Analyzing the Service Quality of a Fast Ferry Company by Using Servqual Scores: A Case Study in Turkey

Asst. Prof.Burcu ADIGÜZEL MERCANGÖZ, PhD
Istanbul University
School of Transportation & Logistics
Turkey

Prof. Mahmut PAKSOY, PhD
Istanbul Kultur University
Faculty of Business Administration
Turkey

Asst. Prof. Ali Özgür KARAGÜLLE, PhD
Istanbul University
School of Transportation & Logistics
Turkey

Abstract

According to the developments in the transportation industry, quality concept has become significant. In this paper, we analyzed the service quality of a ferry company in Turkey. We also analyzed the differences between the expectations and perceptions of its passengers. The data has been taken from the passengers of the company during their trip. The questionnaire consists of questions that ask the passengers about their demographics and information about their trip. Also there is a part in the questionnaire that is about their expectations and evaluation of the company's service quality. This study aimed to provide the company to evaluate its service quality according to their passengers.

Keywords: Servqual Scale, Ferry Transportation, Descriptive Statistics, Non Parametric Tests

1. Introduction

The quality of a service has been studied in the field of business management for years. The most common definition is the traditional notion that views quality as the passengers' perception of service [Parasuraman, Zeithaml and Berry, 1988]. According to this approach, services are different from goods because they are intangible, heterogeneous, and are simultaneously produced and consumed. Service quality perceptions of the passengers can be satisfying when the service that is served met the passenger's expectations. Thus, service quality can be defined as the difference between the expectations of the passengers about the service performance before they had the service and the perceptions of them about the service performed. Service quality is one of the main factors that affect customer satisfaction which directly leads to competitiveness. Finding out the expectations of customers/passengers from a transportation company can enable transportation companies to check and revise their services in order to gain competitive advantage. This research paper focuses on the link between passenger expectations and service quality, and demonstrates how a fast ferry transportation company can utilize a measure of different passengers' expectations in managing its service quality. We used servqual scale to analyze the differences between the passenger's expectations and perceptions. Servqual is a service quality measurement instrument, which measures service quality as a gap between expectation and perception. This scale is the first in service quality studies and it become very popular among service quality researches [Carman, 1980].

2. Literature Review

Servqual model is used in different sector's as service quality measurement tool such as in studies related with banks [Kumar, Kee, Charles, 2010; Kumar, Kee, Manshor, 2009], a 17-item scale is developed an instrument for measuring customer service quality at trading bank branches, with a focus on retail banking [Avkiran, 1994], a detailed survey of the literature on the applications of servqual can be found in literature [Badri, 2005]. Performance of an IT department is measured using a modified version of the three-column format servqual [Kang, 2002].

3. Methodology

We designed a questionnaire in several steps from the perspective of the previous literature and experts' opinions. Our 62-item questionnaire includes fast ferry service quality dimensions consistent with the servqual dimensions. Firstly, we determined the important control variables as gender, age, educational background, marital status, average frequency of use of fast ferry services, and purpose of the trip. Next, the servqual and fast ferry service quality dimensions were taken into consideration under the inspiration of previous studies. Passenger expectations have major role in quality rating. Thus, first part of the questionnaire is consists of the questions about to measure the passenger's expectations. Second part of the questionnaire consists of the questions about to measure the passenger's evaluations on the service they experienced. In this way, we defined the expectations of the passengers from a high quality services, then for the same quality indicators, we measure the quality of the company's services. Questions addressing expectations and perceptions were rated using 5-point Likert scale. Perceptions were rated from 1 "strongly disagree" to 5 "strongly agree", and expectations were rated from 1 "unimportant" to 5 "very important".

The questionnaire was initially tested by the staff. After these procedures, minor changes were incorporated into final version. When distributed, the questionnaire was accompanied by the staff explaining the objective of the survey and assuring confidentiality of respondents. Participation was voluntarily. The fast ferry company volunteered to take part in the study and cooperated in conducting the survey to its domestic passengers. The sample was taken from the passengers of a domestic fast ferry company.

The research data have been taken from the questionnaire applied by the passengers of a fast ferry company. It is impossible to make all the passengers but we applied the questionnaire to 637 passengers in October 2009. The sample was taken from the passengers of the fast ferry company, trip to some destinations from the specific destinations. The survey was administered over a week. The survey procedure was performed on six vessels during their trip between Bandırma and Yenikapı, Yenikapı and Bandırma, Bursa and Yenikapı, Yenikapı and Bursa, Yalova and Yenikapı, Yenikapı and Yalova. We preferred to conduct the survey on vessel during the trip. Questionnaires were distributed to the passengers and collected in the last hour of the trip. One thousand questionnaires were distributed with a response rate of 63.7%.

We measured the difference between the expected and the perceived service level of the passengers by using the wilcoxon matched-pair ranks tests that is often regarded as being similar to a matched pair's t-test. The Wilcoxon Matched-Pairs Ranks test is used to determine differences between groups of paired data when the data do not meet the rigor associated with a parametric test. Non parametric tests such as Kruskal Wallis H Test, Mann Whithney U Test are also used. On top of all these tests descriptive statistics are used to summarize the data.

4. Findings

The survey was carried out in October 2009 and the response rate was approximately 64 percent.

4.1. Summarized Data

In purifying the quality scale, coefficient alphas were calculated first. To examine the reliability of modified servqual items, Cronbach's alpha coefficients were acquired for the values of expected (α =0.94) and perceived (α =0.97) services. The values are higher than the general standard of 0.70, suggesting a good reliability of overall questionnaire items. The questionnaires completed were 392 males and 266 females by gender. Average age is 37,03 with the standard deviation of 15,31.

Passengers responded the questionnaire profile is shown in Table.1 in percentages.

Table.1.Summarized Data in Percentages

	Percentage			**Percentage**		**Percentage**
Gender			**Trip aim**		**Web Site Usage**	
Woman	% 40		Business	% 27	Used	%62
Man	% 60		Holiday	% 43	Haven't Use	%38
Educational Level			Visit	% 25	**Trip Class**	
High School	% 6		Education	% 5	Business	% 19
College	% 28				Economy	% 81
Undergraduate	% 45		**Ticket Purchasing**		**With car or not**	
Graduate	% 21		Internet	% 42	With vehicle	% 56
Mariel Status			Terminal	% 33	Without a vehicle	% 44
Single	% 34		Agency	% 7		
Married	% 66		Call Center	% 18		

4.2. Difference Between Passengers Expectations and Perceptions

The difference between expected and perceived services is the key to assessment of service quality, so the differences between these two services were calculated. We ran a non-parametric Wilcoxon matched pairs test to examine the difference between expected and perceived services by passengers. The results showed that more of the perceived services were negatively signed after ranking with two-tailed significant value $p< 0,00$ for all items. Table.3 below shows wilcoxon test results between expected and perceived services.

Table.2 Items Descriptions

C1-A1	Performing the services right the first time
C2-A2	Having operating hours convenient to all customers
C3-A3	Sincerity in resolving customers' problems
C4-A4	Performing the services right time
C5-A5	On time performance
C6-A6	Informing the times on web site
C7-A7	Keep customers informed by cell phones about when trips will not be performed
C8-A8	Keep customers informed about services
C9-A9	Feeling safe during the trip
C10-A10	Prompt attention to customers specific needs
C11-A11	Having modern looking vehicles
C12-A12	Well designed inside the vehicles
C13-A13	Having visually appealing equipment
C14-A14	Providing newspaper, magazine etc... during the trip
C15-A15	Providing television viewing during the trip
C16-A16	Providing internet connection during the trip
C17-A17	Foods being reasonable price
C18-A18	Foods being fresh served on trip
C19-A19	Foods being delicious served on trip
C20-A20	Employees, quick response to the customers complaints
C21-A21	Employees performing quick service
C22-A22	Employees express a willingness to help the customers
C23-A23	Employees never be busy that can not answer the customer
C24-A24	Employees behavior give confidence to the customers
C25-A25	Employees behave polite
C26-A26	Knowledgeable employees to answer customer questions
C27-A27	Employees can respond customers emergency needs
C28-A28	Employees being natty

Table.3 Wilcoxon Signed Ranks Tests Results

		Mean Rank	Sig.
C1-A1	Negative Ranks	223.91	0,000
	Positive Ranks	234.90	
C2-A2	Negative Ranks	245.98	0,000
	Positive Ranks	188.70	
C3-A3	Negative Ranks	245.51	0,000
	Positive Ranks	208.19	
C4-A4	Negative Ranks	240.79	0,000
	Positive Ranks	220.51	
C5-A5	Negative Ranks	196.25	0,000
	Positive Ranks	194.49	
C6-A6	Negative Ranks	200.71	0,000
	Positive Ranks	179.38	
C7-A7	Negative Ranks	242.26	0,000
	Positive Ranks	194.30	
C8-A8	Negative Ranks	230.55	0,000
	Positive Ranks	187.55	
C9-A9	Negative Ranks	260.78	0,000
	Positive Ranks	214.45	
C10-A10	Negative Ranks	238.47	0,000
	Positive Ranks	191.43	
C11-A11	Negative Ranks	209.05	0,000
	Positive Ranks	177.64	
C12-A12	Negative Ranks	202.22	0,000
	Positive Ranks	170.72	
C13-A13	Negative Ranks	213.99	0,000
	Positive Ranks	175.36	
C14-A14	Negative Ranks	270.63	0,000
	Positive Ranks	172.97	
C15-A15	Negative Ranks	245.30	0,000
	Positive Ranks	189.67	
C16-A16	Negative Ranks	252.26	0,000
	Positive Ranks	178.85	
C17-A17	Negative Ranks	285.72	0,000
	Positive Ranks	155.05	
C18-A18	Negative Ranks	259.46	0,000
	Positive Ranks	215.78	
C19-A19	Negative Ranks	249.27	0,000
	Positive Ranks	238.04	
C20-A20	Negative Ranks	243.96	0,000
	Positive Ranks	187.96	
C21-A21	Negative Ranks	231.36	0,000
	Positive Ranks	197.55	
C22-A22	Negative Ranks	217.62	0,000
	Positive Ranks	200.09	
C23-A23	Negative Ranks	232.42	0,000
	Positive Ranks	202.83	
C24-A24	Negative Ranks	202.90	0,000
	Positive Ranks	227.77	
C25-A25	Negative Ranks	209.04	0,000
	Positive Ranks	199.08	
C26-A26	Negative Ranks	224.92	0,000
	Positive Ranks	205.30	
C27-A27	Negative Ranks	236.11	0,000
	Positive Ranks	231.93	
C28-A28	Negative Ranks	201.67	0,000
	Positive Ranks	193.14	

According to the results given in Table.2, there is a significant difference between scores that passengers gave to express their expectation and perceptions. According to the mean ranks, especially the scores that express the expectations are higher. This result indicates that the service of the company served is below the passenger's expectations. We conclude that fast ferry services do not meet the expectations of its users. Only 1. and 24. item scores related with safety and confidence, show that passenger's perceptions are over their expectations about these services. Furthermore, larger gaps result, mainly due to the facilities and food prices (On items number by order of 17, 14 and16).

4.3. Variables Related with Overall Assessments

From a different point of view, we also propose that passengers' gender, educational background, marital status, average frequency of use of the fast ferry services, aim of the trip and route might have an influence on passengers' overall assessments of the fast ferry services.
With this evidence in mind, our propositions are:

(1) Gender variable has an influence on passengers overall assessments of the company's services.
(2) Educational background variable has an influence on passengers overall assessments of the company's services.
(3) Marital status variable has an influence on passengers overall assessments of the company's services.
(4) Average frequency of use of the fast ferry services variable has an influence on passengers overall assessments of the company's services.
(5) Aim of the trip variable has an influence on passengers overall assessments of the company's services.
(6) Route variable has an influence on passengers overall assessments of the company's services.

We used the Kruskal-Wallis and Mann-Whitney U tests to examine the differences in passenger's overall assessments among various groups. The results are shown in Table.3.The results of the test (see table.3) showed that the results are significant at the $p< 0,05$ level.

Table.3. Results of Kruskal Wallis H Tests

	Sig.
Route	0,005
Trip Aim	0,029

As can be seen from the Table.3 the passenger's scores on overall assessments of the company's services have a significant difference according to the route they use and their trip aim. According to this:

- ✓ While the passengers on the route 4 (Yenikapı-Bursa) express the highest satisfaction, the passengers on the route 5 expressed the lowest satisfaction in overall assessments of the services they perceived. So that we can say that there are important factors that decrease the passenger's satisfaction in route 5 (Yalova-Yenikapı). We analyzed the passengers' perceptions among route 5 and we noticed that the lowest scores are given for timing, food services prices and freshness and employees' behaviors. In order to make faster decisions to help passengers during a trip, the managers should improve the employees' behaviors in fields such as communication skills and empower them. Also route 6 (Yenikapı-Yalova) has similar scores about employees behaviors and communication with passengers and in ferry facilities.
- ✓ There are significant differences in overall assessments of the services among passengers who travel for different purpose, such as business, holiday, education and visiting friends/relatives. The passengers rowing for business express the lowest score about their overall assessment. We can see that business travelers focus on service quality while other passenger groups focus on the price.

5. Conclusions

Customer satisfaction is a key element that enables companies on step beyond their rivals. Factors that affect customer satisfaction have critical importance to gain competitive advantage. So, analyzing service quality and the perceptions of passengers about a transportation company can be considered as starting point of managerial review. The major role of evaluating the service quality consists of customer expectations. Thus, first part of the questionnaire consists of questions about customer expectations'.

The results indicate that there are significant differences between customers' perceptions and expectations and the service of the company is below the passenger's expectations. We conclude that fast ferry services do not meet the expectations of its users at a desired level and far away from competitiveness. It is clear that the passengers are not getting what they expect from the company facilities. Only 1. and 24. item scores related with safety, confidence, show that passenger's perceptions are over their expectations about these services. Furthermore, larger gaps result, mainly due to the facilities and food prices (On items number by order of 17, 16 and 14).

To provide the high quality services, the fast ferry company should understand passengers' demand, needs and expectations. Next, they should focus on how to deliver the most convenient service that meets the needs of the passengers. Taking initiatives in problems that occur during a trip can lead to more satisfied passengers. Empowering staff in terms of communication and decision skills can help the company in improving its service quality.

References

Avkiran, N., K., "Developing an Instrument to measure Customer Service Quality in Branch Banking", International Journal of Bank Marketing, Volume: 12, Number: 6, 1994, pp: 10-18

Carman, J.M. (1990), "Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions", Journal of Retailing, 66(1), 33-55.

Cronin, J.J. Jr. and Taylor, S.A. (1992), "Measuring Service Quality: A Reexamination and Extension", Journal of Marketing, 56, 55-68.

Mukesh Kumar, Fong Tat Kee, Vincent Charles, "Comparative Evaluation of Critical Factors in Delivering Service Quality of Banks: An Application of Dominance Analysis in Modified SERVQUAL Model", International Journal of Quality and Reliability Management. 01/2010; 27(2/3)

Mukesh Kumar, Fong Tat Kee and Amat Taap Manshor, "Determining the Relative Importance of Critical Factors in Delivering Service Quality of Banks: An Application of Dominance Analysis in SERVQUAL Model", Managing Service Quality: An International Journal. 02/2009; 19(2)

Parasuraman, A., Zeithaml, V.A., and Berry, L.L. (1985), "A Conceptual Model of Service Quality and Its Implications", Journal of Marketing, 49, 41-50.

Parasuraman, A., Zeithaml, V.A., and Berry, L.L. (1988), "SERVQUAL: A Multiple-Item Scale for Measuring Passenger Perceptions of Service Quality", Journal of Retailing, 64 (1), 12-40.

Teas, K.R. (1993), "Expectations, Performance Evaluation, and Consumers' Perceptions of Quality", Journal of Marketing, 57, 18-34.

Parasuraman, Zeithaml, Berry; 1985, p.41-50, A conceptual Model of Service Quality and Its Implications for the Future Research, Journal of Marketing, Vol:49, No:4, p:41-50

Kang, H., Bradley, G., 2002, "Measuring the performance of IT services: An assessment of SERVQUAL", International Journal of Accounting Information Systems 3 (2002) 151–164.