

Comparative Analysis of Consumer Satisfaction: Service Quality of Kochi Metro Rail Limited vs. Local Public Transport (Buses)

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Abstract

Despite a geometric increase in travel demand, Kerala has seen a decline in the use of public transportation in recent years. Inadequate infrastructure and service quality are a few causes of the decline. The secret to keeping current customers and luring new ones is to offer good service quality to suit the expectations of the customers. Both academic research and the public and private service industries, where managers are prone to customer-focused service and continual performance improvement, have shown a great deal of interest in the topic of service quality. The researcher aims to study the comparison of customer perception of the service quality of the Kochi metro to other public transport namely local buses. To what extent the government's plan to introduce metro trains is beneficial to people, particularly passengers? How far are the passengers satisfied with the services provided by Kochi metro and local buses? What are the problems faced by them? The study throws light on the above questions. The research aims to study the comparison of customer perception of the service quality of the Kochi metro to other public transport namely local buses. To have a thorough grasp of consumer perception, it seeks to connect with more than 200 inhabitants of Kochi. The fundamental variables examined are the five key service quality attributes: reliability, assurance, tangibility, empathy, and responsiveness. The findings will redound to the benefits of society considering that service quality plays a major role in customer satisfaction.

Keywords: Service Quality, Customer Satisfaction, Passenger perception, Reliability, Assurance, Tangibility, Empathy, Responsiveness

Introduction

Service quality is a critical factor in public transportation, influencing customer satisfaction and fostering increased ridership. Improved public transport can reduce reliance on private vehicles, addressing issues like traffic congestion, pollution, and energy consumption. Kochi Metro, the first metro system in India integrating road, rail, and water transport hubs, has set a benchmark for sustainable urban transit. Its green initiatives, including solar power, vertical gardens, and non-motorized transport routes, along with its inclusive employment policies involving Kudumbasree workers and the transgender community, have garnered widespread recognition.

Kochi's public transport system, historically dominated by private and KSRTC-operated buses, plays a significant role in connecting the city and its suburbs. With major terminals like Kaloor and Fort Kochi, the city has relied on a well-established network to meet travel demands. This study explores passenger satisfaction with Kochi Metro, comparing it with the existing bus system, while assessing its societal benefits, including job creation, tourism, and overall urban growth.

Statement of Problem

Public transport use in Kerala has declined despite rising travel demand, due to poor service quality and infrastructure. This study examines public perceptions, analyzing five service quality attributes and overall satisfaction with Kochi Metro and local buses.

Review of Literature

Customer Satisfaction

Customer satisfaction plays a significant role in business profitability. High satisfaction leads to positive word-of-mouth, which significantly impacts sales and business growth. Gitomer (1998) suggests that dissatisfied customers share their negative experiences with 15-20 people, while satisfied ones typically recommend the service to others. According to Keiningham & Vavra (2001), a 1% increase in customer satisfaction correlates with a 2.37% ROI increase. Ensuring high customer satisfaction is critical for retaining clients and fostering business success (Anderson & Zemke, 1998).

Reliability

Reliability is crucial in determining customer perceptions of service quality. Zeithaml et al. (2003) highlight that customers prefer businesses that consistently fulfill their promises. A

reliable service enhances customer satisfaction by ensuring that their expectations are met. A.Appu and S.G. Balaji (2017) suggest that timely availability and problem-solving ability in transportation systems are key to enhancing reliability and customer fulfillment.

Assurance

Assurance refers to employees' knowledge, courtesy, and their ability to inspire trust and confidence in customers (Zeithaml et al., 2003). This dimension is particularly important for services perceived as high-risk, such as transportation. Kochi Metro's efforts to integrate different modes of transport and ensure passenger safety demonstrate the importance of assurance in building customer trust (Kochi Metro Rail Limited, 2016).

Tangibility

Tangibles represent physical cues that customers use to assess service quality. Vivek Kumar (2015) emphasizes the importance of modern, well-maintained infrastructure and clear signage in metro services to enhance the customer experience. Tangibility plays a vital role in creating a positive first impression, which in turn impacts customer satisfaction in public transportation systems like Kochi Metro.

Empathy

Empathy involves providing personalized, caring attention to customers. Zeithaml et al. (2003) describe it as making customers feel valued and unique. Emmanuel Jose (2004) highlights the importance of timely, attentive services by metro employees. Empathy fosters loyalty by addressing customer needs with care, which is essential for ensuring customer satisfaction in services like Kochi Metro.

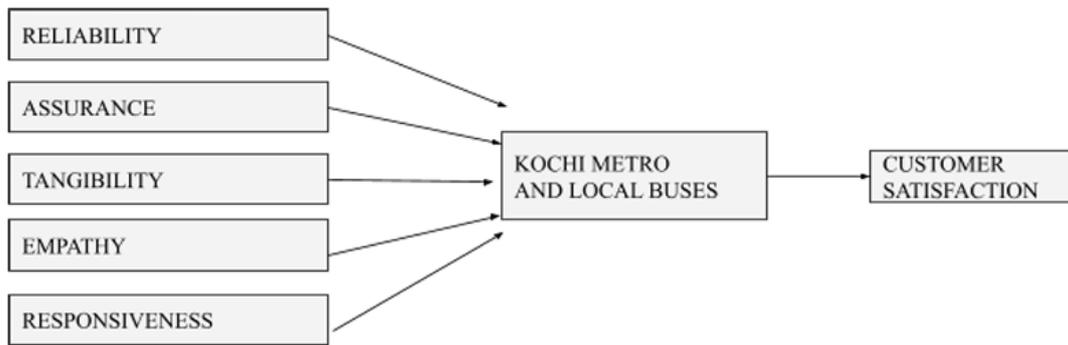
Responsiveness

Responsiveness is defined as the willingness and ability of service providers to assist customers promptly (Zeithaml et al., 2003). In public transport, responsiveness involves quickly addressing passenger concerns and needs. Ensuring timely responses to queries and complaints is essential for maintaining customer satisfaction, which influences passengers' overall experience and perception of metro services.

Objectives of the Study

- To examine the connection between reliability and customer satisfaction.
- To explore the impact of assurance on customer satisfaction.
- To analyze how tangibility influences customer satisfaction.
- To evaluate the role of empathy in enhancing customer satisfaction.
- To investigate the effect of responsiveness on customer satisfaction.

Conceptual Model



Research Hypotheses

Hypothesis 1: A significant relationship exists between tangibility and customer satisfaction.

Hypothesis 2: A significant relationship exists between reliability and customer satisfaction.

Hypothesis 3: A significant relationship exists between assurance and customer satisfaction.

Hypothesis 4: A significant relationship exists between empathy and customer satisfaction.

Hypothesis 5: A significant relationship exists between responsiveness and customer satisfaction.

Research Methodology

Data Collection: Data collection methods include primary and secondary techniques. Primary data is gathered through surveys, case studies, and observations. Secondary data includes previously collected information from public or unpublished sources. In this study, questionnaires and secondary data were utilized for understanding consumer perceptions and industry profiles.

Sampling: The population includes Kochi residents who have used Kochi Metro and local buses. A sample size of 200 respondents was chosen, with data collected via social media platforms like WhatsApp and email. This ensures a manageable sample within time and resource limits.

Sampling Technique: Convenience sampling was used in this study, where respondents were selected based on availability. This non-probability sampling technique ensures easy access to participants who are readily available for the survey.

Tools Used for Data Collection

A questionnaire was designed with two parts: demographic information and factors influencing consumer perception. The second part uses a Likert Scale for responses, helping to analyze customer satisfaction with attributes of Kochi Metro and local buses.

Data Analysis Technique

Data was analyzed using SPSS software (version 20). The analysis tools included Chi-square test, comparison of means, and independent sample T-test to evaluate the relationships between different variables and customer satisfaction.

Data Analysis and Interpretation

Table No. 1.1 (a)
Demographic details of Respondents

Demographic	Category	Number of	Percentage
Gender	Male	93	46.3%
	Female	108	53.7%
	Total	201	100%
Age	Below 20	75	37.3%
	21–40 years	114	56.7%
	41–60 years	9	4.5%
	Above 60	3	1.5%
	Total	201	100%
Educational Qualification	Postgraduate / Above	19	9.5%
	Graduate	108	53.7%
	12 th / Below	74	36.8%
	Total	201	100%
Occupation	Government Employee	4	2.0%
	Private Employee	21	10.4%
	Business	11	5.5%
	Student	159	79.1%
	Unemployed	6	3.0%
	Total	201	100%
Annual Income	Less than ₹1,00,000	141	70.1%
	₹1,00,001–₹2,00,000	17	8.5%
	₹2,00,001–₹3,00,000	15	7.5%
	₹3,00,001–₹4,00,000	5	2.5%
	Above ₹4,00,000	23	11.4%
	Total	201	100%

Table 1.1 (a), shows the demographic details of respondents. It is shown that out of 201 respondents, 46.3% are male and 53.7% are female. In the age group 37.3% of respondents fell below the age of 20, 56.7% between 21 - 40 years, 4.5% between 41 - 60 years and 1.5% above 60 years of age. In the Educational qualification category 9.5% are post graduates and

above, 53.7% are graduates and 36.8% have the qualification of 12th and below. In the Occupation group 2.0% are government employees, 10.4% are private employees, 5.5% run businesses, 79.1% are students and 3.0% are unemployed. Finally 70.1% earn an annual income of less than 1,00,000, 8.5% earn between 1,00,001 - 2,00,000, 7.5% earn between 2,00,001 - 3,00,000, 2.5% earn between 3,00,001 - 4,00,000 and 11.4% earn above 4,00,000.

Test of Association between Tangibility attribute and customer satisfaction with Kochi metro and Local buses.

H1: There is a relationship between tangibility and customer satisfaction.

It was analysed that from 201 respondents 185 respondents have high satisfaction on the Tangibility attribute of Kochi metro whereas from 201 respondents 144 respondents have low satisfaction with the tangibility attribute of Local buses.

Table 1.2 (a) showing the chi-square test for tangibility of Kochi metro and customer satisfaction

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	32.659a	3	.000
Likelihood Ratio	23.439	3	.000
Linear-by-Linear association	24.285	1	.000
N of Valid Cases	201		

Table 1.2 (a) analysis of the data using the Chi-square test showed that the chi square statistic is 32.659. The same row's "Asymptotic Significance (2-sided)" column has the p-value (.000). The null hypothesis, which states that the two variables are independent of one another, would be rejected in this situation since the p-value is less than the typical alpha value (0.05).

Table 1.2 (b) showing the chi-square test for tangibility of Local bus and customer satisfaction

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.441a	4	.000
Likelihood Ratio	28.504	4	.000
Linear-by-Linear Association	24.869	1	.000
N of Valid Cases	201		

The Chi-square test was used to analyse the data, and the results are shown in Table 1.2(b); the value of the Chi-Square statistic is 27.441. The same row's "Asymptotic Significance

(2-sided)" column has the p-value (.000). The null hypothesis, which states that the two variables are independent of one another, would be rejected in this situation since the p-value is less than the typical alpha value (0.05).

From table 1.2(a) and 1.2(b) it is evident that H1: There is a relationship between tangibility and customer satisfaction. Hence Accepted.

Test of association between reliability attribute and customer satisfaction towards Kochi metro and Local buses.

H2: There is a relationship between reliability and customer satisfaction

According to analysis, out of 201 respondents, 170 had great satisfaction with the Kochi metro's reliability characteristic, while 134 out of 201 respondents have low satisfaction with the reliability attribute of local buses.

Table 1.3(a) Table showing the chi-square test for reliability of Kochi metro and customer satisfaction.

Table 1.3 (a) Chi Square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.226a	3	.000
Likelihood Ratio	23.035	3	.000
Linear-by-Linear Association	22.887	1	.000
N of Valid Cases	201		

Table 1.3(a)'s analysis of the data using the Chi-square test yielded the chi square statistic value of 24.226. We would reject the null hypothesis that the two variables are independent of one another in this situation since the p-value (.000) is less than the accepted alpha value, $p < 0.05$.

Table 1.3 (b) Table showing the chi-square test for reliability of Local bus and customer satisfaction

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.509a	4	.000
Likelihood Ratio	33.399	4	.000
Linear-by-Linear Association	23.527	1	.000
N of Valid Cases	201		

Table 1.3(b) of the results of the Chi-square test analysis of the data showed that the value of the chi square statistic is 30.509. Since the p-value (.000) is less than the threshold

alpha value (0.05), the null hypothesis that the two variables are unrelated to one another is rejected.

From table 1.3(a) and 1.3(b) it is evident that H2: There is a relationship between reliability and customer satisfaction. Hence Accepted.

Test of association between assurance of Kochi metro and customer satisfaction of Kochi metro

H3: There is a relationship between assurance and customer satisfaction.

Analysis revealed that 183 of the 201 respondents were extremely satisfied with the Kochi metro's assurance feature, while 134 of the 201 respondents were dissatisfied with local buses' assurance attribute.

Table 1.4(a) Table showing the chi-square test for assurance of Kochi metro and customer satisfaction

	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>
<i>Pearson Chi-Square</i>	<i>51.736a</i>	<i>3</i>	<i>.000</i>
<i>Likelihood Ratio</i>	<i>32.370</i>	<i>3</i>	<i>.000</i>
<i>Linear-by-Linear Association</i>	<i>30.986</i>	<i>1</i>	<i>.000</i>
<i>N of Valid Cases</i>	<i>201</i>		

Chi-square analysis of the data [Table 1.4(a)] showed that the value of the chi square statistic is 51.738. We would reject the null hypothesis that the two variables are independent of one another because the *p*-value (.000) is less than the accepted alpha value (0.05).

Table 1.4(b) Table showing the chi-square test for assurance of Local bus and customer satisfaction

	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>
<i>Pearson Chi-Square</i>	<i>34.476a</i>	<i>4</i>	<i>.000</i>
<i>Likelihood Ratio</i>	<i>34.995</i>	<i>4</i>	<i>.000</i>
<i>Linear-by-Linear Association</i>	<i>30.954</i>	<i>1</i>	<i>.000</i>
<i>N of Valid Cases</i>	<i>201</i>		

Analysis of the data using Chi-square test [Table 1.4(b)] revealed that the value of the chi square statistic is 34.476. The *p*-value (.000) appears in the same row in the “Asymptotic Significance (2-sided)” column. In this case, the *p*-value is smaller than the standard alpha value (0.05), so we’d reject the null hypothesis that asserts the two variables are independent of each other.

From table 1.4(a) and 1.4(b) it is evident that H3: There is a relationship between assurance and customer satisfaction. Hence Accepted.

Test of association between responsiveness of Kochi metro and customer satisfaction of kochi metro

H4: There is a relationship between responsiveness and customer satisfaction

Analysis revealed that 174 of the 201 respondents were extremely satisfied with the Kochi metro's responsiveness feature, while 143 of the 201 respondents were dissatisfied with local buses' responsiveness attribute.

Table 1.5(a) Table showing the chi-square test for responsiveness of Kochi metro and customer satisfaction

	Value	df	Asymp. Sig.(2-sided)
Pearson Chi-Square	13.101 ^a	3	.004
Likelihood Ratio	10.227	3	.017
Linear-by-Linear Association	8.836		
N of Valid Cases	201	1	.003

Analysis of the data using Chi-square test [Table 1.5(a)] revealed that the value of the chi square statistic is 13.101. The *p*-value (.000) appears in the same row in the “Asymptotic Significance (2-sided)” column. In this case, the *p*-value is smaller than the standard alpha value (0.05), so we’d reject the null hypothesis that asserts the two variables are independent of each other.

Table 1.5(b) Table showing the chi-square test for responsiveness of Local bus and customer satisfaction

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.476 ^a	4	.000
Likelihood Ratio	34.995	4	.000
Linear-by-Linear Association	30.954	1	.000
N of Valid Cases	201		

Analysis of the data using Chi-square test [Table 1.5(b)] revealed that the value of the chi square statistic is 34.476. The *p*-value (.000) appears in the same row in the “Asymptotic Significance (2-sided)” column. In this case, the *p*-value is smaller than the standard alpha value (0.05), so we’d reject the null hypothesis that asserts the two variables are independent of each other.

From table 1.5(a) and 1.5(b) it is evident that H4: There is a relationship between responsiveness and customer satisfaction. Hence Accepted.

Test of association between empathy of Kochi metro and customer satisfaction of Kochi metro

H5: There is a relationship between empathy and customer satisfaction

Analysis revealed that 177 of the 201 respondents were extremely satisfied with the Kochi metro's empathy feature, while 105 of the 201 respondents were dissatisfied with local buses' empathy attribute.

Table 1.6(a) Table showing the chi-square test for empathy of Kochi metro and customer satisfaction

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.420 ^a	3	.004
Likelihood Ratio	14.643	3	.002
Linear-by-Linear Association	12.315	1	.000
N of Valid Cases	201		

The results of a Chi-square test analysis of the data [Table 1.6(a)] showed that the chi square statistic is 13.420. The null hypothesis, which states that the two variables are independent of one another, would be rejected because the p-value (.004) is less than the usual alpha value (0.05).

Table 1.6(b) Table showing the chi-square test for empathy of Local bus and customer satisfaction

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.457 ^a	4	.000
Likelihood Ratio	22.442	4	.000
Linear-by-Linear Association	18.966	1	.000
N of Valid Cases	201		

Analysis of the data using Chi-square test [Table 1.6(b)] revealed that the value of the chi square statistic is 20.457. The p-value (.000) is smaller than the standard alpha value (0.05), so we'd reject the null hypothesis that asserts the two variables are independent of each other.

From table 1.6(a) and 1.6(b) it is evident that H5: There is a relationship between empathy and customer satisfaction. Hence Accepted.

Comparative Study of General consumer perception of Tangibility in Kochi metro and Local Bus Vis-À-Vis consumers' expectation on the service quality of public transport.

Table 1.7(a) shows the mean perception of tangibility attribute of Kochi metro and local bus and the tangibility expectation of public transport

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
<i>Tangibility mean metro</i>	201	2.00	5.00	4.2388	.66158
<i>Tangibility mean LB</i>	201	1.00	5.00	2.7687	1.10791
<i>Exp MEAN TANGIBIL ITY</i>	201	1.00	5.00	3.7861	1.05783
<i>Valid N (listwise)</i>	201				

It is clear from tables 1.7(a) that Kochi Metro offers a high degree of satisfaction with relation to the Tangibility attribute of service quality. The average consumer expectation on the tangibility attribute of public transport is only 3.7961, whereas the average consumer perception of the Kochi metro's tangibility attribute is 4.2388. Meanwhile, the average consumer perception of the tangibility of local buses is only 2.7687. Thus, local business services should strive to offer equipment that looks contemporary and visually appealing.

Comparative Study of General consumer perception of reliability in Kochi metro and Local Bus Vis-À-Vis consumers' expectation on the service quality of public transport.

Table 1.8(a) shows the mean perception of reliability attribute of Kochi metro and local bus and the reliability expectation of public transport

	<i>N</i>	<i>Minimum</i>	<i>Maximu</i>	<i>Mean</i>	<i>Std. Deviation</i>
<i>Reliability mean metro</i>	20	2.00	5.00	4.0846	.70909
<i>Reliability mean local bus</i>	20	1.00	5.00	2.9751	1.03532
<i>EXP MEAN ELIABILITY</i>	201	1.00	5.00	3.9801	.95896
<i>Valid N (listwise)</i>	20				

Table 1.8(a) makes it abundantly evident that Kochi Metro provides a high level of satisfaction in respect to the reliability attribute of service quality. Average consumer perception of the reliability characteristic of the Kochi metro is 4.0846, compared to

only 3.9801 average consumer expectation for the reliability attribute of public transportation. The average consumer's opinion of how reliable local buses are being merely 2.9751. Hence, local buses should work to provide adequate service availability, and staff members should be eager to address customers' questions.

Comparative Study of General consumer perception of assurance in Kochi metro and Local Bus Vis-À-Vis consumers' expectation on the service quality of public transport.

Table 1.9(a) shows the mean perception of assurance attribute of Kochi metro and local bus and the assurance expectation of public transport

	N	Minimum	Maximum	Mean	Std. Deviation
Mean assurance metro	201	1.00	5.00	4.2090	.71318
Mean assurance LB	201	1.00	5.00	2.8632	1.10451
MEAN ASSURANCE EXP	201	1.00	5.00	4.1692	1.03501
Valid N (listwise)	201				

In terms of the assurance aspect of service quality, Kochi Metro offers a high level of satisfaction, as shown by Table 1.9(a). Compared to only 4.1692 average consumer expectations for the assurance attribute of public transportation, average consumer perception of the assurance characteristic of the Kochi metro is 4.2090 and the assurance mean of local buses are merely 2.8632. So, local bus staff should try to create a suitable safe atmosphere, and the staff should be knowledgeable.

Comparative Study of General consumer perception of responsiveness in Kochi metro and Local Bus Vis-À-Vis consumers' expectation on the service quality of public transport.

Table 1.10(a) shows the mean perception of responsiveness attribute of Kochi metro and local bus and the responsiveness expectation of public transport

	N	Mini	Maximu	Mean	Std. Deviation
Mean responsiveness metro	201	1.00	5.00	4.0498	.77137
Mean responsiveness LB	201	1.00	5.00	2.8159	1.12403
Exp MEAN RESPONSIVENESS	201	1.00	5.00	4.1343	.97307
Valid N (list wise)	201				

The responsiveness attribute is displayed in Table 1.10 (a). Average customer perception of the assurance feature of the Kochi metro is only 4.0498, and the responsiveness mean of local buses is only 2.8159, as opposed to only 4.1343 average consumer expectations for the responsiveness attribute of public transportation. Hence, employees of the local bus and Kochi Metro should be eager to assist commuters.

Comparative Study of General consumer perception of empathy in Kochi metro and Local Bus Vis-À-Vis consumers' expectation on the service quality of public transport.

Table 1.11(a) shows the mean perception of empathy attribute of Kochi metro and local bus and the empathy expectation of public transport

	N	Minimu	Maximum	Mean	Std. Deviation
Mean empathy metro	201	1.00	5.00	4.0746	.75293
Mean empathy local bus	201	1.00	5.00	3.2040	1.05862
Exp MEAN EMPATHY	201	1.00	5.00	3.9701	.99955
Valid N (list wise)	201				

Table 1.11(a) shows the empathy attribute. Average customer expectations for the empathy attribute of public transportation are just 3.9701, compared to 4.0746 average customer perceptions for the Kochi metro's empathy attribute and only 3.2040 average customer expectations for the empathy attribute of public transportation. Hence, local bus services ought to give women and children extra consideration, and they ought to run at convenient times.

Difference in the consumer satisfaction of KMRL and Local buses with respect to Gender of respondents.

An independent sample T-Test is performed to test if there is a significant difference in the consumer satisfaction of KMRL and Local buses with respect to Gender of respondents.

Table 1.12(a) Shows the variation between consumer satisfaction of KMRL and Local Buses with respect to Gender

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	sig.	t	df	sig. (2-tailed)
Satisfaction metro Equal variances assumed	1.265	.262	-.215	199	.830
Satisfaction local bus Equal variances assumed	2.210	.139	1.297	199	.196

An independent sample t-test revealed that customer satisfaction of metro is comparatively greater for females (F=4.27) than men (M=4.25) meanwhile the customer satisfaction of Local buses is greater for male (M=3.14) compared to females (F=2.98). Since the $p > 0.05$ for both customer satisfaction of metro and logical buses, it can be said that there is no significant difference in consumer satisfaction for both KMRL and Local buses with respect to gender.

Difference in the commuter's recommendation of KMRL and Local buses with respect to Gender of respondents.

An independent sample T-Test is performed to test if there is a significant difference in the commuter's recommendation of KMRL and Local buses with respect to Gender of respondents.

Table 1.13(a) Shows the variation between commuters' recommendation of KMRL and Local Buses with respect to Gender

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	sig.	t	df	sig. (2-tailed)
Recommend metro Equal variances assumed	6.652	.011	-2.656	199	.000
Recommend local bus Equal variances assumed	1.933	.166	-.441	199	.660

An independent sample t-test revealed that female commuters are more likely to recommend metro and local buses to others than males. Since the $p < 0.05$ for commuters recommendation of metro, it can be said that there is a significant difference in commuters recommendation for KMRL with respect to gender and $p > 0.05$ for commuters recommendation of Local buses, it can be said that there is no significant difference in commuters recommendation for Local buses with respect to gender.

Findings

The demographic analysis of 201 respondents revealed that 46.3% were male and 56.7% female, with the majority (56.7%) aged between 21-40 years. Most respondents (79.1%) were students, and 70.1% earned less than ₹1,00,000 annually. Regarding transportation usage, 55.7% of respondents used Kochi Metro to visit Lulu Mall, while 60.2% used local buses for other commuting needs.

The study showed significant relationships between customer satisfaction and service quality attributes for both Kochi Metro and local buses. Tables 3.2 to 3.6 indicated that attributes such as tangibility, reliability, assurance, responsiveness, and empathy positively affected customer satisfaction for Kochi Metro, while local buses showed lower satisfaction levels in these areas. Notably, Kochi Metro exceeded consumer expectations in reliability, assurance, and empathy, while both services performed poorly in responsiveness.

Additionally, the study found that gender had no significant impact on satisfaction with both Kochi Metro and local buses. However, there was a significant difference in commuter recommendations for Kochi Metro based on gender. This comprehensive analysis supports the relationship between various service quality attributes and customer satisfaction, confirming the importance of these factors in improving public transportation services.

Suggestion

To enhance service quality, local bus services should adopt modern equipment, such as e-ticketing systems and visually clear signboards for directions. This would benefit both new and regular commuters. Moreover, timely service availability should be prioritized, with bus tracking systems to inform passengers about delays. Staff members must be trained to assist passengers politely and efficiently, ensuring they are not left waiting unnecessarily. A focus on

safety is crucial, including maintenance of buses and ensuring they operate within their capacity. Pregnant women, children, and senior citizens should receive special care, with staff ensuring safety and priority seating.

Both Kochi Metro and local bus services can benefit from eco-friendly practices like replacing paper tickets with rechargeable cards and introducing mobile ticketing via QR codes. Enhancing accessibility, such as providing clean, separate washrooms at key stations and bicycle docking stands at metro stations, would improve the commuter experience. Overcrowding can be alleviated by increasing services or reducing wait times. Additionally, introducing soothing music on public transport and addressing air emissions would contribute to a more pleasant, sustainable travel experience. Expanding the metro network and maintaining infrastructure will help meet the growing demand for efficient and reliable public transport.

Conclusion

This study evaluates the public's perspective on service quality by examining five key characteristics—responsiveness, tangibility, assurance, empathy, reliability—and their impact on overall satisfaction with local bus and Kochi Metro services. The analysis reveals that customer satisfaction is closely linked to these service quality attributes. Kochi Metro exceeds commuter expectations in most areas, except for responsiveness, while local bus services fall short across all attributes, highlighting the need for major improvements. Future research should explore factors such as cleanliness, energy sustainability, and the reasons behind commuters' preference for the metro despite higher costs, providing insights for further enhancements in service quality.

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