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# EVALUATIONS OF SERVICE QUALITY: THE USE OF IMPORTANCE- PERFORMANCE ANALYSIS AND SERVQUAL IN A SOUTHERN TAIWAN'S HOT SPRING RESORT

**Huey-Hong Hsieh*** Department of Leisure Management, Taiwan Shoufu University, 168 Nanshih Li, Madou, Tainan, 721, Taiwan. *Corresponding Author

**Hung-Yi Yang** Department of Leisure Management, Taiwan Shoufu University, 168 Nanshih Li, Madou, Tainan, 721, Taiwan.

**Kuang-Ye Chu** Department of Leisure Management, Taiwan Shoufu University, 168 Nanshih Li, Madou, Tainan, 721, Taiwan.

**Chao-Tsung Hsiao** Department of Leisure Management, Taiwan Shoufu University, 168 Nanshih Li, Madou, Tainan, 721, Taiwan.

**ABSTRACT**

Importance-performance analysis (IPA) is a convenient tool for service quality evaluation. Likewise, SERVQUAL and the model of service quality is also another useful tool for service quality evaluation. How hot spring service providers position themselves and differentiate themselves from competitors is critical to their success. In this study, both IPA and SERVQUAL and the model of service quality are used to evaluate a hot spring service provider in Taiwan for comparisons. A modified SERVQUAL questionnaire was distributed to hot spring resort customers with 300 valid responses. Results from IPA indicated the "Reliability" as the service weakness, while SERVQUAL and the model of service quality identified the "Responsiveness" as the largest service gap. Using these tools, the service providers can identify the critical factors for improvements from different perspectives. Implications of both tools for service providers and researchers were discussed.

## INTRODUCTION

Guidan is located in Tainan, Taiwan, where several hot spring sources were discovered. Unlike another popular hot spring resort, Guaziling in Tainan, Guidan hot spring resort remain unattractive. In recent years, the Tainan City Government intended to develop Guidan as a hot spring resort; therefore the ROT (Rebuild-Operate-Transfer) hot spring experiencing pools were opened in February, 2017. In order to attract more visitors, the service quality of the Guidan hot spring experiencing pools were investigated and the Important-Performance Analysis (IPA) method was used to analyze the service quality to provide useful suggestions for the ROT contractor.

Service quality is always important for all sectors. Since the late 70s, service quality was well-explored. In 1985, Parasurman, Zeithaml and Berry developed the SERVQUAL to measure customers' perception of service quality (The conceptual model was referred as PZB model). The reliability and validity of the SERVQUAL were well-examined and the items were shortened to 21.

To evaluate the service quality, the PZB model uses the difference between the expected and perceived service quality as indicators. SERVQUAL formula is written as G = E-P, where G is the service gap; P = Perception; E = Expectation. This enables the measurement of service gap between the customers' perception and expectations of actual service quality (Parasurman, Zeithaml, & Berry, 1988).

Even though SERVQUAL has been widely used to measure service quality, it has been highly criticized by many researchers (Carman, 1990; Cronin & Taylor, 1992; Cronin & Taylor, 1994). For example, there was recommendation of the use of importance being assigned to each item to allow differences between each attribute of the service quality to be identified (Carmen, 1990). In addition, there are suggestions to use either the perception or expected scale, but not the difference between them (Cronin & Taylor, 1994). Therefore, the SERVPERF was developed to measure the performance-based service quality (Cronin & Taylor, 1994). The SERVPERF measures only the performance level of service quality. There are also recommendations of the use of importance and the SERVPEREF, in which importance and performance were assigned to the measured attributes (Cronin & Taylor, 1994). In this way, the importance ranking of service quality can be addressed to identify the priority of service attributes. Furthermore, the IPA, a simple evaluation tool, is used to understand the customers' satisfaction and prioritized areas for improvement. The IPA model was originally developed by Martilla and James (1977).

IPA uses the importance and performance attributes from SERVQUAL to plot into a two -dimensional grid.

The two- dimensional IPA model is divided into four quadrants with performance on the x-axis and importance on the y-axis, where four quadrants of "Keep up the Good Work", "Concentrate Here", "Low Priority" and "Possible Overkill" are created (Figure 1). The quadrants can be used to generate suggestions of improvement for the contractor.

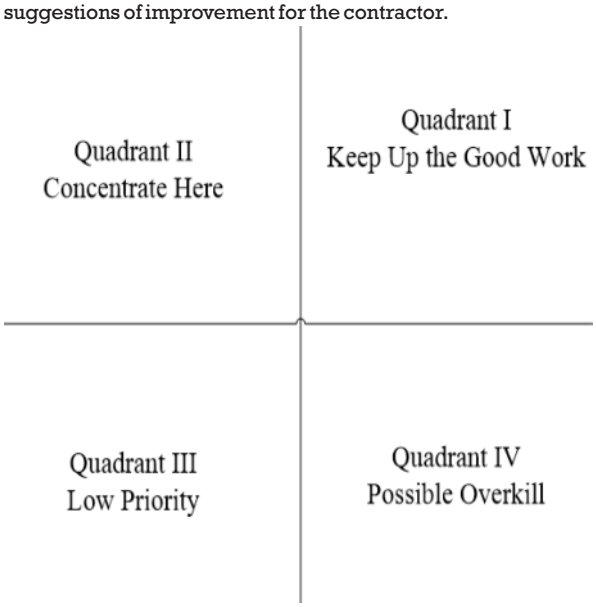


**Figure 1:** The Original IPA Framework (Martilla & James, 1977)

Quadrant I (High Importance/High performance) is labelled "Keep Up the Good Work". All attributes that fall into this quadrant are the strength of the spa service.

Quadrant II (High Importance/Low performance) is labelled "Concentrate Here". Attributes that fall into this quadrant indicates key areas needed to be improved with top priority.

Quadrant III (Low importance/ Low performance) is labelled "Low Priority". Attributes fall that fall into this quadrant are not important and needs low priority to be improved.

Quadrant IV (Low importance/ High performance) is labelled "Possible Overkill". Attributes that fall into this quadrant provide good service but are not important from customers' perspectives. Therefore, the resources can be allocated to quadrant II.

The IPA evaluation tool can be used to evaluate the level of importance customers deem as important of spa service and to examine the level of satisfaction perceived by them in the delivery of those services.

## METHODOLOGY AND DATA COLLECTION

This study used a survey method to measure the expectation, perception and importance of Guidan hot spring resort service quality. The questionnaire was adapted from the SERVQUAL (Parasurman, Zeithaml, & Berry, 1988) and SERVPEREF (Cronin & Taylor, 1994) and was rephrased to fit spa service phrases. The SERVQUAL and SERVPEREF both comprised of five constructs, which are "tangible", "reliability", "responsiveness", "assurance" and "empathy", respectively. There are 6 items in "tangible", 5 items in "reliability", 4 items in "responsiveness", 5 items in "assurance" and 5 item in "empathy", which in total added up to 25 items and were labeled as itme1 to item 25. We used a five point Likert Scale to measure the importance (1 = very unimportant to 5 = very important), performance (1= very unsatisfied to 5= very satisfied) and expectation (1= very lowly expected to 5= very highly expected) attributed to each item. The survey begins with questions about the service provided by the resort used by the users, followed by open-ended questions and users' demographics. One sample question is " the appearance of the facilities is novel and attractive". A total of 350 Guidan Hot Spring Resort visitors were invited for investigations with a return rate of 85%.

## RESULTS

The findings are presented in the following sections:

### Demographical Analysis Of Participants

In this study, 350 participants consisted of 144 males and 156 females. In terms of ages, 26~35 are the major visitors with 27.7% and the rest of age groups are similar with percentage range from 11% to 17%. As for education, most 42.7% participants are with college degree and 35.3% with high school degree. As for occupation, 23% are retirees, 17.7% are in service industry, and 17.3% are SOHO. As for residential area, mostly, they are from local area in Tainan City with a percentage of 42.7% followed by neighbor counties, Kaohsiung City and Chiayi County with percentages of 14.2% and 14.3% respectively.

### Descriptive Analysis Of Guidan Hot Spring Resort Service Quality

This study investigated the expected, perceived and importance of Guidan Hot Spring Resort service quality and the summary statistics of those are presented in Table 1, 2 and 3. The Cronbach' of the five constructs in the questionnaire ranges from 0.796 ~ 0.897 therefore meets the criteria of reliability.

As for the expectation (Table 1), customers had the highest expectation on "tangible". The construct average is 4.54 meaning that they expected to be attracted by the outlook of the hot spring spa facilities, clean items and well-dressed workers. Assurance is the second highest expected construct, meaning they expected to receive trustworthy customer services and a safe place to enjoy their stay.

**Table 1 Construct Summary Statistics Of Expected Service Quality Of Guidan Hot Spring Resort**

| Construct | Mean | Standard deviation | Cronbach's α | Rank |
|---|---|---|---|---|
| Tangible | 4.57 | 0.43 | .87 | 1 |
| Reliability | 4.28 | 0.39 | .79 | 3 |
| Responsiveness | 4.15 | 0.46 | .86 | 5 |
| Assurance | 4.31 | 0.41 | .73 | 2 |
| Empathy | 4.19 | 0.44 | .87 | 4 |

**Table 2 Construct Summary Statistics Of Perceived Service Quality Of Guidan Hot Spring Resort**

| Construct | Mean | Standard deviation | Cronbach's α | Rank |
|---|---|---|---|---|
| Tangible | 4.54 | 0.447 | .893 | 1 |
| Reliability | 4.32 | 0.413 | .821 | 3 |
| Responsiveness | 4.25 | .452 | .877 | 5 |
| Assurance | 4.36 | 0.442 | .796 | 2 |
| Empathy | 4.28 | .455 | .891 | 4 |

**Table 3 Construct Summary Statistics Of Importance Of Service Quality Of Guidan Hot Spring Resort**

| Construct | Mean | Standard deviation | Cronbach's α | Rank |
|---|---|---|---|---|
| Tangible | 3.78 | 0.472 | .802 | 1 |
| Reliability | 3.61 | 0.447 | .740 | 3 |
| Responsiveness | 3.49 | 0.466 | .762 | 5 |
| Assurance | 3.72 | 0.492 | .693 | 2 |
| Empathy | 3.55 | 0.479 | .823 | 4 |

As for perceived service quality (Table 2), tangible had the highest perceived value, indicating customers attracted by the resort facility. On the other hand, responsiveness received the lowest score indicating the response of service staff did not response promptly.

As for the importance of service quality (Table 3), tangible had the highest score, indicating customers view tangible as the most important service quality of hot spring resort. Assurance is the second highest construct, indicating stable spring supply and safety are important to them.

### The Service Quality Gap Of Guidan Hot Spring Resort

According to Parasurman, Zeithaml , and Berry (1988), the service gap is the differences between the perceived and expected services. Table 4 represents the differences between perceived and expected service quality of each item. The positive values indicated the service gap between expected and perceived service quality of customers. There are 12 items needed to be improved. However, mostly, the largest difference between expected and perceived is only 0.06, therefore, four items with difference greater than 0.06 are considered as main items needed to be improved, which are items 1, 12, 13 and 21. In summary, customers felt the tangibility (appealing spa experiencing facilities), responsiveness (prompt response to customers), empathy (customer-centered care) needed to improved. On the other hand, customer felt very satisfied with the quality of water (item 11), safety (item 17) and privacy (item 25).

### IPA Analysis Of Guidan Hot Spring Resort.

Figure 1 presents the result from IPA. The grand mean of performance perception is 3.64 and the grand mean of importance perception is 4.32, respectively. In quadrant II (concentrate here), the results showed items 1 and 2 were the main focus needed to be improved. As for quadrant I (keep up the good work), items 11 and 17 are consistent with the service gap analysis.

**Table 4 Service Gap Of Guidan Hot Spring Resort**

| Construct | Item | Difference(1) |
|---|---|---|
| Tangible | 1 | 0.06 |
| | 2 | 0.04 |
| | 3 | -0.03 |
| | 4 | 0.05 |
| | 5 | 0.01 |
| | 6 | -0.04 |
| Reliability | 7 | 0.02 |
| | 8 | 0.00 |
| | 9 | 0.05 |
| | 10 | -0.02 |
| | 11 | -0.22 |
| Responsiveness | 12 | 0.06 |
| | 13 | 0.06 |
| | 14 | 0.00 |
| | 15 | -0.03 |
| Assurance | 16 | -0.08 |
| | 17 | -0.24 |
| | 18 | -0.09 |
| | 19 | -0.03 |
| | 20 | 0.02 |
| Empathy | 21 | 0.06 |
| | 22 | -0.04 |
| | 23 | 0.02 |
| | 24 | 0.03 |
| | 25 | -0.17 |

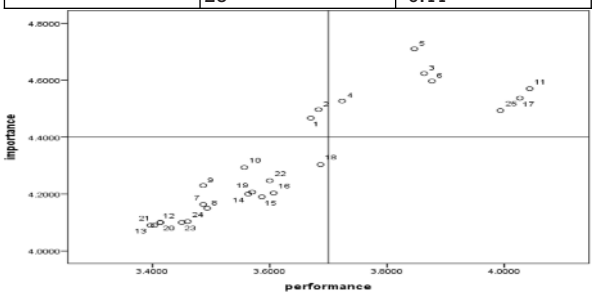


**Figure 1** Result of hot spring resort service quality analysis from IPA (note: the number in the figure stands for the item code in questionnaire)

### DISCUSSION

The results from PZB' service gap analysis and IPA showed slightly different results. From the IPA analysis, the results identified one consistent item needed to be improved with PZB' service gap analysis which was item 1. In addition to PZB' service gap analysis, item 2 (the whole design needs to be more appealing) was also identified as the one needed to be improved. Therefore, together with PZB's service gap analysis and IPA analysis, we were able to identify five items needed to be improved.

### Summary And Suggestion

From the PZB's service gap analysis and IPA analysis, the study identify five item needed to be improved to increase the service quality. Therefore, we found it will be applicable to use both PZB' s service gap analysis and IPA analysis together to analyze the service quality and find critical items to be improved so to increase the service quality not just using one method. Both analyses can be easily to be implemented and applied and should be promoted to the service quality analysis.

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