

Riding the Rails with Confidence: A SERVQUAL Model Analysis of Service Quality in Kochi Metro"

By

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Abstract

Passengers are the backbone of every transportation undertaking. So provision of quality services to passengers is the best way to attract and retain them. Product or Service Quality thus aims at creating and retaining customers. Customer segmentation is also an important element in marketing and delivering of products or services effectively. Understanding the needs and requirements of different types of customers is important to develop tools to serve them better. The Kochi Metro is a rapid transit system serving the city of Kochi in Kerala, India. The study tries to understand the perceptions of passengers of different segments with regard to five key service quality dimensions- Tangibles, Reliability, Responsiveness, Assurance and Empathy. The scope of the study is limited to passengers of Kochi Metro in Kerala.

Keywords: Service Quality, Tangibles, Reliability, Responsiveness, Assurance and Empathy

Introduction

Kochi with its wealth of historical association and unique setting reflect the eclecticism of Kerala. It is one of India's important port and centre of higher education as well. Kochi consists of mainland Ernakulam, Island of Willington Island and Bolgatt, Fort Kochi, Vyppin Island to the north of Fort Kochi and Mattancherry to the southern peninsula. Kochi being a centre of tourist attraction attracts a lot of people across the world. But one of the most important problems faced in Kochi is the lack of transportation.

Kochi Metro Rail Limited (KMRL) was formed as a special purpose vehicle (SPV) based on the basis of cabinet decision by the UDF government in 2011 with Elias George as the Managing Director. The Kochi Metro would be implemented on a joint venture basis with investment by central and state government. The Public Investment Board (PIB) cleared the project on 22nd march 2012, subject to final approval by the union cabinet. The Union government's share of the cost would be 20.26% or \$1002.23cr (\$150 million).

Customer segmentation is also an important element in effectively marketing and delivering of products or services effectively. Understanding the needs and requirements of different types of customers is important to develop tools to better serve them better. For an established organisation like Kochi Metro, which cater passengers of different types, understanding the perceptions of different passenger segments regarding the service quality would help in providing their services.

The concept of Service Quality is a comparison between of expectations and performance. A customer's expectation of a particular service is determined by factors such as recommendations, personal needs, and past experiences. Therefore, a study on the perception of service quality perceptions of different passenger segments deserves special significance

The present study tries to segment passengers of Kochi Metro based on demographic characteristics such as gender, age, education level, of education and occupation, as well as the journey related characteristics such as the distance travelled, regularity of travel etc. The study seeks to understand the perceptions of passengers of different segments with regard to the five key service quality dimensions: - Tangibles, Reliability, Responsiveness, Assurance and Empathy.

The scope of the study is limited to the passengers of Kochi Metro in Kerala.

Significance of the Study

Passengers are the backbone of every transportation undertaking. So provision of quality services to passengers is the best way to attract and retain them. Product or Service Quality thus aims at creating and retaining customers. But organizations tend to offer quality products and services as the degree of competition in the industry increases. As Kochi Metro is a critical infrastructural project which was supposed to eliminate the traffic problem in the city. This relationship between Product and Service Quality can be validated by understanding the perception of passengers regarding the service quality of Kochi Metro.

Objectives of the Study

The study is conducted with the following objectives.

- To know whether the perception regarding service quality of Kochi Metro is affected by demographic variables such as gender, age, occupation and educational qualification.
- To identify whether the nature of journey by way of distance covered by passengers affect their perception about the service quality of Kochi Metro.
- To understand perception of passengers towards service quality of Kochi Metro on the basis of the regularity of their travel.
- To give suggestions to improve the service quality of Kochi Metro.

Hypotheses of the Study

- There is no significant difference in service quality dimensions and overall service quality between passengers based on gender.
- There is no significant difference in service quality dimensions and overall service quality between passengers based on their age.

Database and Methodology

This part explains the methodology used in this study. It includes research design, sample design, sources of data, and tools for data collection and framework of analysis.

Population

In this study, population includes passengers of all age groups, both male and female, with different educational qualifications travelling in Kochi Metro in Kerala.

Research Design

The blue print of the study is contrived as empirical in nature. It is empirical as it tries to gain knowledge of passengers' perception of service quality by means of direct observation and experience based on the analysis of empirical data collected from the respondents.

Sampling Design

For the purpose of study, 100 passengers of Kochi Metro were taken as samples based on convenient sampling method.

Type of Data Source

The study consists of both primary and secondary data. However, primary data collected from respondents were used for analysis. Primary data were collected through questionnaires.

Secondary data were collected from Books, Online Journals, and Website etc.

Tools for Data Collection

The Primary data for analysis were collected by administering a detailed questionnaire, from passengers of Kochi Metro rail in Kochi in Kerala.

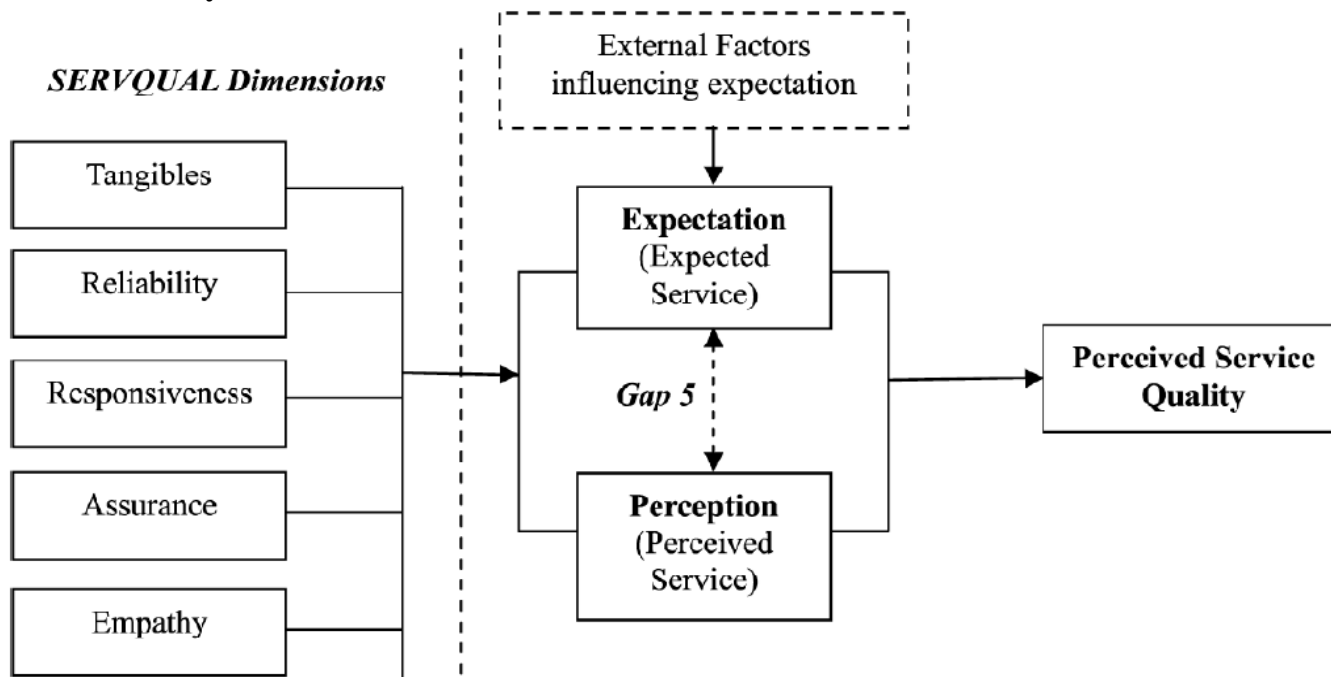
Tools for Analysis and Interpretation of Data

Five point Likert type scaling techniques ranging from strongly agree to strongly disagree (5 points to

1 point) is used for rating respondents' perception of service quality. The mean scores of each statement are taken and are averaged to find the mean scores of each service quality dimension. The overall service quality is assumed to be the combined mean of all the dimensions.

The study used tools like mean, standard deviation, and percentages etc. with the help of SPSS Software for analyzing the primary data collected. The analyzed data were presented in tables and graphs in simplified and attractive manner.

Model for the Study



Limitations of the Study

- The study is limited to the passengers of Kochi Metro Rail service in the state of Kerala only.
- Kochi Metro is a huge organization which caters the transportation needs of millions of passengers. As it is a study based on only 100 sample respondents, it is very difficult to generalize the results
- Though SERVQUAL Model is used for the study, the exact methodology used in the model is not followed. Thus, tools used are modified according to the convenience of the researcher.

Review of Literature

Appu and S.G Balaji (2017) emphasized that transportation serves as a reflection of a community's social and cultural existence. The welfare of commuters greatly depends on an efficient and hygienic transport system. The introduction of the metro in Chennai has proven effective in diverting existing passenger traffic from roads to the metro, thereby alleviating congestion.

Naidu and Thomas (2016) prepared a comprehensive report on the Delhi metro system's operations and its transformative potential in Indian cities. They highlighted that carefully planned new metro corridors, based on projected demand and the efficient utilization of existing transportation models, can revolutionize urban transportation planning.

Vivek Kumar and Vikas Rastogi (2014) acknowledged the diverse experiences of commuters while using public transportation. To enhance commuter satisfaction, they suggested that service providers should prioritize improvements in passenger amenities.

In their analysis, Ram Kumar Balyan and Richa Pandit (2014) explored the factors influencing the quality of services provided by Kochi Metro. While Indian railroads generally maintain good records and punctuality, the study revealed that prompt service delivery to passengers remains a challenge for employees.

Data Analysis and Interpretation

A sample of 100 passengers from across Kerala was selected. The analysis is divided into three sections: The first section deals with the classification of respondents based on various variables, the second section looks at the level of service quality perceived by the respondents in relation to the various services offered, and the third section is used to assess the service quality dimensions of the SERVQUAL model applied to different passenger segments in Kochi Metro. A five- point Likert scale ranging from "strongly agree" to "strongly disagree" (5 points to 1 point) is used to assess the respondents' perceived level of service quality.

Classification of Respondents

Table No. 1
Gender of the Respondents

Gender	Nos.	Percent
Male	69	69.0
Female	31	31.0
Total	100	100.0

(Source: Primary Data)

Passengers included in the sample are classified on the basis of their gender. 69 respondents (69 percent) were males and 31 respondents (31 percent) were females.

Table No. 2
Distribution of respondents on the basis of Age Group

Age Group	Nos.	Percent
Below 20	17	17.0
21-40	46	46.0
41-60	25	25.0
Above 60	12	12.0
Total	100	100.0

(Source: Primary Data)

The survey of the age group of passengers revealed that 17 percent of respondents are below 20 years of age. 46 percent are in the age group 21-40 and 25 percent are in the age group 41-60. The remaining 12 percent are above 60 years of age.

Table No. 3
Distribution of respondents on the basis of Educational Qualification

Qualification	Nos.	Percent
Primary	2	2.0
Pre-degree/+2	25	25.0
Graduate	51	51.0
Post-Graduate	22	22.0

Total	100	100.0
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(Source: Primary Data)

Out of all the respondents 2 percent have only primary education. While 25 percent qualified pre-degree or plus two, 51 percent of the respondents are graduates. The remaining 22 percent of the respondents are post-graduates.

Table No. 4
Distribution of respondents on the basis of Occupation

Occupation	Nos.	Percent
Student	39	39.0
Pvt. Employee	20	20.0
Business/Self-Employed	14	14.0
Retired	7	7.0
Govt. Employee	12	12.0
Other	8	8.0
Total	100	100.0

(Source: Primary Data)

Out of all the respondents, 39 (39 percent) are students. 20 passengers (20 percent) covered under the study are working as private employees and 14 passengers (14 percent) are doing business or self-employed. While 7 percent of the respondents are retired, 12 percent are working in Government sector. The remaining 8 percent consist of homemakers and persons doing other activities.

Table No. 5
Distribution of respondents on the basis of Regularity of Journey

Type	Nos.	Percent
Very Often	27	27.0
Often	34	34.0
Occasionally	39	39.0
Total	100	100.0

(Source: Primary Data)

The survey of the regularity of travelling in Kochi Metro revealed that 27 percent of respondents travel in metro trains very often whereas 34 percent use Kochi Metro for their travelling needs often. The remaining 39 percent resort to metro train journeys occasionally.

Service Quality Perceptions of Respondents

Table No. 6
Passengers' perception as to services included in Tangibles

S.No.	Statement	Mean	S.D
1.	The metro stations are clean and well-maintained, creating a pleasant atmosphere for commuters.	3.1400	1.15488
2.	The metro trains are modern and in good working condition, providing a safe and comfortable travel experience.	3.8300	0.84154

3.	The signage and way finding in the stations are clear and easy to understand, making it convenient for passengers to navigate.	3.3800	1.13511
4.	The ticketing and fare collection system is efficient, minimizing waiting times for purchasing tickets.	2.9700	1.23464
5.	The metro staffs are courteous and helpful, providing excellent customer service to passengers.	3.1400	1.18935
Tangibles		3.2920	0.89371

(Source: Primary Data)

The overall mean score for perception of passengers regarding the dimension Tangibles is 3.29, which is good, with a standard deviation of 0.8937.

Table No. 7
Passengers' perception as to services included in Reliability

S.No.	Statement	Mean	S.D.
1.	The metro trains operate on schedule, with minimal delays and interruptions.	2.61	1.221
2.	The metro service is dependable, and metro trains arrive and depart as per the announced timetable.	3.55	1.034
3.	The metro rail service provides accurate and timely information about service disruptions or changes.	3.55	1.06
4.	The metro staffs are competent in handling unexpected situations and providing prompt assistance to passengers.	2.98	.987
5.	The metro system maintains a consistent level of service quality during peak and off-peak hours.	3.24	1.10
Reliability		3.2365	0.947

(Source: Primary Data)

The overall perception of passengers regarding the service quality dimension reliability is good with a mean score 3.186 and standard deviation of 1.07, which shows people are satisfied with the metro rail services.

Table No. 8
Passengers' perception as to services included in Responsiveness

S.No.	Statement	Mean	S.D.
1	The metro staff responds promptly to customer inquiries and requests for assistance	2.8700	0.96038
2	The metro service personnel are willing to go the extra mile to help passengers with their needs.	2.7700	0.98324
3	The metro service personnel are willing to go the extra mile to help passengers with their needs.	3.3000	1.02986
4	The metro service providers handle customer complaints efficiently and aim to resolve issues promptly.	2.9800	0.79536
5	The metro system ensures timely updates and notifications about any changes or disruptions to the service.	3.234	0.943
		2.9803	0.79541

	Responsiveness		
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(Source: Primary Data)

The overall perception of passengers regarding the service quality dimension responsiveness is low with a mean score 2.9803 and standard deviation of 0.795, which shows people are dissatisfied with the metro rail services.

Table No. 9
Passengers' perception as to services included in Assurance

S.No.	Statement	Mean	S.D.
1	The metro staffs possess the necessary knowledge and skills to assist customers effectively.	3.5300	0.90403
2	The metro service personnel are reliable and consistently deliver the promised level of service.	3.2600	1.10664
3	The metro system provides accurate and up-to-date information to build trust and confidence in customers.	3.2700	0.99346
4	The metro staffs are courteous and professional in their interactions, making customers feel valued and respected.	2.3200	1.08134
5	The metro service providers are transparent in their communication; ensuring customers are well-informed about their options.	3.0950	0.76275
	Assurance	3.094	0.7625

(Source: Primary Data)

The overall perception of passengers regarding the service quality dimension Assurance is good with a mean score 3.094 and standard deviation of 0.7625, which shows people are satisfied with the metro rail services

Table No. 10
Passengers' perception as to services included in Empathy

S.No.	Statement	Mean	S.D.
1	The metro staffs listen actively to customer feedback and takes their concerns seriously.	2.4700	0.93695
2	The metro service providers show a genuine interest in understanding customers' specific requirements.	3.2200	1.01085
3	The metro staffs are willing to personalize services to meet individual passenger needs whenever possible.	2.3600	0.95896
4	The metro service personnel display patience and empathy when dealing with customers' concerns or complaints.	2.6833	0.81011
5	The metro system values customer feedback and uses it to improve service quality and customer satisfaction	2.976	0.884
	Empathy	2.68	0.810

(Source: Primary Data)

The overall perception of passengers regarding the service quality dimension Empathy is low with a mean score 2.68 and standard deviation of 0.810, which shows people have low satisfaction with the metro rail services

Table No. 11
Passengers' perception as to overall service quality- SERVQUAL

Dimensions	Scores	
	Mean	SD
Tangibles	3.292	0.89371
Reliability	3.2365	0.94317
Responsiveness	2.9803	0.79541

Assurance	3.095	0.76275
Empathy	2.6829	0.81057
SERVQUAL	3.05734	0.70894

(Source: Primary Data)

From the table, it can be understood that Tangibles, Reliability and Assurance are three service quality dimensions which are found to be positively perceived by passengers of Kochi Metro. All the three have mean scores greater than the overall service quality of 3.05734, with scores 3.292, 3.2365 and 3.095 respectively. Tangibles are the dimension which the passengers have perceived to have more service quality. At the same time, passengers' perception about service quality dimensions Responsiveness and Empathy are not good, both securing mean scores below overall service quality, 2.980 and 2.682 respectively. Empathy is that dimension which is found to have least service quality.

Table No. 12
Assessment of SERVQUAL in the Kochi Metro based on Gender

Dimensions	Male		Female	
	Mean	SD	Mean	SD
Tangibles	3.3420	0.86575	3.1806	0.95827
Reliability	3.3333	0.89133	3.0215	1.03256
Responsiveness	3.0773	0.73686	2.7632	0.88692
Assurance	3.1920	0.69285	2.8790	0.87290
Empathy	2.6763	0.75401	2.6989	0.93632
SERVQUAL	3.1242	0.65535	2.9087	0.80731

(Source: Primary Data)

The overall perception of male passengers regarding the quality of all the services is above average with a mean score of 3.12 and standard deviation of 0.66. But females perceived the overall service quality to be worth a mean score of 2.91 with a standard deviation of 0.80. Thus, from Table, it can be understood that male passengers have a better perception of overall service quality of Kochi Metro than women, when gender is taken as the base.

Since there is a gender wise difference in the averages, the following hypothesis is proposed to be tested.

H₀: There is no significant difference in average scores of service quality dimensions as well as that of overall service quality between male and female.

H_a: There is significant difference in average scores of service quality dimensions as well as that of overall service quality between male and female.

Table No. 13
Gender-wise 't'-test for Equality of Means

SERVQUAL Dimensions	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Significance	T	d f	Significance
Tangibles	0.243	0.623	0.834	98	0.406
Reliability	2.405	0.124	1.540	98	0.127
Responsiveness	2.317	0.131	1.847	98	0.068
Assurance	4.109	0.045	1.924	98	0.057
Empathy	3.907	0.051	-0.128	98	0.898
SERVQUAL	1.905	0.171	1.413	98	0.161

(Source: Primary Data)

In case of all the service quality dimensions as well as overall service quality the significant values are more than 0.05. Hence, there is no significant difference in the average scores of service quality dimensions such as Tangibles, Reliability, Responsiveness, Assurance, Empathy and overall SERVQUAL based on gender.

Table No. 14
Average Scores of SERVQUAL Dimensions based on Age Group

Dimensions	Below 20		21-40		41-60		Above 60	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Tangibles	2.9529	0.7019	3.261	0.8368	3.3120	0.8368	3.8500	1.2479
Reliability	2.9020	0.8314	3.159	0.9236	3.2933	0.8012	3.8889	1.2005
Responsiveness	2.8039	0.8314	2.986	0.692	2.9600	0.6689	3.2500	1.2563
Assurance	2.8382	0.7549	3.163	0.7095	2.9900	0.7482	3.4167	0.9314
Empathy	2.2941	0.824	2.761	0.7525	2.6000	0.6667	3.1111	1.0763
SERVQUAL	2.7582	0.6406	3.0657	0.629	3.0312	0.5775	3.5033	1.1059

(Source: Primary Data)

While understanding the perception of passengers regarding the overall service quality in Kochi Metro, it is important to note that perception of people below 20 years of age is bad, whereas that of persons between 20 to 60 years of ages is almost similar and the above-60-years-of-age category has a very good opinion. The mean score given by teenagers is 2.76 with a standard deviation of 0.64 only. But the scores 3.07 and 3.03 given by passengers of age groups 21-40 and 41-60 respectively is just above average with respective standard deviations 0.63 and 0.58. Passengers above 60 years of age perceived the overall service quality to be worth a mean score of 3.5, but with a standard deviation of 1.1.

But, it is not possible to say whether these age groups perceive service quality dimensions differently by simply looking at the Table. So the following hypothesis is proposed for testing

H₀: There is no significant difference in mean scores between passengers of different age groups regarding service quality dimensions as well as overall service quality.

H_a: There is significant difference in mean scores between passengers of different age groups regarding service quality dimensions as well as overall service quality.

Table No. 15
One –Way ANOVA- SERVQUAL Dimensions based on Age Groups

SERVQUAL Dimensions	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Tangibles	Between Groups	5.745	3	1.915	2.507	.064
	Within Groups	73.328	96	.764		
	Total	79.074	99			
Reliability	Between Groups	7.364	3	2.455	2.920	.038
	Within Groups	80.702	96	.841		
	Total	88.066	99			
Responsiveness	Between Groups	1.413	3	.471	.739	.531
	Within Groups	61.213	96	.638		
	Total	62.627	99			
Assurance	Between Groups	2.851	3	.950	1.666	.179
	Within Groups	54.746	96	.570		
	Total	57.598	99			
Empathy	Between Groups	5.221	3	1.740	2.796	.044
	Within Groups	59.751	96	.622		
	Total	64.972	99			
SERVQUAL	Between Groups	3.928	3	1.309	2.743	.047
	Within Groups	45.822	96	.477		
	Total	49.751	99			

(Source: Primary Data)

One-Way ANOVA is used to test the hypothesis. Each component was tested independently and the test results are presented in Table. The significance values of Tangibles (0.064), Responsiveness (0.531) and Assurance (0.179) are above 0.05, and hence there is no significant difference between mean perceptions of passengers of different age groups regarding these three dimensions. The significance values of Reliability, Empathy and SERVQUAL are respectively 0.038, 0.044 and 0.047. These values are below 0.05 and hence the differences in averages between different age groups are significant. Therefore, there is age group difference between mean scores of service quality perceptions regarding to Reliability, Empathy and SERVQUAL.

Since there are four categories of passengers based on age, the significance of mean difference between each pair of groups can be tested to identify which all age groups have significantly higher or lower service quality perception.

Table No. 16
Average Scores of SERVQUAL Dimensions based on Educational Qualification

Dimensions	Primary		Pre-degree/+2		Graduate		Post Graduate	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Tangibles	2.800	1.1313	3.216	0.8735	3.368	0.9177	3.245	0.8835
Reliability	3.166	0.2357	3.080	0.8886	3.366	0.9267	3.121	1.076
Responsiveness	2.500	0.7071	2.826	0.9185	3.032	0.7310	3.075	0.8095
Assurance	2.375	0.1767	2.910	0.7735	3.215	0.8000	3.090	0.6387
Empathy	2.333	0.4714	2.453	0.8437	2.810	0.8199	2.681	0.7451
SERVQUAL	2.635	0.4737	2.897	0.7268	3.158	0.7132	3.043	0.6861

(Source: Primary Data)

From the table, it can be understood that perception of passengers regarding overall service quality changes as their educational qualification changes. When persons with lower qualifications showed altogether negative perceptions, passengers with graduation or above showed comparatively good perception regarding service quality. The mean perception of passengers with primary education is 2.64 with a standard deviation 0.47. At the same time persons who have qualified pre- degree or plus two perceived the overall service quality to be worth a mean score 2.9 with standard deviation 0.73. While the mean perception of graduates amounted to 3.16 with standard deviation 0.71, the same showed by post graduates are respectively 3.04 and 0.69.

Table No. 17
Average Scores of SERVQUAL Dimensions based on Occupation

Dimensions	Occupation	Tangibles	Reliability	Responsiveness	Assurance	Empathy	SERVQUAL
		Mean	SD	Mean	SD	Mean	SD
□	Student	2.9692	2.9316	2.8889	3.0321	2.5470	2.8738
		0.69364	0.78799	0.69389	0.70286	0.81466	0.60037
□	Pvt. Employee	3.4200	3.1500	2.9667	2.9750	2.7167	3.0457
		0.83829	1.07320	0.73270	0.80255	0.71144	0.65620
□	Business/SE	3.6571	3.8095	3.1667	3.3036	2.8571	3.3588
		0.99361	0.71270	0.71312	0.80967	0.79221	0.69739
□	Retired	4.1429	4.0952	3.4286	3.4643	3.1905	3.6643
		0.75467	0.83254	1.01314	0.63621	0.81325	0.64542
□	Govt. Employee	3.3833	3.3056	3.0556	3.1042	2.6111	3.0919
		0.94372	1.03921	0.96225	0.77209	0.83887	0.78181

Other	Mean	3.0250	3.0833	2.6250	3.0000	2.6250	2.8717
	SD	1.15851	0.93859	1.06066	1.00000	1.01477	0.99058

(Source: Primary Data)

Students and persons doing other activities have the worst perception regarding overall service quality of Kochi Metro, both giving a mean score of 2.87, but different standard deviations- 0.6 by students and 0.99 by others. Private employees and public sector employees perceived the overall service quality to be just above the average, the respective mean scores being 3.05 and 3.09. But self-employed persons and retired persons both have comparatively good perception regarding the overall service quality. While the mean and standard deviation of business people are respectively 3.36 and 0.7, the senior citizens have the best perception for the overall service quality of Kochi Metro with mean score 3.66 and standard deviation 0.65.

Table No. 18
Average Scores of SERVQUAL Dimensions based on Regularity of Journey

Dimensions	Very Often		Often		Occasional	
	Mean	SD	Mean	SD	Mean	SD
Tangibles	3.3407	0.93284	3.2353	0.85347	3.3077	0.92092
Reliability	3.3086	1.05784	3.1176	0.87572	3.2906	0.93088
Responsiveness	3.0741	0.74152	2.8725	0.81242	3.0085	0.82536
Assurance	3.1667	0.84067	2.8897	0.74669	3.2244	0.69961
Empathy	2.6790	0.82421	2.5686	0.75892	2.7863	0.84979
SERVQUAL	3.1138	0.75936	2.9368	0.66001	3.1235	0.71877

(Source: Primary Data)

Regarding the overall service quality perceptions passengers based on the regularity of travel, such as passengers who travel very often, passengers who travel often and occasional travellers roam just around the average score. While the overall service quality perceptions of very often and occasional travellers are slightly positive with respective mean scores 3.11 and 3.12 and respective standard deviations 0.76 and 0.72, the mean score of 2.94 given by passengers who travel often is slightly negative, with a standard deviation of 0.66. The overall understanding from analysis shows that passengers who travel very often and passengers who travel occasionally have almost similar perception regarding service quality.

Summary of Findings

- From the analysis it is clear most of the passengers of Kochi Metro are males, who constitute 69 percent, when classified according to gender.
- About 46 percent of the passengers are between the age group 21-40. While the teens constituted 17 percent of travellers, the senior citizens amounted to 12 percent. Others are of the age group 41-60.
- 51 percent of the respondents are graduates and 22 percent are post-graduates. 25 percent of the passengers have qualified pre-degree or plus two and only 2 percent have primary education.
- 39 percent of the respondents are students. While 20 percent work in private sector, 12 percent of the respondents are public sector employees. 14 percent are self-employed, whereas 7 percent of passengers are retired. 8 percent consist of persons doing other activities.
- 27 percent of the passengers use Kochi Metros very often for their travelling needs, whereas 34 percent use it often. Other 39 percent use Kochi Metros occasionally.

Passengers' Perception on Service Quality

- The overall service quality perception is found to be satisfactory.
- Tangibles are the dimension which is found to have more service quality perception, whereas Empathy has least perception from the part of passengers.
- Though it is found that there is no significant difference between male and female regarding overall service quality perception, analysis of the average shows that males perceive it better than females.

- For all service quality dimensions males showed better perception than females.
- Tangibles are the dimension which both males and females perceive to have comparatively better service quality.
- Empathy is the dimension which both males and females perceive to have comparatively least service quality.
- While males perceived Tangibles, Reliability, Responsiveness and Assurance to be the dimensions which have above average service quality, females perceived only Tangibles and Reliability to possess the same.
- With regard to overall service quality passengers above the age of 60 have comparatively better perception, whereas the teenagers have the least perception. It indicates that as age increases, the perception also gets improved.
- Passengers below the age 20 have negative perception regarding quality of services in all dimensions. Though below average, Tangibles is the dimension which they perceived to be better and Empathy as the one having least service quality.
- Passengers of the age group 21-40 showed positive service quality perception towards Tangibles, Reliability and Assurance. Empathy is the dimension which this age group also perceived as the worst, with mean value less than average.
- Passengers of the age group 41-60 have better perception regarding quality of services included in Tangibles and Reliability.
- Passengers above the age 60 have positive perception regarding service quality in all dimensions.
- It is also found that the differences in mean perceptions of Tangibles, Responsiveness and Assurance between different age groups are not significant.
- While graduates and post-graduates showed better perception regarding overall service quality, passengers having qualification below graduation showed negative perception.
- While retired passengers perceived better overall service quality, students and persons doing other activities perceived below average service quality.
- Assurance is the only dimension that students perceived to have above average service quality and Empathy as the one with least service quality.
- For private employees Tangibles and Reliability are the dimensions having better perception. Empathy is the one perceived to be worst.
- Business or self-employed people have positive perception regarding all dimensions except Empathy. But they considered Reliability to be the most important among them.
- It is found that the overall service quality perceptions of persons undertaking journeys very often and those undertaking journeys occasionally are almost similar and positive. Whereas, the overall service quality perception of passengers who travel often is not up to the mark.
- The passengers who travel very often perceived all dimensions except Empathy to be good whereas Empathy is perceived to be really bad.

Suggestions

Maintenance of punctuality of operations is the major suggestion from the part of passengers. As it is evident from the study that the perception of passengers as to time of arrival of trains for boarding and time of reaching the destination is really bad, Kochi Metro should perform their operations on right time. There were suggestions as to improvement in the reliability of the information passed to enquiry staff and online systems. Cleanliness of the metro stations and surroundings, neatness of trains, provision of clean and healthy sanitation facilities in stations and trains should be ensured. Customer friendliness of staffs and other employees working indirectly should be improved. As customer is considered as the king, every effort has to be taken from the part of the authorities to provide proper training to employees as to maintain good relationship with passengers. It is also recommended to ensure that bribes are not taken by ticket examiners to provide access to unreserved passengers to reserved coaches. Facilities for online reservation of tickets should be improved. Improvement in the speed of the server, provision of user friendly interface etc. should be considered.

Conclusion

Providing quality products or services is essential for the survival and growth of every organization. As the quality of services increase, customers become more loyal and satisfied, which will help the

business organization to retain them and thereby achieve its objectives. As service quality is related to expectations of customers and experiences of customers, it can be improved by timely understanding of these expectations and experiences and ensuring that experienced quality is always in match with expected quality. I would like to conclude that, though the perception of passengers regarding overall service quality is satisfactory, there is a lot for Kochi Metros to improve. Satisfactory service quality is far down from good service quality, which may be attained only if effective and firm action is taken from the part of authorities.

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