more intuitively. It is also urgent to strengthen the construction of safety facilities and formulate contingency plans.

Park planning, as an important part of urban planning, contributes significantly to the local tourism economy. The park can also apply to the municipal government for special funds to improve the park. At the same time, the leaders of the park should improve the management system and management efficiency. For predictable holiday congestion, full use of network platforms and technologies can be made to implement online bookings and quota restrictions so as not to cause common dissatisfaction with the garden experience.

For businesses operating stalls in the park, the park should manage them as standardized as possible. Registration access, responsibility to corresponding person in charge should be made well in order to prevent bad traders from entering and undermining the overall image of Yantai City Park. Focus on improving the types and characteristics of food and tourism commodities and standardizing the stall management order. Professional training should be carried out for park employees and humanistic service concept should be established to improve the overall quality and service quality of employees. Establish information feedback system, collect tourists' opinions, pay attention to the handling of tourists' complaints, reasonably deal with the problems and mistakes in the service, and avoid similar mistakes happening again.

4.2 Creating unique ecological landscape and improving the quality of environmental sanitation

First of all, It is important to improve the greening degree of the park. On the basis of ensuring the vegetation coverage rate, we should regularly prune and irrigate various seedlings according to their growth habits, so as to provide tourists with exquisite landscape. The landscape architecture of Yantai City Park can rely on the characteristics of being near the mountain and sea, and coordinate with the natural scenery, so that tourists can enjoy the visual beauty, auditory beauty and sensory beauty of the landscape in the park.

Secondly, it is necessary to improve the health status and the degree of civilization of the park. For example, these parks can guide the tourists to visit politely by hanging banners and distributing promotional materials. At the same time, a special environmental protection team is established to divide the clean responsibility areas, standardize the quality of environmental management and ensure

the environmental health of the park. The park garbage bins are reasonably classified, and the garbage bins are added in crowded places where tourists and vehicles are relatively concentrated, such as tourist parking lots and intersections, so as to facilitate the delivery and centralized recovery of garbage. Especially during the epidemic, daily disinfection and garbage disposal should be timelier. Emphasis is placed on strengthening the health management of places such as public toilets and other sanitation facilities, focusing on the collation of sanitary forgotten corners, maintaining the normalization of health work, and continuously improving the visitor experience.

4.3 Creating a good cultural atmosphere and improving the publicity effect of scenic spots

The layout of the humanistic landscape of Yantai City Park should increase innovation points. sponsors can collect opinions for the masses, according to the characteristics of tourists of all ages, in order to add a variety of elements, show the diversity of culture, increase the attraction of the park. In addition, the park can create an atmosphere in the holidays, which can be combined with the cultural characteristics of Yantai design various elements to hold related theme activities. At the same time, daily activities should also improve the participation of tourists, for example, the park can hold interactive activities, attract tourists, and let tourists feel unexpected joy. It is also possible to carry forward the socialist core value, advocate civilized atmosphere and let tourists immersed in the cultural atmosphere of the park through the broadcast and publicity columns in the park.

At the same time, urban park managers should enhance their awareness of publicity, seize the characteristics of each park to attract tourists, make full use of various new media platforms to expand the publicity audience. For example, they can carry out all-round and three-dimensional publicity through real-time reporting of park information, broadcasting of scenic activities, in-depth observation, line promotion, live interviews, etc.

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