TEKNOLOJİ

THE MEASUREMENT OF THE SERVICE QUALITY IN THE KONYA LIGHT RAIL TRANSPORTATION SYSTEM

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ABSTRACT

The purpose of this study is to examine the impact of Service Quality (SERVQUAL) in the Konya Light Rail Transportation System (KLRTS) on passengers and tram-drivers . The quest for service quality has been an essential strategic component for firms attempting to succeed and survive in today's competitive environment. Over the past decade, SERVQUAL has emerged as perhaps the most popular standardized questionnaire to measure service quality. Konya's central population is 900.000 according to the last census, with an increase rate of approximately 50.000 people per year. One of the most important problems emerging due to population increase is transportation problem. This problem has been tried to be controlled by using Light rail transportation system since 1992. The research measures expectations of the passengers and tram-drivers from the Light Rail Transportation System with the help of Service Quality method.

Key Words: Service Quality, Passengers and tram-driver, Light rail transportation systems

KONYA HAFİF RAYLI ULAŞIM SİSTEMİNDE SERVİS KALİTESİNİN ÖLÇÜMÜ

ÖZET

Bu çalışmada, Konya hafif raylı ulaşım sisteminin, vatmanlar ve yolculara göre servis kalitesi, SERVQUAL metodu ile belirlenmeye çalışılmıştır. Günümüzün rekabetçi ortamında, firmaların vermiş oldukları hizmeti ölçmeleri önemli bir stratejik faktördür. Geçmiş on yılda servis kalitesini ölçmek için en yaygın olarak kullanılan standart soru (anket) tekniği SERVQUAL metodudur. Konya merkez nüfusu, en son sayımlara göre, yıllık 50 bin nüfus artışı ile, 900000'dir. Nüfustaki artıştan dolayı ortaya çıkan en önemli problemlerden biri de toplu taşıma problemidir. Konya da bu problem, 1992 yılında hizmete giren hafif raylı ulaşım sistemi ile çözülmüştür. Araştırmada vatman ve yolcuların hafif raylı ulaşım sistemindeki beklentileri servis kalite metodu yardımı ile belirlenmeye çalışılmıştır.

Anahtar Kelimeler: Servis Kalitesi, Yolcular, Tramvay sürücüsü, Hafif Raylı Ulaşım Sistemi

1. INTRODUCTION

Konya, which is a neighbor city of Ankara, Niğde, Aksaray, İçel Antalya, Isparta, Afyon, Eskisehir and Karaman, is located on the central Anatolia High plateau of 39,000 km2. Municipality of Konya founded in 1876 achieved the status of being "major city" in 1984. Since 1989 municipality services have been carried out according to this status [1]. According to the census done in 2000 the total population of Konya is 1,752,658 and it is the fourth city crowded of the Turkey after Istanbul, Ankara and İzmir.

The Konya Light Rail Transportation Systems (KLRTS) is the sub department of the Municipality of Konya. KLRTS has founded since 1992. Initially it was carrying 65,000 passengers in a day with 300 trips from 06:00 till 24:00 on a route of 10,5 km. After increasing wagon number to 41, trips to 450, the length of the

route to 18,5 km, the passenger capacity has increased to 120,000. The other specifications of (KLRTS) are given in Table 1

Table 1 Specification of KLRTS

Specifications	Line 1
Opening year (revenue service)	September 1992
Type	Tramway
Gauge:	1435 mm
Route length	18 km
Number of stations	20 (plus 9 optional)
Traction power supply	750V DC, Overhead

The tram is a cheap and clean vehicle of public transportation. Trams/light rail vehicles in pedestrians areas are much more acceptable than motor vehicles or buses as it is exactly predictable as to where they will go, whereas pedestrians, not surprisingly, give buses and other motor vehicles a wide berth for safety and by having to do so the whole ambience of a pedestrians area is fundamentally degraded. In this study we examined the impact of Service Quality in the KLRTS on passengers. The specific objectives of the study are firstly to investigate   customers expectation and perceptions from service quality and secondly, to determine the gap between the expectations and perceptions.

2. SERVICE QUALITY

SERVQUAL was developed by Parasuraman, Zeithaml and Berry in 1990 [2]. Service quality has received a lot of attention in business communities due to its practical implications for customer satisfaction [3]. Parasuraman et al (1988) defined expectations as "desires or wants of consumers, i.e. what they feel a service provider should offer rather than would offer". The expectations component was designed to measure customers' normative expectations, and is "similar to the ideal standard in the customer satisfaction/dissatisfaction literature" [4].

In the SERVQUAL method quality could be viewed as the gap between perceived service and expected service. This methods called gap theory. In the gap theory of service quality, that is, Q=P-E (Quality equals perceptions – Expectations) [5].

SERVQUAL model, which employed 22 likert scale items, focus on the differences between the consumers performance perceptions of the service and his or her expectations for the service [6]. Calculating the differences between the 22 items within the given five dimensions forms the service quality measure. Those five dimensions, that are proposed to be generalizable to virtually any service provider are:[5]

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: Knowledge and courtesy of employees and their ability to inspire trust and confidence,
5. Empathy: Caring individualized attention the firm gives its customers.

Some of the recent researches here are given about the application of SERVQUAL method.
Brady, Cronin and Brand (2002) have studied on the " Performance –only measurement of service quality". They was described in their study, replicates and extends the Cronin and Taylor study, suggestion that service quality be measured using a performance only index as opposed to the gap-based SERVQUAL Scale[7].

Lincoln (2002) has studied on the " Insights into library services and users from qualitative research" In his study, perceptions of library service quality, interview data were used to restructure and reorient SERVQUAL a widely employed survey administered to customers to determine quality of service rendered [8].

Kassim and Bojei (2002) have studied on "Service quality gaps in the Malaysian telemarketing industry". In their study, They investigate the discrepancy between customers expectation and perception towards the

quality of services. They used simple random sampling to collect data from 100 users of telemarketing services throughout Malaysia [6].

Kang and Bradley (2002) have studied on "Measuring the performance of information technology services" In their study, they developed a conceptual "gaps model" of information technology service quality, Which identifies seven gaps between customers and suppliers of information technology service [9].

Gilbert and Wong (2002) have studied on passenger expectations and airline services. In their study, they attempt to identify the service dimensions that matter most to current airline passengers. The research measures and compares differences in passengers expectations of desired airline service quality in terms of the dimensions of reliability, assurance, facilities, employees flight patterns; customization and responsiveness [4].

Akama and Kieti (2003) have studied on "Measuring tourist satisfaction with Kenya's Wildlife safari". In their study, they investigate the reduction of the quality of parks, tourists products as it relates to visitor satisfaction [2].

Ekinci, Prokopaki and Çobanoğlu (2003) have studied on service quality in Cretan accommodations: marketing strategies for UK holiday market" The aim of the study is two fold; firstly, to identify characteristics of the British tourists who visit Crete and secondly, to assess their perception of service quality in the Island accommodations [3].

3. APPLICATION

3.1. Purpose Of The Study

The SERVQUAL has been one of the most widely used and applied scales for the measurement of perceived service quality in recent years. The aim of this study is the analysis of the expectations of consumers and measurement of the service quality in KLRTS. The present study addressed two research questions. First is aimed to determine the expectations of the passengers who used tram for transporting and second; to determine the satisfaction of tram driver.

3.2. Methods

The participants in the study were 30 tram driver and 50 passengers who used tram for transporting. There are 47 tram drivers working at the KLRTS. The participants were selected by randomly sampling from the tram drivers and passengers.

3.3. Instrumentation

The 30 tram drivers and 50 passengers rated service quality of KLRTS by using the 22 SERVQUAL items. Passengers were asked to respond to each of the 22 items in the SERVQUAL scale adapted to them and Tram driver were asked to respond to each of the 22 items SERVQUAL scale adapted to them. Each item was rated by using a 1(low) to 7 (high) likert type response format.

The questionnaire consisted of five dimensions which are tangible elements, reliability, responsiveness, assurance and empathy. The SERVQUAL scale adapted to passengers and tram drivers are given in Table 2 and Table 3 respectively.

Table 2 .SERVQUAL Scale Adapted to Passengers

Dimensions	Statements
Tangible Elements	1. Tram driver is looked clean and tidy 2. The chairs of the tram are comfortable 3. The air condition of the tram is good 4.The heating of tram works well
Reliability	5. Tram drivers announce the stations 6. Tram drivers speak good 7. When the passenger has a problem, the tram driver shows a sincere interest in solving it. 8.The tram, habitually, performs good service 9. The tram service just in time
Responsiveness	10. There is enough tram service in KLRTS 11. You can find tram ticket very easily 12. The tram service is cheaper than other public transportation system 13. You can travel safely by tram 14. The people which work in station are very sympathetic and helpful
Assurance	15. The tram is enough faster than public transportation system 16.The tram gives enough service 17. The tram line is enough safe 18.The tram gives the same service in winter seasons
Empathy	19. There is enough preventive measure in summer for sun shine effects 20. The sound system in tram is convenient 21.The number of tram stations is enough 22. The tram is very economic for city transporting

Table 3 .SERVQUAL Scale Adapted to Tram driver

Dimensions	Statements
Tangible Elements	1. Tram is a healthy place to work for tram drivers 2. Driver cabinet and seating are healthy for tram drivers 3. Working times are not too much 4. Tram drivers are not affected from the environmental conditions
Reliability	5.The salaries are satisfactory 6.Tram drivers have enough vacation 7.Tram drivers have enough social security 8.Tram drivers love their jobs 9.Tram drivers have enough time to rest between departures 10.Enough education is given to tram drivers 11.Tram drivers have enough authority
Responsiveness	12.Tram drivers work in a safety environment 13.Passengers are always helpful to tram drivers 14.Shifting of tram drivers works well
Assurance	15.Getting on/off the passengers results no problem for the driver 16.Accepting money instead of ticket from some passengers doesn't affect tram driver 17.Tram driver doesn't face with any difficulties in a ring
Empathy	18.Tram drivers and passengers have good conversations 19.The job of drivers doesn't affect their social lives 20.Tram drivers have good relations with other personnel 21Tram drivers have good relations with managers 22.Tram drivers doesn't have any communication problems with the main station and other drivers in the rings.

Tram driver questionnaire results are given in Table 4

Table 4 Main responses for the five SERVQUAL dimensions for Tram drivers questioner

Service Quality Dimensions	Quality Scores	Weight Percentages
Tangible Elements	-4	0,2084
Reliability	-3,28333	0,1711
Responsiveness	-2,84333	0,1481
Assurance	-5,67333	0,2956
Empathy	-3,38667	0,1765

Table 4 shows the mean quality scores for the tram driver questioner results. From the table its noted that the bigger score is obtained from responsiveness. The second score is reliability, the third score is empathy, the fourth score is tangible elements and the last score is assurance. The sequence of the tram drivers service quality dimensions scores is given in Table 5

Table 5 The sequence of tram drivers service quality dimensions

Service quality Dimensions	Sequence of quality score due to tram drivers questionnaire	< > =	Sequence of quality dimensions which are determined by tram drivers	Conclusion
Tangible Elements	4	<	5	Sufficient
Reliability	2	<	4	Sufficient
Responsiveness	1	<	3	Sufficient
Assurance	5	>	2	Insufficient
Empathy	3	>	1	Insufficient

It is concluded from Table 5 that, the assurance and empathy service quality dimensions are insufficient. In this study we applied questionnaire to 50 passengers who take service from KLRTS. The passenger questionnaire results are given in Table 6.

Table 6 Main responses for the five SERVQUAL dimensions for passenger questionnaire

Service quality Dimensions	Quality Scores	Weight Percentages
Tangible Elements	-0,288	-35,76
Reliability	0,133	16,55
Responsiveness	0,920	114,23
Assurance	-0,120	-14,90
Empathy	0,160	19,86

Table 6 shows the mean quality scores for the passengers' questionnaire results. From the Table 6 it's noted that the bigger score is obtained from responsiveness. Empathy, reliability, assurance and tangible elements results the second, third, fourth and fifth scores, respectively.. The sequence of the passengers service quality dimensions scores is given in Table 7.

Table 7 the sequence of passenger service quality dimensions

Service quality Dimensions	Sequence of quality score due to passengers questionnaire	< > =	Sequence of quality dimensions which are determined by passengers	Conclusion
Tangible Elements	5	=	5	limit
Reliability	3	=	3	limit
Responsiveness	1	=	1	limit
Assurance	4	=	4	limit
Empathy	2	=	2	limit

In Table 7, It's seen that, all quality scores are at limit.

4. CONCLUSION

To determine the performance of KLRTS; totally 80 questionnaires were applied on passengers and tram drivers.

According to the SERVQUAL questionnaire results which was applied on 30 tram drivers, "Responsiveness" has been found as the highest quality dimensions with a score of "-2,8433".

The second quality dimensions, which the tram drivers mind is "Reliability". Their working space in trams should be improved. The least important quality dimension according to tram driver questionnaire is found "Assurance" with the same score of "-5,6733"

According to the SERVQUAL questionnaire results, which was applied on randomly selected 50 passengers, the most important quality dimensions has been found "Responsiveness" as the first questionnaire, with a score of "0,920". Second quality dimension is "Empathy" with "0,160", Tangible elements is the least important quality dimensions with the score "-0,288" for passengers.

SERVQUAL method is a successful method for measuring satisfaction in service companies, especially I today's world where competition is formed due to customer and worker satisfaction.

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