# Analysis on Demand for Service Quality of Gas Station

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**ABSTRACT :***This study adopted the Importance-Performance Analysis (IPA) to explore customers' importance and satisfaction toward service quality of gas station H, and propose operational strategies for its reference. This study distributed questionnaires to consumers of gas station H. According to Importance-Performance Analysis (IPA), it determined the priority to improve service quality. Based on questionnaire survey result, service personnel never ignore customers even when they are busy, maintain the cleanliness and appearance of the facility, recognize customers' needs, and treat their benefits as priority. For customers, these four items are important; however, they are not satisfied with the quality. The gas station should improve quality of these items in order to enhance competitiveness.*
**KEYWORDS-***gas station, IPA, Service Quality*

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## I  INTRODUCTION

The market of gas station is reaching saturation in Taiwan; hence, they should develop unique characteristics, grasp customers' needs, and develop satisfying quality in order to attract more customers. This study adopted Importance-Performance Analysis (IPA) to explore the difference of gas station customers' importance and satisfaction toward service quality, and determine the service items that should be improved immediately. The five dimensions used for analysis were Responsiveness, Tangibility, Reliability, Care and Guarantee. The results are used to propose operational strategies for improving the service quality and enhancing competitiveness.

## IILITERATURE REVIEW

Literature review includes two parts: study of service quality and Importance-Performance Analysis.

### 2.1 Service quality

American Marketing Association (AMA) defines service as "activity, customer benefit or satisfaction directly or indirectly resulted from sales of goods". Bateson & Hoffman (2002) argued that service quality is customers' attitude upon long-term and overall evaluation with service providers' performance. Kotler (2003) suggested that service quality is customers' evaluation after comparison between service receiving process or actual cognition and expectation. According to Parasuraman et al. (1985), service quality depends on customers' recognition after receiving services. It is evaluated by the gap between customers' perceived service and expected service. Parasuraman et al. (1988) argued that service quality includes five dimensions: (1) Reliability; (2) Responsiveness; (3) Guarantee; (4) Care; (5) Tangibility. Haywood-Farmer (1998) suggested three dimensions of Service Quality, (1) equipment, processes and procedures; (2) service personnel's behavior; (3) service personnel 's professional judgment. Based on SERVQUAL proposed by Parasuraman et al. (1988), this study classifies dimensions of service quality as Responsiveness, Tangibility, Reliability, Care and Guarantee. Quality measurement items are revised according to questionnaires of Deng and Lee (2007), Mohsin & Ryan (2005), Chung & Chen (2015), Parasuraman et al. (1988) and Haywood-Farmer (1988) on business characteristics of gas station.

### 2.2 Importance-Performance Analysis (IPA)

IPA is analytical method proposed by Martilla and James (1977) which measures consumers' importance and satisfaction with service quality of automobile industry. Matzler et al. (2004) argued that IPA assisted with the companies to recognize the priority to improve the services and enhance customer satisfaction. IPA is mainly applied to measure subjects' expectation toward the behavior or argument as well as actual satisfaction (Magal&Levenbury, 2005). IPA first calculates means of importance and performance in Service Quality items. Axis x means satisfaction and Axis y refers to importance. IPA divides the plane into four quadrants, A, B, C and D, as shown in Figure 1.

Quadrant A - Zone of Concentrate Here: the quadrant is important for customers; however, their currently perceived performance is not as expected. It should be improved as priority.

Quadrant B - Zone of Keep Up the Good Work: the quadrant is important for customers. The currently perceived performance is positive. It is main competitive advantage of the enterprise and it should keep up the good work.

Quadrant C Zone of Low Priority: the quadrant is less important for customers and their currently perceived performance is low. It is low priority of the enterprise.

Quadrant D - Zone of Possible Overkill: the quadrant is less important for customers; however, their currently perceived performance is high. The resource can be invested on the dimensions which require further improvement.
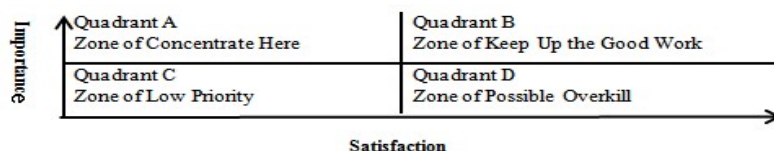


**Figure 1 IPA matrix**

## III    RESEARCH METHOD

According to SERVQUAL proposed by Parasuraman et al. (1988), this study classified dimensions of service quality into Responsiveness, Tangibility, Reliability, Care and Guarantee. Service Quality items are revised according to questionnaires of Mohsin & Ryan (2005), Chung & Chen (2015), Deng and Lee (2007), Parasuraman et al. (1988) and Haywood-Farmer (1988) on business characteristics of gas station. Questionnaire of this study includes two parts. Part 1 is based on Likert 5-point scale as measurement. Part 1: service quality importance and satisfaction, including (1) Responsiveness; (2) Tangibility; (3) Reliability; (4) Care; (5) Guarantee. Part 2: basic information, including gender, age, occupation, etc.; Questionnaires were distributed from September to November 2018. Respondents were customers of gas station H. This study retrieved 86 valid questionnaires and adopted IPA. Table 1 shows the reliability values. Nunnally (1978) suggested that in an exploratory study, a reliability greater than 0.7 is acceptable. All the reliability variables of this study are above 0.7, so the results carry sufficient reliability. The questionnaire was developed according to literature review and theories and related literatures proposed by scholars. Thus, it meets content validity.

## IV. ANALYSIS RESULT

According to questionnaire survey result, among 86 questionnaires, there are 46 males and 40 females; as to age, most of them are 21-30 (39 subjects) and the following are 21 subjects aged 31-40, 14 subjects aged 41-50 and 12 subjects aged at least 50; as to occupation, 27 subjects in service industry are the most and the following are 22 subjects as students, 18 subjects in industry and commerce, 11 subjects as housekeepers and 8 subjects as military personnel, civil servants and teachers.

Regarding analysis of service quality items, the measurement is based on a Likert 5-point scale. Satisfaction is scored according to subjects' responses, ranging from 5 (strongly agree) to 1 (strongly disagree). Importance of service quality items is scored according to subjects' responses, ranging from 5 (strongly agree) to 1 (strongly disagree). Importance and satisfaction analysis is shown in Table 2.

Items in Zone of Keep Up the Good Work are item 5, item 8, item 9, item 10, item 12, item 13, item 19, item 20 and item 21. Items in Zone of Possible Overkill are item 4, item 6 and item 11. Items in Zone of Low Priority are item 1, item 3, item 14, item 16 and item 18. Items in Zone of Concentrate Here are item 2, item 7, item 15 and item 17

## V. CONCLUSION

By questionnaire survey, this study treated customers of gas station H as subjects. According to findings, the conclusions are as follows. Based on IPA, items in Zone of Keep Up the Good Work are services highly important with high performance perceived by customers. It is the zone of competitive advantages and it should keep up the good work. Items in Zone of Possible Overkill are less important for customers; however, the company makes too much efforts on these services. Services in Zone of Low Priority are less important for consumers; however, with sufficient resources, the company can improve these items and the zone shows potential to be advantages. Items in Zone of Concentrate Here are service personnel are never too busy to respond to customers, bright and clean appearance of facilities, service personnel treat customers' benefits as priority and service personnel provide services by recognizing customers' needs. Gas station managers should improve these services in order to enhance competitiveness.

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**Table1:** The Cronbach's α coefficients for all variables in this study

| Questionnaire Dimensions | Item | Cronbach's α | |
|---|---|---|---|
| | | Importance | Satisfaction |
| Responsiveness | 1,2,3,4 | 0.792 | 0.776 |
| Tangibility | 5,6,7,8,9 | 0.786 | 0.815 |
| Reliability | 10,11,12,13 | 0.779 | 0.827 |
| Care | 14,15,16,17 | 0.846 | 0.815 |
| Guarantee | 18,19,20,21 | 0.807 | 0.831 |

**Table2: Analysis of Importance and Satisfaction of Service Quality**

| Item | Service quality item | Satisfaction | Importance |
|---|---|---|---|
| | | **Average** | **Average** |
| 1 | Service personnel can immediately respond to customers' demands. | 4.035 | 4.163 |
| 2 | Service personnel are never too busy to respond to customers | 4.047 | 4.279 |
| 3 | Service personnel provide procedural description in detail | 3.907 | 4.023 |
| 4 | Service personnel are willing to assist with and serve customers | 4.128 | 4.081 |
| 5 | Service personnel show clean and tidy costumes and appearance | 4.198 | 4.186 |
| 6 | Modern and professional facilities in gas station | 4.128 | 4.093 |
| 7 | Bright and clean appearance of facilities | 4.023 | 4.209 |
| 8 | Interior facilities, circulation and signs are clear | 4.186 | 4.360 |
| 9 | Service facilities meet customers' needs | 4.233 | 4.326 |
| 10 | Service personnel assists with customers to solve problems | 4.279 | 4.209 |
| 11 | Service personnel fulfill commitment to customers | 4.140 | 4.105 |
| 12 | Service personnel accomplish the work immediately | 4.279 | 4.233 |
| 13 | Service personnel can provide reliable service | 4.128 | 4.209 |
| 14 | Service personnel actively care about customers individually | 3.709 | 4.035 |
| 15 | Service personnel treat customers' benefits as priority | 4.012 | 4.244 |
| 16 | Service personnel recognize individual customers' needs | 3.965 | 4.047 |
| 17 | They provide services by recognizing customers' needs | 3.988 | 4.186 |
| 18 | They can respond to customers' questions with sufficient knowledge | 3.884 | 4.070 |
| 19 | Reliable service for customers in workplace | 4.244 | 4.337 |
| 20 | Service personnel provide responsible service | 4.186 | 4.209 |
| 21 | Customers' confidence is enhanced with service personnel's behavior | 4.163 | 4.256 |
| **Average** | | 4.089 | 4.184 |