Measuring the Relationship between Customers’ Satisfaction and Cognitions: A Case of Janfusun Fancyworld in Taiwan

Wan-Yu Liu, Yen-Hsiang Liu, Shing-Yi Huang, and Hao-Zhi Wen

Abstract—The private theme parks are gradually surpassing public-owned scenic areas after many years of development and have become a mainstream choice for domestic tourists. Previous studies show that visitors from different backgrounds differ in consumer behavior and satisfaction factors. An understanding of visitor satisfaction is therefore of extreme importance to operators of privately-owned theme parks. Importance-Performance Analysis (IPA) is used to measure consumer’s potential satisfaction with services and has become a widely used management tool for strength and weakness analysis for brands, products, services, and point of sales. As IPA has so far not been used to evaluate the visitor satisfaction with privately-owned theme parks, in this study the IPA method is used to analyze visitor satisfaction with Janfusun Fancyworld (one of the most popular private theme parks in Taiwan) and to rank visitor focus and satisfaction on/in theme park facilities and services. Results of the analysis provide private theme park operators with an understanding of user or consumer demands as well as an assessment of the quality of services currently offered.

Keywords—Satisfaction, Importance-Performance Analysis, Theme Parks, Janfusun Fancyworld.

I. INTRODUCTION

ECONOMIC growth and higher average incomes have gradually changed daily life. The Taiwan government officially introduced the 2-day weekend system on January 1, 2001, creating a huge market for domestic travel, which the tourism industry cannot afford to overlook [25]. A wide variety of recreational options available today mean that public-owned tourism industry cannot afford to overlook [25]. A wide variety of recreation and leisure activities have increased, and people have become more discerning in the content of their holiday activities. A significant number of people are now choosing the more expensive private theme parks as one of their recreational options.

To measure consumer's potential satisfaction with services, Importance-Performance Analysis (IPA) is used for the strength and weakness analysis for brands, products, services, and point of sales. However, IPA has not been used to evaluate satisfaction with privately-owned theme parks. As a result, this study applies the IPA method to analyzing visitor satisfaction with Janfusun Fancyworld, which is one of the most popular privately-owned theme parks in Taiwan, and to rank visitor focus and satisfaction on/in theme park facilities and services.

These in turn can be used for making a decision of whether to continue or discontinue future developments. Preliminary results from the study indicate that there are a total of 15 variables for the performance of software/hardware facilities that fall into the first quadrant of “Maintain”. These quality attributes represent high level of customer focus and satisfaction. These 15 variables offer Janfusun key selling points to attract visitors as well as a set of standards for maintenance and future development. A total of 8 variables falls into the second quadrant of “Over-supply”, which signals quality attributes of low customer focus and high satisfaction. This implies that Janfusun's active delivery of these services has already satisfied customer expectations and been established as its competitive strengths in the market.

A total of 11 variables fall into the third quadrant, which are deemed to have lower priority. These have quality attributes of low customer focus and low satisfaction. Janfusun does not need to prioritize these variables but should not overlook the necessity of keeping them up to standard either. These therefore are counted as secondary criteria for improvement. A total of 8 variables falls into the fourth quadrant of “areas requiring improvement”. With quality attributes of high customer focus and low satisfaction, Janfusun should prioritize these improvements and develop improvement strategies as soon as possible to boost visitor satisfaction. The results show that “Information” should be well maintained while “Facilities and Service” have lower priority. The key area that requires improvement is “Activities” and this shows that visitors are not satisfied with Janfusun's performance services. An improvement strategy for performances should be adopted as soon as possible to boost overall visitor satisfaction.

II. REVIEW OF LITERATURE

A. Theme Park

Theme parks are amusement parks featuring a specific theme that is carried over into every aspect of the park planning. They also emphasize stimuli, such as visual and audio effects produced using modern technology. The overall planning
creates a specific atmosphere and experience for visitors. Internal planning includes hardware in the forms of architecture and recreational equipments as well as software in terms of program design, performances, visitor services and staff costumes [34]. A complete master plan is used to create a theme park atmosphere and experience where visitors can feel relaxed and at ease. It also allows visitors to satisfy their needs to have fun and relax. In 1996, the MOTC Tourism Bureau proposed six key characteristics of an amusement park: (1) Private funding and management; (2) having a specific business scope with rights or ownership to the land; (3) having a main entrance and charge admission fees; (4) all or most of the site content consists of artificial landscapes, participatory activities or use of mechanical rides; (5) the management must be located onsite of its business activities; (6) the recreational opportunities consist mainly of outdoor recreational activities. These show that theme parks are specific areas that provide facilities and engage in business activities. This study drew upon works of many past researchers to produce the following definition: “The elements of a privately owned or operated theme park include a specific theme and use of modern technology and scenario designs in keeping with the chosen theme”.

B. Satisfaction

Customer satisfaction refers to a positive response to consumer experience, proposed first by [2]. Other academic researchers later proposed related definitions and models. The most crucial theory would be the “Disconfirmation of Expectation Model” proposed by [28]. This model shows that “customer satisfaction” is closely linked to the level of “disconfirmation”. The level of disconfirmation is in turn measured based on the difference in between customers’ expectations for a product or service before consumption and their perception of the actual experience after consumption. There are three perspectives generated by using the causes of customer satisfaction to define customer satisfaction. These are the Cognitive perspective [1, 11, 22, 31], the Affect perspective [28, 31, 32] and the Synthetical perspective [15]. Based on the above-mentioned literature, this study defines satisfaction as “an overall evaluation based on the difference in psychological experience after a customer uses or purchases a product or service”.

C. Importance-Performance Analysis

The Importance-Performance Analysis (IPA) method is a way of measuring the level of “importance” to the consumers and the quality of “performance” as perceived by the consumer and the measurements are used to rank the priorities of certain factors that characterize the products and services [29]. This method includes a double mechanism where the results of the analysis supply valuable information to business operators regarding user or consumer demands as well as offer as an assessment for the quality of the services currently offered. This can be then used as a reference in the process of determining whether to continue or discontinue further development and provide business operators useful information on the status of their management [6].

The origin of IPA has been found in the Multi-Attribute Models’ proposed in the 1970’s and was first applied by [27] on the service attributes of car sellers. In their research, they proposed the basic framework for IPA and illustrated the mean scores for “importance” and “performance” on a two-dimensional matrix. The scale of the axes in the matrix as well as the position of the quadrants can be freely set. What was important was the relative position of different points within the matrix. And by analyzing the relationship between “importance” and “performance” enables development of management and marketing strategies.

In this study, IPA is assumed to be “visitor satisfaction” in the attributes of products and services arise from visitor expectations and evaluations of related performances. IPA therefore serves as an analytical tool for measuring “importance” and “satisfaction”. IPA presents the results of analysis in four quadrants. The main attributes in each quadrant provide an explanation to the characteristics of “importance” and “satisfaction” in the purchasing decision made by the visitors. The distribution of attributes can be used to derive practical suggestions. Many local and overseas academic researchers [14, 26] have used the total means of “importance” and “satisfaction” from IPA as separators to define four quadrants, as shown in Fig. 1. The meaning of each quadrant is as shown in Table I.

The implicit assumption in IPA is that consumer's levels of satisfaction in the attributes examined are based on the consumers’ expectations and evaluation on the performance of products or services. As it is convenient to use and provides managers with useful information, IPA is now widely used in business for strength and weakness analysis for brands, products, services and points of sale [3, 4]. Examples include measurement of service quality in hospitals [13], formulation and evaluation for travel policy [12], site selection for restaurants and hotels [8, 16, 21], measurement of customer satisfaction for hotels [23], travel needs for the youth [17], analysis of importance and satisfaction for festival facilities [35]; analysis of “importance” and “satisfaction” for recreational farms [20], a study of the relationship between motivation, expectation and satisfaction in religious tourism [18], study on the quality of services for the Yushan National

1 The Multi-Attribute Model has two main methods of measurement. The first is the Fishbein model and the second is the “Adequacy-Importance Model” proposed by Cohen et al.
Park Administration [33], and analysis of “importance (visitor focus)” and “satisfaction” for tour guide services [30].

![Fig. 2 Research framework](image)

**Fig. 2 Research framework**

### III. RESEARCH METHODOLOGY AND DESIGN OF THE SURVEY

The method chosen for this study is the questionnaire survey method. Relevant literature was used to construct the research framework and establish hypotheses, aiming to outline the main subject for this study and facilitate development of an appropriate survey method and questionnaire. The recovered questionnaires were then subjected to reliability analysis, descriptive analysis and IPA. The derived results were used to analyze the differences in “importance” and “satisfaction”, targeting on the visitors of Janfusun Fancyworld.

**A. Research Framework**

A conceptual framework is defined based on the research objective and study of past literature, as shown in Fig. 2. This framework is then used to develop the survey questions and establish three research hypotheses.

The following research hypotheses were proposed based on the research framework shown in Fig. 2.

- **H1**: Level of “Importance” placed on Janfusun’s facilities and services varies significantly from visitor to visitor due to the differences in personal attributes.
- **H2**: Satisfaction in Janfusun’s facilities and services varies significantly from visitor to visitor due to the differences in personal attributes.
- **H3**: Higher visitor satisfaction in Janfusun’s facilities and services indicates high overall satisfaction to the recreational experiences.

### TABLE I

**MEANING OF EACH QUADRANT IN IPA**

<table>
<thead>
<tr>
<th>Quadrant</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quadrant 1</td>
<td>Maintain Area: The service attributes are very important to customers and the customers are satisfied with the operator's performance. The operator should “maintain” its service performance.</td>
</tr>
<tr>
<td>Quadrant 2</td>
<td>Over-supply Area: The service attributes are not important to the customers but the customers are satisfied with the operator's performance. Serviced with such attributes are counted as “over-supply” in terms of service quality.</td>
</tr>
<tr>
<td>Quadrant 3</td>
<td>Lower Priority Area: The service attributes are not important to the customers and the customers are not satisfied with the operator's performance. Compared to the service quality in quadrant A, however, improvements here are rated as “lower priority”.</td>
</tr>
<tr>
<td>Quadrant 4</td>
<td>Improvement Required Area: The service attributes are very important to the customer and the customers are not satisfied with the operator’s performance. These are items where the operator definitely needs to improve in the quality of the services.</td>
</tr>
</tbody>
</table>

Source: Compiled for this study.

Apart from the above, other academic researchers, including [9], [7], [17] and [5], all used the “importance” and “satisfaction” indicators derived from IPA analysis to propose improvements for products and services.

**B. Subject and scope of the research**

This study targets on Janfusun Fancyworld, the most popular privately theme park in Taiwan. Janfusun Fancyworld is located in the Guokeng Township of Yunlin County and was established in 1986. It has received ISO 9002 certification and is a general theme park covering 60 hectares of land. It originally began with a main theme of landscaped garden, but in 1990 the business operator added large mechanical rides in the Ferris Square. This was further supplemented by a museum, the Rainbow Theater, and an International Meeting Center. Addition of these facilities ushered in a new era in the domestic entertainment industry and Janfusun Fancyworld officially became a theme park for leisure, recreation, culture and technology. Later developments included the indoor Nice Cinema and Children's Kingdom. A five-star resort hotel was also built, featuring group accommodation, dining, conference, fitness and SPA facilities as well as a night-time attraction- the Outer Park [10, 19].

To measure visitor satisfaction after their visits, questionnaires were distributed at the exit of Janfusun Fancyworld through the convenience sampling method. Questionnaires were distributed on two weekdays and two weekends. The research subjects were visitors at age between 18 and 60 with the ability to fill out the questionnaire.

**C. Questionnaire Design**

The questionnaire for this study was divided into four parts. The first part surveys visitors’ travel characteristics and repeat visit behavior, in which, the portion involved repeat visit
behavior is measured through two factors: “inclination for repeat visit” and “inclination to recommend”. The second part surveys the customer focus (importance) on Janfusun facilities and services in four factors: Facilities, Service, Information and Activities. This section consists of 42 questions and was measured using the Likert 5-point scale with score “1” being very unimportant and “5” being very important. The third part looks at visitors’ satisfaction in Janfusun’s facilities and services in four factors: Facilities, Service, Information and Activities. This section consists of 42 questions and was measured using the Likert 5-point scale with score “1” being very dissatisfied and “5” being very satisfied. Part 4 looks at the basic data of the visitors.

### D. Data Analysis

The IPA method was used in this study. Descriptive statistical analysis was first conducted on the structure of visitor sample data and the mean, standard deviation, frequency distribution and percentages are used to express the distribution of the survey samples. IPA was then used to analyze “importance” and “satisfaction” visitors have on/ in the theme park facilities and services, and the means are used as the separator for the x-y axes. The level of importance (customer focus) placed on Janfusun facilities and services by the visitor were used as the horizontal axis (x-axis) while their satisfaction in the facilities and services forms the vertical axis (y-axis). The overall means were then used to divide the coordinate space into the 1st, 2nd, 3rd and 4th quadrants.

### IV. RESULTS OF SURVEY

#### A. Questionnaire recovery and reliability analysis

A total of 500 questionnaires were distributed for this study. The recovery rate was 95.2% with 476 effective samples and the overall questionnaire reliability was 0.936. Reliability analysis of the survey for this study is shown in Table II. Generally, the Cronbach’s α value is 0.936, which is higher than 0.7, so the results indicate high reliability.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>No. of Questions</th>
<th>α value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitors’ travel characteristics &amp; repeat visit behavior</td>
<td>14</td>
<td>0.632</td>
</tr>
<tr>
<td>Level of importance placed on facilities and services</td>
<td>42</td>
<td>0.949</td>
</tr>
<tr>
<td>Satisfaction in facilities and services</td>
<td>42</td>
<td>0.958</td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td>0.936</td>
</tr>
</tbody>
</table>

Source: Compiled for this study.

Note: *In using Cronbach’s α value as the test for the reliability of the survey, α < 0.30 indicates that it is unreliable; 0.30 < α < 0.40 is preliminary research and means barely reliable; 0.4 < α < 0.5 means slightly reliable; 0.50 < α < 0.70 means reliable (most common reliability range); 0.70 < α < 0.90 means very reliable (next to most common range); α > 0.90 means extremely reliable.

#### B. Analysis of the Structure of Visitors’ Sample Data

As shown in Table III, the structure of visitors’ personal data shows that there is a higher proportion of males (253 samples, 53.2%) in category of “gender”. For “marital status”, a higher proportion is unmarried (324 samples, 68.1%), and for “age”, the largest group falls between age 20 and 29 (268 samples, 56.3%), followed by the group between 30 and 39 (71 samples, 14.9%). For “occupation”, “students” are the largest group (191 samples, 40.1%) followed by the service industry (96 samples, 20.2%), and for “education”, university graduates make up the largest group with 256 samples (53.8%) while the smallest group contains visitors with a level of education below junior high school (10 samples, 2.1%). For “average monthly personal income”, the largest group falls between NT$30,001 and 50,000 (127 samples, 26.7%), and the smallest group has an income between $90,001 and 110,000 (19 samples, 4.0%).

#### C. IPA analysis on “importance” (visitor focus) and “satisfaction” targeting on the services and facilities of Janfusun Fancyworld

This study used IPA to establish the variance between “importance” and “satisfaction”. In this study, “importance” is the visitor’s expectations in Janfusun’s facilities and services, while “satisfaction” is the perceived satisfaction after experiencing Janfusun’s facilities and services. IPA analysis is conducted through a questionnaire with 42 questions (as shown below) relating to “importance” and “satisfaction” on Janfusun’s facilities and services. The results are expressed as a coordinate diagram with “importance” being the horizontal x-axis and “satisfaction” being the vertical y-axis. The mean value for “importance” and “satisfaction” (4.01; 3.56) is defined as the origin and used to partition the coordinate space into four quadrants. The 1st quadrant is “maintain”, the 2nd quadrant is “improvement required”, the 3rd quadrant is “lower priority” and the 4th quadrant is “over-supply”. The means of the 42 variables expressing the levels of “importance” and “satisfaction” for Janfusun’s facilities and services were collated and organized into Fig. 3 for analyze on the differences between each dimension.

Fig. 3 Coordinate distribution of importance-satisfaction (42 dimensions)

Fig. 3 shows that 15 variables relating to Janfusun’s facilities and services fall into the 1st quadrant, as shown in Table IV. The quality attributes of this quadrant are high in both the level of importance and satisfaction. It means that visitors attached
great importance to these facilities and services and are also being very satisfied with them. Quality attributes of high importance and high satisfaction serve as an indicator of visitor satisfaction and can be used as a key selling point to attract visitors. Janfusun should therefore continue to maintain or even fortify these areas of strength.

Fig. 3 shows that 8 variables relating to Janfusun facilities and services fall into the 2nd quadrant, as shown in Table V. The quality attributes of this quadrant are low in importance and high in satisfaction. It means that visitors attached low level of importance to these facilities and services but are very satisfied with them. Variables in this quadrant indicate that the services actively provided by Janfusun have already satisfied customer expectations and established as competitive advantages in the market.

Fig. 3 shows that 11 variables in Janfusun’s facilities and services fall into the 3rd quadrant, as shown in Table VI. The quality attributes of this quadrant are low in importance and low in satisfaction. It means that visitors attached low level importance to these facilities and services but are also unsatisfied with them. For variables in this quadrant, Janfusun may assign them with lower priority for improvement but should not overlook the necessity to keep them up to standard either.

In Table VII, this study further divided the 42 variables derived from Janfusun facilities and services into four dimensions for the IPA analysis: “Facilities”, “Service”, “Information” and “Activities”. The overall mean (3.99; 3.70) for “importance” and “satisfaction” in Janfusun’s facilities and services is
defined as the origin to determine the relationship between the two factors. The means of the four variables relating to Janfusun’s facilities and services were also collated and organized into Fig. 4, for analysis on the differences in each dimension.

**Table VII: Analysis of IPA Quadrants – 4th Quadrant**

<table>
<thead>
<tr>
<th>IPA Quadrant</th>
<th>Janfusun facility and service variable</th>
<th>Mean of importance</th>
<th>Mean of satisfaction</th>
<th>Overall mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th quadrant</td>
<td>Facilities regularly updated</td>
<td>4.03</td>
<td>3.55</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provision of rest facilities</td>
<td>4.11</td>
<td>3.52</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Convenient park transportation</td>
<td>4.06</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indoor air quality</td>
<td>4.19</td>
<td>3.53</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Being proactive in caring for visitors’ needs</td>
<td>4.18</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Opening hours meet visitor requirements</td>
<td>4.08</td>
<td>3.69</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Waiting time for services</td>
<td>4.02</td>
<td>3.29</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flexibility in ticket pricing</td>
<td>4.32</td>
<td>3.29</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Importance:</strong></td>
<td><strong>4.01</strong></td>
<td><strong>Satisfaction:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>3.56</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 4 shows that 1 variable relating to Janfusun’s facilities and services fall into the 1st quadrant as shown in Table VIII. The quality attributes of this quadrant are high in importance and high in satisfaction. It means that visitors attached high level importance to these facilities and services and prioritized their improvement. For the “Information” variable, Janfusun should continue to maintain or even strengthen this advantage.

Fig. 4 shows that 2 variables relating Janfusun’s facilities and services fall into the 2nd quadrant as shown in Table VIII. The quality attributes of this quadrant are low in importance and low in satisfaction. It means that visitors attached low level importance to these facilities and services and are very satisfied with them. For the “Facilities” and “Service” variables in this quadrant, Janfusun may assign them to the lower priority improvement list but should not overlook the necessity to keep them up to standard either.

V. CONCLUSION AND SUGGESTIONS

Results of the questionnaire survey implemented for this study indicate that most visitors to Janfusun Fancyworld were traveling with their family. The frequency of family trips was once in every 6 months, with most of them taken the trip for recreational purposes and received their information from media advertising. Janfusun's recreational facilities were the most important and most satisfying factors to the visitors, and overall the visitors were satisfied with their visits to the park. Most visitors were also willing to visit Janfusun Fancyworld again in the future.

Results of the IPA analysis supply to the business operator information relating to user or consumer demands as well as an assessment on the quality of the services currently offered in the park. This can be then used as a reference to determine whether to continue or discontinue further development and provide the business operator very useful information. Results of the analysis indicate that a total of 15 variables fall into the first quadrant for “Maintain”. These quality attributes are detrimental to the level of importance and satisfaction. Janfusun can use these 15 variables as key selling points to attract visitors or as a reference for maintenance or further strengthening of these advantages. A total of 8 variables fall into the second quadrant of “Over-supply”, which characterizes quality attributes of low in importance and high in satisfaction. This implies that Janfusun's active delivery of these services has already satisfied customer expectations and begun established as competitive advantages in the market. A total of 11 variables fall into the third quadrant, which are deemed as lower in priority. The variables have quality attributes...
characterized as low in importance and low in satisfaction. Janfusun does not need to prioritize these variables but should not overlook the need to maintain their quality either. These are therefore counted as secondary projects in the list of improvement. A total of 8 variables fall into the fourth quadrant—"areas requiring improvement", which contains quality attributes characterized by high level importance and low level satisfaction. Janfusun should prioritize improvements on these variables and develop improvement strategies as soon as possible to boost visitor satisfaction. This study further divided the 42 variables into the four dimensions—Facilities, Service, Information and Activities. The results show that "Information" should be maintained, while "Facilities" and "Service" have lower priority. The key area for improvement is "Activities", which shows that visitors are not satisfied with Janfusun's performance services. An improvement strategy for performance programs should be adopted as soon as possible to boost overall visitor satisfaction.

REFERENCES