A Passenger Perspective on Quality of Service in Rail Transport

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ABSTRACT *Indian Railways is an Indian state-owned enterprise, owned and operated by the Government of India through the Ministry of Railways. It is one of the world's largest railway networks comprising 115,000km (71,457.687 miles) of track over a route of 65,436 km (40,660 mi) and 7,172 stations. The study is to find out the quality of service in rail transport with reference to Coimbatore junction. Services are usually defined as processes and actions that are intangible and at the same time complex to understand (Grönroos 2003, 78–80). As a service is mainly intangible, it can be hard for a customer to evaluate the quality of the process. The main objective of the study is to find out the quality of service provided to the customers and the expectations of the customers on service quality given by the railway department in Coimbatore junction. And for this purpose a sample of 200 is collected from Coimbatore junction and the respondents are those passengers travelling from Coimbatore to various cities. Percentage analysis, chi square, and factor analysis are used as statistical tool to analyze the data based on SPSS. The conclusion is that the passengers are highly dissatisfied on cleanliness of toilets in trains, the management has to look after this issue for the satisfaction of customers on delivery of service.*

Introduction

Public transportation systems provide the most efficient means for moving large number of people, especially in density populated rural and urban centers in a vast country like India. For this reason, providing services characterized by high levels of quality is very important in order to customize the users of the services and attract new users. The main objective of the study is to find out the quality of service provided to the customers and the expectations of the customers on service quality given by the railway department in Coimbatore junction.

Objectives of the study

• To know about quality of service give by railways in Coimbatore junction.

• To analyse the level of satisfaction of customers towards service quality.

• To compare the demographic profile with level of satisfaction.

Research methodology

The research methodology explains the research design being implemented in the study

• **Type of Study**
The study is descriptive in nature as the characteristics of the respondents in terms of expectations and satisfaction is studied.

• **Sample Design**
Convenience sampling method is adopted to identify the respondents. It was identified that 200 respondents used trains from Coimbatore were used for data collection .

Data Collection

The study is based on primary data collected from respondents through questionnaire. Questionnaire consists of two sections. Section one deals with demographic profile of the respondents. Section two deals satisfaction on service quality of the respondents.

Tools Used For Analysis

The data collected is analysed using SPSS package. The tools used in the study for analysis of data Percentage analysis, Chi-Square test and Factor analysis.

Analysis and interpretation
Percentage analysis

		Frequency	Percent
Gender	Male	147	73.5
	Female	53	26.5
	Total	200	100.0
Age	Below 18	8	4.0
	18-25	77	38.5
	26-35	62	31.0
	Above 35	53	26.5
Educational qualification	10th	8	4.0
	Higher secondary	8	4.0
	UG	110	55.0
	PG	74	37.0
	Total	200	100.0

Interpretation

The above table shows about the demographic profile of the respondents were out of 200 respondents 73.5% are male and 26.5% are female which shows that most of the respondents are male in our survey. In case of age 4% are from the age group of below 18, 38.5% are from the age group of 18-25, 31% are from the age group of 26-35 and 26.5% are from the age group of above 35 which shows that most of the respondents are from the age group of 18-25. In analyzing the educational qualification 4% have completed 10th, 4% are from higher secondary, 55% have completed their UG, 37% have completed PG which shows that most of the respondents have completed UG in our survey.

Factor Analysis

A total of 18 variables were identified for the purpose of collecting expectations from the service users. In order to reduce the number of variables and to identify the key factors contributing towards the expectations of services, factor analysis is performed. KMO and Bartlett's test is conducted to identify the sampling adequacy.

KMO and Bartlett's Test for customer expectations of service

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.541
Bartlett's Test of Sphericity	Approx. Chi-Square	1.582E3
	df	153
	Sig.	.000

KMO of sampling adequacy value for the service quality measures is 0.541 and it indicates that the sample is adequate to consider the data as normally distributed.

The number of factors as identified by performing the screen plot. The results are shown below,

Scree Plot
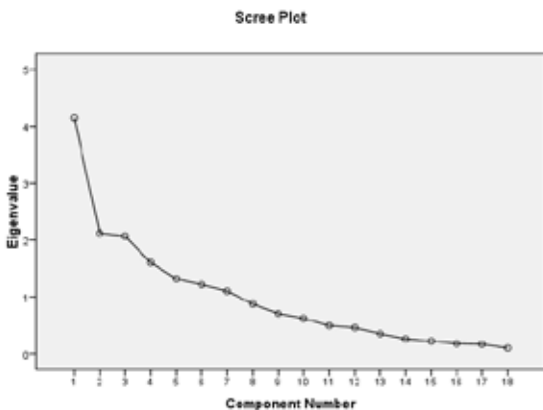
Screen plot shown the above figure gives a pictorial view of the number of components to be shortlisted and to become factors based on Eigen value. So from the above chart become three factors have been shortlisted.

Rotated component matrix is used to identify the factors after data reduction. The results are shown below,

Rotated Component Matrix							
	Component						
	1	2	3	4	5	6	7
Availability of Porters Coolies at the Station	.127	.860	-.007	.154	-.214	-.054	.158
Clarity of Announcement at Stations	.102	.609	.389	-.120	.073	.055	-.394
Cleanliness of Toilets	.721	.454	-.009	-.139	-.211	.190	.059
Unauthorized Vendors Passengers	.161	.391	-.159	.187	.169	.530	-.109
Cleanliness of Platforms	.810	.029	.064	.155	.046	-.165	.000
Late Running of Trains	.415	.108	.169	.749	-.032	.198	-.100
Punctuality	.181	.217	.610	.493	-.032	-.029	-.196
Quality of services	.271	.198	-.161	.363	.704	-.059	.036
Safety	-.060	-.046	.110	.010	.855	.207	-.020
Ambience of Waiting Rooms Rest Rooms	.100	.294	.279	.368	.148	-.661	-.007
Seating Water Trolley facilities at the Platform	-.065	-.192	-.016	.761	.220	-.053	.142
Pricing of Food	.665	-.013	.293	.043	.365	-.182	.024
Fans and Lights in the Trains	.015	.749	.013	-.171	.375	.079	.138
Satisfaction on Facilities / Particulars	.531	.049	.409	.303	-.008	.162	-.008
Satisfaction on Riding Comfort & noise while on run	.087	.086	.811	.086	-.107	-.008	.047
Satisfaction on Seating Pattern & Number of Seats	.146	-.126	.789	-.097	.227	-.105	.227
Satisfaction on Security of Passengers, especially ladies & availability of security staff on trains	-.198	.115	.230	.210	.300	.774	.271
Satisfaction on Flooring, interior & outer look	.052	.126	.140	.014	.014	.093	.926
Extraction Method: Principal Component Analysis.							
Rotation Method: Varimax with Kaiser Normalization.							
a. Rotation converged in 11 iterations.							

Interpretation

From the above table, factors above the values above 0.5 are considered. They are cleanliness of Toilets, cleanliness of Toilets, quality of services, seating water trolley facilities at the platform, fans and lights in the trains, satisfaction on seating pattern & number of seats, and Satisfaction on security of passengers, especially ladies & availability of security staff on trains and these factors can be used for the decision making process of the study.

CHI SQUARE ANALYSIS

Level of satisfaction and Gender

The hypothesis framed for analyzing the relationship between gender of the service users and satisfaction in the service delivered by railways in Coimbatore junction.

H0: There is no significant relationship between gender and satisfaction in the service delivered

Demographic Profile	CHI-Square Value	P Value	Result
Cleanliness of Toilets	40.986	0.000	Reject
Late Running of Trains	17.940	0.001	Reject
Quality of services	10.308	0.016	Reject
Seating Water Trolley facilities at the Platform	16.736	0.002	Reject
Fans and Lights in the Trains	2.763	0.598	Accept

Satisfaction on Seating Pattern & Number of Seats	19.419	0.001	Reject
Satisfaction on Security of Passengers, especially ladies & availability of security staff on trains	22.695	0.000	Reject

Interpretation

It can be inferred that there is no relationship exists between the gender and satisfaction of fans and lights in the trains as the significance level is above 0.05 and that cannot be taken for the decision making process of the company. And the factors satisfaction on cleanliness of toilets, late running of trains, quality of services, seating water trolley facilities at the platform, fans and lights in the trains, satisfaction on seating pattern & number of seats, and satisfaction on security of passengers, especially ladies & availability of security staff on trains can be taken for the decision making process as the significance level is below 0.05.

Findings

• Most of the respondents are male in our survey.

• Maximum of the respondents are from the age group of 18-25.

• Most of the respondents have completed UG in our survey.

• Based on factor analysis the factors cleanliness of toilets, cleanliness of toilets, quality of services, seating water trolley facilities at the platform, fans and lights in the trains, satisfaction on seating pattern & number of seats, and Satisfaction on security of passengers, especially ladies & availability of security staff on trains can be used for the decision making process of the study.

• In chi-square there is no relationship exists between the gender and satisfaction of fans and lights in the trains and there is a relation between gender and satisfaction on cleanliness of toilets, late running of trains, quality of services, seating water trolley facilities at the platform, fans and lights in the trains, satisfaction on seating pattern & number of seats, and satisfaction on security of passengers, especially ladies & availability of security staff on trains can be taken for the decision making process

SUGGESTIONS

• The respondents said that they are highly dissatisfied on cleanliness of toilets in trains, the management has to look after this issue for the satisfaction of customers on delivery of service.

• Most of the respondents don't have idea about security given to passengers by railways. If the concern department gives proper information about the service delivered for safety then the satisfaction level can be increased among customers on safety given to them.

• Satisfaction on cleanliness of toilets, late running of trains, quality of services, seating water trolley facilities at the platform, fans and lights in the trains, satisfaction on seating pattern & number of seats, and satisfaction on security of passengers, especially ladies & availability of security staff on trains while taking gender I to consideration in future period of time.

CONCLUSION

The study is about analyzing the perception of customers on service quality of rail transport in Coimbatore junction. For this purpose primary data is been collected from 200 rail passengers and percentage analysis, chi-square and factor analysis are used as statistical tools to analyze the data and the conclusion is that highly dissatisfied on cleanliness of toilets in trains, the management has to look after this issue for the satisfaction of customers on delivery of service. And the factors cleanliness of toilets, late running of trains, quality of services, seating water trolley facilities at the platform, fans and lights in the trains, satisfaction on seating pattern & number of seats, and satisfaction on security of passengers, especially ladies & availability of security staff on trains should be taken in consideration for the decision making process on quality of service given by railway department.

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