

Estimation of Customer Dissatisfaction Based on Service Quality Gaps by Correlation and Regression Analysis in a Travel Agency

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Abstract

The main aim of this paper is to analyze the correlation of service quality gaps and to estimate customer dissatisfaction based on those gaps in the Iran Travel Agency (ITA) as one of the international travel agencies of the country. For this purpose, a questionnaire has been designed based on the SERVQUAL approach (perceptions and expectations), which includes five major categories of service quality dimensions and are subdivided into 15 dimensions and an additional question for measuring the overall dissatisfaction. 30 regular customers of the agency have been asked to fill the questionnaires. The correlation of service quality gaps and then the relationship between overall customer dissatisfaction and major service quality gaps are determined by correlation and regression analysis. The findings imply that the maximum value of gap is related to 'appealing accommodation facilities', which is a part of the dimension of tangibles. The minimum values of the gaps are also related to 'on time delivery' and 'reputation of service'. The correlation analysis has not addressed any significant correlation among the gaps. Ultimately, regression analysis has approved and estimated linear correlation between the gaps of empathy and tangibles and the overall customer dissatisfaction.

Keywords: Service quality dimension, SERVQUAL, Gap, Dissatisfaction, Travel agency

1. Introduction

In today's turbulent market environment, many businesses are facing increasing competition and they have to increase the quality of their products and services. In some businesses such as travel, tourism, catering and banking the delivery of high quality services to consumers is increasingly recognized as a key factor affecting the performance of the firm (Atilgan et al., 2003).

Gronroos (1984) defined perceived service quality as the outcome of an evaluation process, whereby the consumer compares his expectations with the service he perceives he has received. A generic instrument was defined by Parasuraman et al. (1991) to measure the quality of services. They emphasized that the purpose of SERVQUAL is to serve as a diagnostic methodology for uncovering broad areas of a company's service quality shortfalls and strengths. Parasuraman et al. (1985) concluded that SERVQUAL instrument evaluates service quality by comparing expectations with perceptions on five dimensions of tangibles, reliability, responsiveness, assurance and empathy. SERVQUAL has been used to measure service quality in a variety of service industries including healthcare (Carman, 1990; Kilbourne et al., 2004; Silvestro, 2005); banking (Mels et al., 1997; Lam, 1997; Zhou et al., 2002); fast food (Lee and Ulgado, 1997); telecommunications (van der Wal et al., 2002); retail chains (Parasuraman et al., 1994); information systems (Jiang et al., 2000); and web sites (van Iwaarden et al., 2003).

Over the past decade, much emphasis has been placed on quality in the tourism industry. Quality is a global (but not an easily definable) concept that is applied to tourist destinations, regions or nations, as well as individual private enterprises. The focus of most approaches is on individual providers of tourism services, with the aim of

helping them understanding better the needs of modern tourists, and to develop economically feasible products and processes (Maylor, 2000; Tse, 1996). However, it seems there are relatively few studies on improving the service quality in travel agencies (Fache, 2000; Albrecht, 1992; Ryan and Cliff, 1997). Mette Hjalager (2001) identified and discussed modes of collective consumer pressure that might affect tourism service quality in a comprehensive way. She investigated new ways to understand the role of tourists in the gradual improvement of quality. Her study addressed the need for policy interventions and possibly in transnational organizational set-ups. Atilgan et al. (2003) suggested a new approach to the exploratory and survey research of service quality dimensions. They employed correspondence analysis for examining the expectations and perceptions of service quality in travel agencies. Prayag (2007) assessed the service quality of Air Mauritius, using the SERVQUAL model and determined the relative importance attributed to service quality dimensions by international tourists. He found that structural service quality dimensions are context and culture-specific. Four factors were perceived as influencing perceptions of service; service efficiency and affect as the most important, and service personalization, reliability and tangibles as the least important. Empathy as a service dimension was valued more than assurance. Customer satisfaction and willingness to recommend the airline was primarily dependent on service efficiency and affect.

Shahin and Dabestani (2010) assessed the expectations and perceptions of customers based on service quality dimensions in a four-star hotel in Isfahan, Iran. The purpose of their research was to examine the service quality gaps through the correlation analysis in order to identify the most important service quality dimensions. The main findings showed that all the service quality gaps were negative and price as a service quality dimension had the highest negative value. Communication also had the highest correlation with other service quality dimensions.

As it is apparent, literature does not include any investigation on analyzing and estimating customer dissatisfaction based on service quality gaps, particularly in the travel agencies. The objectives of this paper are twofold: i) to analyze the correlation of the dimensions gaps; and ii) to investigate the linear regression between customers' overall dissatisfaction and the service quality gaps in Iran Travel Agency (ITA) as a case study. For this purpose, in the following the concepts of service quality, the model of service quality gaps and the SERVQUAL approach are briefly introduced. Then, 12 service quality dimensions are addressed as a relatively comprehensive set of dimensions for service organizations. New methodology is then developed and applied in a case study at ITA in which, 15 service quality dimensions are determined and analyzed. Finally the findings are discussed and conclusions are made.

2. Service quality

A service is an activity or series of activities of more or less intangible nature. It normally, but not necessarily, takes place in interactions between customers and service employees and/or physical resources or goods and/or systems of the service provider (Shahin, 2006). For services, the assessment of quality is made during the service delivery process. Each customer contact is an opportunity to satisfy or dissatisfy the customer. Customer satisfaction with a service can be defined by comparing perceptions and expectations of service. When expectations are not met, service quality is deemed unacceptable and dissatisfaction occurs. When expectations are confirmed by perceived service, quality is satisfactory (Fitzsimmons & Fitzsimmons, 2006). In a common definition, service quality is treated as the extent to which a service meets customers' needs or expectations (Lewis and Mitchell, 1990; Dotchin and Oakland, 1994; Wisniewski and Donnelly, 1996). Service quality can thus be defined as the difference between customer expectations of service and perceived service. If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman et al., 1985; Lewis and Mitchell, 1990; Shahin, 2006). Several marketing researchers have explored the practical impact of service quality and its effect on consumer behavior. The consensus is that higher service quality should increase consumer satisfaction. This should lead to better long run relationships between the service provider and the service recipient (Etgar and Fuchs, 2009).

3. Model of Service Quality Gaps and the SERVQUAL approach

There are seven major gaps in the service quality concept, which are illustrated in Figure 1. The model is the extension of the proposed model of Parasuraman et al. (1985). According to the following explanation (ASI Quality Systems, 1992; Curry, 1999; Luk and Layton, 2002), the three important gaps, which are more associated with the external customers, include Gap1, Gap5 and Gap6. They have a direct relationship with customers.

Gap1: Customers' expectations versus management perceptions: as a result of the lack of a marketing research orientation, inadequate upward communication and too many layers of management.

Gap2: Management perceptions versus service specifications: as a result of inadequate commitment to service quality, a perception of unfeasibility, inadequate task standardization and an absence of goal setting.

Gap3: Service specifications versus service delivery: as a result of role ambiguity and conflict, poor employee-job fit and poor technology-job fit, inappropriate supervisory control systems, lack of perceived control and lack of teamwork.

Gap4: Service delivery versus external communication: as a result of inadequate horizontal communications and propensity to over-promise.

Gap5: The discrepancy between customer expectations and their perceptions of the service delivered: as a result of the influences exerted from the customer side and the shortfalls (gaps) on the part of the service provider. In this case, customer expectations are influenced by the extent of personal needs, word of mouth recommendation and past service experiences.

Gap6: The discrepancy between customer expectations and employees' perceptions: as a result of the differences in the understanding of customer expectations by front-line service providers.

Gap7: The discrepancy between employee's perceptions and management perceptions: as a result of the differences in the understanding of customer expectations between managers and service providers.

According to Brown and Bond (1995), "the gap model is one of the best received and most heuristically valuable contributions to the service literature". Six of the gaps, i.e. Gap 1, Gap 2, Gap 3, Gap 4, Gap 6 and Gap 7 are identified as functions of the way in which service is delivered, whereas Gap 5 pertains to the customer. The Gap on which the SERVQUAL approach has been developed is Gap 5. The SERVQUAL approach was developed by Parasuraman et al. (1985, 1986, 1988, 1991, 1993, 1994; Zeithaml et al., 1990)

According to Parasuraman et al. (1991, p. 445), SERVQUAL is a generic instrument with good reliability and validity and broad applicability. The purpose of SERVQUAL is to serve as a diagnostic methodology for uncovering broad areas of a company's service quality shortfalls and strengths. SERVQUAL's dimensions and items represent core evaluation criteria that transcend specific companies and industries (Ladhari, 2009).

It is important to note that without adequate information on both the quality of services expected and perceptions of services received, feedback from customer surveys can be highly misleading. The SERVQUAL scale has been used to measure service quality in a wide variety of service environments (Ladhari, 2009).

4. Dimensions of service quality

Parasuraman et al. (1985) proposed 10 service quality dimensions. They included reliability, responsiveness, competence, access, courtesy, communication, creditability, security, understanding/ knowing the customer, and tangibles. They simplified the ten dimensions of service quality into five dimensions as tangible, reliability, responsiveness, assurance and empathy. In the SERVQUAL scale, 22 items measure the performance across five dimensions of reliability, responsiveness, assurance, empathy and tangibles. For this purpose, a seven point Likert scale is used (Shahin and Dabestani, 2010). The five generic dimensions are as follows (van Iwaarden et al., 2003):

- (1) Tangibles: Physical facilities, equipment and appearance of personnel.
- (2) Reliability: Ability to perform the promised service dependably and accurately.
- (3) Responsiveness: Willingness to help customers and provide prompt service.
- (4) Assurance (including competence, courtesy, credibility and security): Knowledge and courtesy of employees and their ability to inspire trust and confidence.
- (5) Empathy (including access, communication and understanding the customer): Caring, individualized attention that the firm provides to its customer.

In this study, the five classic dimensions of Atilgan et al. (2003) are used. It is due to the fact that this is the only available reference that has specialized the dimensions for the travel agencies. The Atilgan et al.'s set of dimensions are introduced in the next section.

5. Methodology and findings

This paper tries to focus on tourism service quality and particularly in the travel agencies. For this reason, the Iran Travel Agency (ITA) is selected for investigation. ITA is one of the well known international travel agencies in Iran. The purpose is to i) study, measure and analyze the associated gaps based on the SERVQUAL scale; and ii) to estimate the linear relationship between overall customer dissatisfaction and the gaps. As it was mentioned

earlier, service quality dimensions in travel agencies are adopted from Atilgan et al. (2003). The dimensions are approved by ITA director and staff. They are also approved by a group of seven university experts. The 15 service quality dimensions include (five generic dimensions of which, 3 items are sub-dimensions):

- Reliability:
 1. On time Service delivery
 2. Meeting the tour schedule
 3. Exact and precise service delivery
- Responsiveness:
 1. Prompt response to customer request
 2. Sincere interest in problem-solving
 3. Provision of adequate information
- Assurance:
 1. Advanced information about services
 2. Reputation of service
 3. Politeness of personnel's behavior
- Empathy:
 1. Cultivation of friendly relationship
 2. Learning the customers' special needs
 3. Allocating required time to deliver each service
- Tangibles:
 1. Modern and technologically relevant equipment
 2. Appealing accommodation facilities
 3. Appearance of personnel

In order to measure the service quality gaps, a SERVQUAL questionnaire is designed (Appendix 1). It includes 15 questions in two forms (perceptions and expectations). An additional question is also included which measures the overall satisfaction. In fact, the overall satisfaction values are then subtracted from five (maximum satisfaction) and the overall customer dissatisfaction is calculated. 30 regular customers of the agency are asked to fill the questionnaires. The reliability of the collected data was calculated by the Cronbach's alpha. They were 0.699 and 0.731 for the expectations and perceptions, respectively, which are relatively satisfactory.

Service quality gaps are calculated using the SERVQUAL approach by subtracting customers' perceptions (P) from customers' expectations (E) as $G = E - P$. The results are presented in Tables 1 and 2.

The next purpose of this study is to perform Pearson correlation test of gaps of dimensions to highlight the correlation of service quality dimensions. The results of this test are presented in Table 3. Also, in order to estimate the relationship between overall customer dissatisfaction and the five service quality gaps, a regression test is conducted. The results include the coefficients of each of the gaps and the overall dissatisfaction (Table 4).

6. Discussion

The gaps analysis implies that the maximum discrepancy between customer's perceptions and expectations (2.93) is related to the 'appealing accommodation facilities', which is a sub-dimension of 'tangibles'. The next highest gap is related to the 'appearance of personnel' (2.77). As it is clear, the dimensions that are the subset of 'tangibles' have the highest gaps. The minimum gaps among these factors are related to 'on time service delivery' and 'reputation of service'. This highlights the strength of ITA in these two dimensions. Table 2 includes the summary of the results of performing SERVQUAL approach and represents the overall average value of the SERVQUAL approach, which is 1.48. As the overall perceived service quality of the agency is higher, the service quality gaps become less. In other words, the higher the gap, the more serious is the service quality shortfall in the eyes of the customer. Table 2 shows that ITA satisfies the dimension of 'reliability'. The minimum value of gaps for 'reliability' implies that customers on average perceive that agency performs 'on time service delivery', 'meeting the tour schedule' and 'exact and precise service delivery', satisfactorily. However, it should be noted that this agency has weakness in dimensions of 'tangibles', i.e. 'modern and technologically relevant

equipment', 'appealing accommodation facilities' and 'appearance of personnel'. These assessments would suggest that travel agencies intent on improving customer service quality should spend more management attention and resources on improving the 'tangibles' dimension. This result is opposed to the results of the research of Prayag (2007) on airlines. He concluded that airlines should spend more attention and resources on improving the 'reliability' dimension and less on 'tangibles'. Perhaps, 'reliability' is of higher importance in airports and boarding than in the travel agencies.

The next step of this research was to find if there is any correlation among the five gaps of dimensions. The Pearson correlation analysis was conducted and the results (Table 3) show that there is no correlation among the gaps. This finding is in contrast with the results of the investigation of Shahin and Dabestani (2010) in a four star hotel. In the last step of this study, the dependency of the overall customers' dissatisfaction on the five gaps was estimated. For this purpose, a linear regression analysis was performed. Table 4 shows that the significant values of 'empathy' and 'tangibles' are less than 0.05. Therefore, these two dimensions have linear relationship with the dependent variable, i.e. dissatisfaction. According to the findings, the linear equation is respectively as follows:

$$\text{Overall dissatisfaction} = 8.603 + 0.668 \text{ Empathy} + 0.427 \text{ Tangibles}$$

This equation shows that if the agency wants to reduce the overall dissatisfaction of customers, it must consider 'tangibles' as the first priority and 'empathy' as the second priority.

With regard to the usefulness of the SERVQUAL approach for the managers and decision makers, the instrument offers two advantages. First, it is a relevant, valid and reliable way to measure service quality because the dimensions on which it has been developed are designed to depict unique aspects of services to customers. Second, the instrument provides practitioners with the opportunity to look at service quality issues at two additional levels of abstraction. At the individual level, service providers might look at their customers' ratings for each individual question and identify areas that might require correction. For instance, if an agency such as ITA falls short on the 'tangibles', this would signal a need for intervention. Moreover, secondary level of analysis, that represented in this investigation such as correlation and regression analysis, can also be employed. This, in turn, may have two major benefits for practitioners. First, by performing the analysis, patterns of strategic concern are revealed. A second advantage is that the theory underlying the dimensions of the SERVQUAL approach can be meaningfully extended for practical purposes regarding the choice context and/or customer retention. The only possible drawback in employing the approach is probably its length. It may be cumbersome to administer frequently. To this end, practitioners may consider its use in relation with decisions taken at a strategic level, i.e. when quality priorities need to be set and/or corrective courses have to be drawn.

7. Conclusions

In this paper, the Iran Travel Agency (ITA) as one of the international travel agencies in Iran was selected and studied. The aim was to study, measure and analyze service quality dimensions and their associated gaps and correlations. 15 service quality dimensions were considered for this agency. Data analysis revealed that the maximum gap (2.93) was related to 'appealing accommodation facilities' as a sub-dimension of 'tangibles' and the minimum gaps include 'on time service delivery' and 'reputation of service'. The results address no correlation among the gaps. Linear relationship was discovered between 'empathy' and 'tangibles' gaps and the overall dissatisfaction of customers. These findings imply the importance of 'tangibles' in travel agencies such as ITA.

Literature review shows that while SERVQUAL has been used with varying degrees of success in different cases, there have been mixed results. This study has given scant attention to the travel agency domain and highlights 'tangibles' as the most important dimension of service quality. The results with respect to 'tangibles' are more equivocal in comparison with previous studies. It is interesting to note that 'tangibles' was counted as the least important among five dimensions of service quality according to Zeithaml et al. (1990). Similarly, it was not ranked as a top priority by Juwaheer and Ross (2003) or O'Neill et al. (2000). These comparative findings support the notion that the relevance and importance of certain quality dimensions vary, depending on the type of service being studied (Bergman and Klefsjo, 2003). In addition, it must be acknowledged that cultural factors might influence the importance of certain dimensions in various cultural contexts (Weiermair, 2000). Tourism managers should therefore make every attempt to recognize and satisfy the culturally determined needs (i.e. dimensions) of different groups of tourists.

While this study has served to support SERVQUAL in the travel agencies, there are some limitations and questions. The survey was based on a limited number of respondents. Although the agency selected and introduced the customers to the researcher, the reliability of the collected data could be significantly improved by increasing the sample size. It is suggested to conduct this research with a larger sample and to investigate

whether the same results are achieved. It is important to note that the findings should be taken and extended to other travel agencies with care. Therefore it is suggested to conduct the research in multiple agencies and make a comparative analysis. In this study, the five classic dimensions of Atilgan et al. (2003) were utilized. As addressed by Shahin (2007), there are more comprehensive sets of quality dimensions, that if utilized, more aspects of service quality will be encompassed. Therefore, it is also suggested to the researchers and practitioners to consider such more comprehensive sets of dimensions in order to increase the validity of their investigations. It is important for all service providers, including tourism operators, to understand that there are different categories of customer needs and they should be identified as clearly as possible.

The unique contribution of the current investigation was going beyond the literature and using regression to estimate the relationship between overall customer dissatisfaction and service quality gaps. In addition, this highlights the need for further investigations on finding the type of non-linear relationship between the dependent and independent variables.

The data was collected from a limited number of customers in a bounded period of time. However, it is important to note that the expectations and perceptions of the customers change with time. Consequently, a tourist's perceptions of the most important service-quality dimensions might differ over time. Tourism managers should be aware of this possibility in attempting to understand their customers. Some quality dimensions might be important to potential tourists when they are considering a destination, whereas other dimensions might be more important when assessing the experience afterwards. Such change among customers has not received much scholarly attention in the tourism literature and provides a good opportunity for future studies.

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Table 1. The average values of the SERVQUAL approach

	Dimension	Perception	Expectation	Gap score
1	Reliability-On time Service delivery	6.67	7.47	0.80
2	Reliability-Meeting the tour schedule	6.53	7.80	1.27
3	Reliability-Exact and precise service delivery	7.60	7.93	0.33
4	Responsiveness-Prompt response to customer request	6.67	8.20	1.53
5	Responsiveness -Sincere interest in problem-solving	7.07	8.07	1.00
6	Responsiveness -Provision of adequate information	7.40	8.60	1.20
7	Assurance-Advanced information about services	7.40	8.40	1.00
8	Assurance- Reputation of service	7.00	7.80	0.80
9	Assurance- Politeness of personnel's behavior	6.80	8.33	1.53
10	Empathy-Cultivation of friendly relationship	7.27	8.40	1.13
11	Empathy- Learning the customers' special needs	6.07	7.53	1.46
12	Empathy-Allocating required time to deliver each service	6.00	8.00	2.00
13	Tangibles-Modern and technologically relevant equipment	5.67	8.13	2.46
14	Tangibles-Appealing accommodation facilities	4.87	7.80	2.93
15	Tangibles -Appearance of personnel	5.83	8.60	2.77

Table 2. The summary of the average values of SERVQUAL approach

	Dimension	Perception	Expectation	Gap score
1	Reliability	6.93	7.73	0.80
2	Responsiveness	7.05	8.29	1.24
3	Assurance	7.07	8.18	1.11
4	Empathy	6.45	7.98	1.53
5	Tangibles	5.46	8.18	2.72
	Overall average SERVQUAL score	6.59	8.07	1.48

Table 3. Pearson correlation results of the gaps

Dimension	Reliability	Responsiveness	Assurance	Empathy	Tangibles
Reliability	1	0.204	0.128	0.235	0.008
Sig. (2-tailed)		0.280	0.500	0.212	0.968
Responsiveness		1	0.261	0.003	0.033
Sig. (2-tailed)			0.164	0.989	0.864
Assurance			1	-0.138	0.290
Sig. (2-tailed)				0.466	0.120
Empathy				1	-0.048
Sig. (2-tailed)					0.800
Tangibles					1

Table 4. Regression results

Dimension	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	8.603	0.804		10.707	0.000
Reliability	0.142	0.228	0.108	0.624	0.538
Responsiveness	-0.260	0.236	-0.190	-1.102	0.281
Assurance	0.058	0.384	0.027	0.150	0.882
Empathy	0.668	0.279	0.410	2.398	0.025
Tangibles	0.427	0.191	0.382	2.230	0.035

* Dependent Variable: overall dissatisfaction

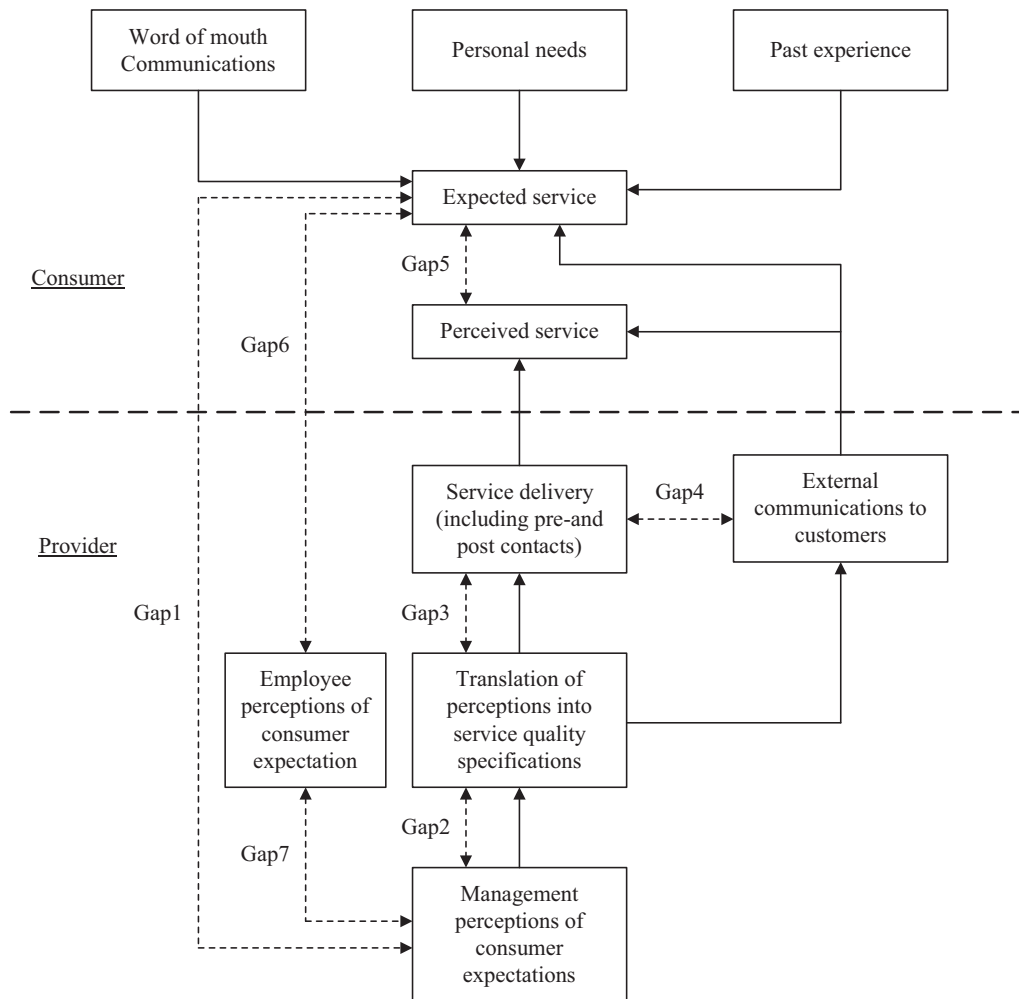


Figure 1. Model of service quality gaps (Parasuraman et al., 1985; Curry, 1999; Luk and Layton, 2002)

Appendix 1. Questionnaire sample (Iran Travel Agency)

Service quality dimension	Perception*	Expectation*
1 On time Service delivery	1 2 3 4 5	1 2 3 4 5
2 Meeting the tour schedule	1 2 3 4 5	1 2 3 4 5
3 Exact and precise service delivery	1 2 3 4 5	1 2 3 4 5
4 Prompt response to customer request	1 2 3 4 5	1 2 3 4 5
5 Sincere interest in problem-solving	1 2 3 4 5	1 2 3 4 5
6 Provision of adequate information	1 2 3 4 5	1 2 3 4 5
7 Advanced information about services	1 2 3 4 5	1 2 3 4 5
8 Reputation of service	1 2 3 4 5	1 2 3 4 5
9 Politeness of personnel 's behavior	1 2 3 4 5	1 2 3 4 5
10 Cultivation of friendly relationship	1 2 3 4 5	1 2 3 4 5
11 Learning the customers' special needs	1 2 3 4 5	1 2 3 4 5
12 Allocating required time to deliver each service	1 2 3 4 5	1 2 3 4 5
13 Modern and technologically relevant equipment	1 2 3 4 5	1 2 3 4 5
14 Appealing accommodation facilities	1 2 3 4 5	1 2 3 4 5
15 Appearance of personnel	1 2 3 4 5	1 2 3 4 5
16 Overall satisfaction	1 2 3 4 5	1 2 3 4 5

* 1: Very low, 2: Low, 3: Medium, 4: High, 5: Very high