



## **DETERMINANTS OF PASSENGER SATISFACTION ON SERVICE QUALITY IN SOUTHERN RAILWAYS WITH REFERENCE TO SALEM DIVISION**

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### **Abstract:**

This study is about analyzing the satisfaction of customers (passengers) on the service given by southern railways with reference to Salem division. For this purpose the factors assurance, tangibles, timeliness, responsiveness, information system, empathy, food and safety, reliability, and security were employed to measure the passengers perceptions about the service quality of railways. The customers are limited to Salem junction and they are selected on random basis. The main objective of the study is to know about the perception of customers towards service provided by southern railways and to implement linear regression model to know about the factors influencing customer satisfaction. For this purpose a sample of 500 was collected out of 550 respondents were frequency analysis, chi square with cross tabulation, factor analysis, Anova, multiple regression model and descriptive statistics were used as statistical tools for analyzing the data. The study concludes that improving the quality of service is one of the ways to improve the competitiveness of Railway Passenger Business. In all the trains and at stations the above questionnaire can be used for collecting the feedback from passengers.

**Key Words:** Satisfaction, Passengers Perceptions & Quality of Service

### **Introduction:**

Transport is an important infrastructure in the economy of India. It assumes a greater role in developing countries since all the sectors of the development are closely dependent upon the existence of suitable transportation network. India's transport industry has been organized with a mixed pattern of public and private sector ownership. The evident economic growth in India over the last two decades has increased demand for all transport services, particularly land transport through road and rail. The development of railways is one of the landmarks in the progress of human civilization. Indian railways, a historical legacy, is a vital force in Indian economy.

### **Statement of the Problem:**

It has been suggested that for some services the SERVQUAL instrument needs considerable adaptation and that items used to measure service quality should reflect the specific service setting under investigation, and that it necessary in this regard to modify some of the items and add or delete items as required. In summary, in order to measure the quality service thoroughly in the Railway passenger services the attributes used in SERVQUAL, the public transport industry and the railway service sector should be grouped together to form a pool items for measurement. Hence attributes in the SERVQUAL model were modified and some attributes were added through focus group discussions and the RAILQUAL instrument was developed for the measurement of Railway passenger Services. Our study is to know about the satisfaction of customers in southern railways in Salem division. And for that purpose a survey is conducted with passengers who are travelling in various trains of Salem division

### **Scope of the Study:**

The study aims to identify the factors for Passenger Satisfaction regarding facilities provided by Southern Railways. Customer Satisfaction has been commonly accepted as an indicator of Service Quality. The need of the Study is to identify important factors determining service quality of Southern Railways that lead to Passenger Satisfaction. The Scope of the Study is to help the Southern Railways to know about the perception of Passengers towards quality of Services provided by them.

### **Objectives of the Study:**

- The present study has the following objectives
- ✓ To know about the perception of customers towards service provided by southern railways.
- ✓ To know about the customer satisfaction among passengers of southern railways based on various dimensions.
- ✓ To analyse the dimensions using statistical tools.
- ✓ To apply linear regression model to know about the factors influencing customer satisfaction.
- ✓ To suggest the customer perception on quality of service provided by railway department.

**Hypothesis:**

- ✓ There is no significant relationship between factors related with level of satisfaction of passengers and age
- ✓ There is no significant relationship between factors related with acceptance level on catering services in southern railways and age

**Research Methodology:**

The study is of empirical in nature. The survey was conducted in Southern railways which include (Salem, Erode, Tiruppur and Coimbatore districts). The study used both primary data and secondary data. The primary data was collected through field survey in the study area. First- hand information's pertaining to the benefits derived and the various competencies encountered were collected from 500 passengers to know about the level of satisfaction towards service provided by southern railways.

**Sampling Design:**

The study proposes to cover the satisfaction on service provided by southern railways to their customers. As the study is based on passenger satisfaction towards southern railways the samples don't have criteria and for this purpose Convenience sampling is used for the research.

**Fieldwork and Collection of Data:**

The following dimensions were used for collecting Data: Level of satisfaction of passengers, Responsibility of railway officers, Basic Facilities, Hygiene factors, Safety & Security, Catering, Punctuality, Behavior of staffs, and Facilities inside the Trains

**Framework of Analysis:**

In order to suit the requirements of the present study, the tests which have been employed by the researcher are Frequency analysis, Chi square with cross tabulation, Factor analysis, Analysis of Variance(ANOVA) , Multiple regression model and Descriptive statistics. .All the tests in the study were carried out by formulating suitable hypothesis and were also tested at 5% and 1% level of significance.

**Tools for Data Collection:**

Frequency analysis, Chi square with cross tabulation, Factor analysis, ANOVA, Multiple regression model and Descriptive statistics.

**Limitations of the Study:**

- ✓ The data was collected only with the passengers of southern railways were the perception may vary with other railways in India.
- ✓ The study could not be generalized due to the fact that researcher adapted personal interview method.
- ✓ There was a bias in collecting the data as the respondents may given a wrong answer for the questions asked with them.

**Analysis and Interpretation:**

		Frequency	Percent
Gender	Male	357	71.4
	Female	143	28.6
	Total	500	100
Age	Below 18	15	3
	18-25	181	36.2
	26-35	151	30.2
	Above 35	153	30.6
	Total	500	100
Marital status	Married	149	29.8
	Unmarried	351	70.2
	Total	500	100
Educational Qualification	10th	16	3.2
	Higher secondary	15	3
	UG	281	56.2
	PG	188	37.6
Place of living	Semi rural	40	8
	Rural	167	33.4
	Urban	255	51
	Semi urban	38	7.6
	Total	500	100
Annual income	Below 5000/month	31	6.2
	5000-10000/month	134	26.8
	10000-20000/ month	154	30.8
	Above 20000/month	181	36.2

	Total	500	100
Occupation	Education	188	37.6
	Employment	92	18.4
	Business Trip	89	17.8
	Family Trip	131	26.2
	Total	500	100

**Interpretation:**

The above table shows about the demographic profile of the respondents. Out of 500 respondents 71.4% were male and 28.6% were female. 3% are from the age group of below 18, 36.2% are from the age group of 18-25, 30.2% are from the age group of 29-35, 30.6% are from the age group of above 35. 29.8% are married and 70.2% are unmarried in our survey. 3.2% have completed 10<sup>th</sup> standard, 3% have completed their higher secondary, 56.2% have completed their UG, and 37.6% have completed their PG. 8% are from semi rural area, 33.4% are from rural area, 51% are from Urban area, 7.6% are from semi urban area. 6.2% are earning below 5000 per month in our survey, 26.8% are earning from 5000-10000/month, 30.8% are earning from 10000-20000/ month, and 36.2% are earning from Above 20000/month. It's inferred that most of the respondents are from above 20000/month in our study.

**Rank Correlation:**

H0: There is a significant relationship between the rank given and preference towards rail service

H1: There is no significant relationship between the rank given and preference towards rail service

S.No	Ranking on Preference Towards Rail Service	X	Y	R1	R2	D	D <sup>2</sup>
1	Low fare	142	148	3	3	0	0
2	Comforts	147	141	2	4	-2	4
3	Speed	232	117	1	5	-4	16
4	Security	112	198	5	1	4	16
5	Reliability	116	162	4	2	2	4
							40
N	5					1-R	2
						R	-1

**Interpretation**

The above table shows about the relationship between rank given and preference towards rail service as the correlation is at -1 it's inferred that there is no relationship between the rank given and preference towards rail service. And based on the rank speed was mostly been preferred by the respondents.

**Linear Regression Model:**

**Comparison between Age and Level of Satisfaction of Passengers:**

		Coefficients				
Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.168	.114		19.033	.000
	Illumination & Signages	.809	.047	.719	17.341	.000
	Availability of Porters(Coolies)at the Station	-.332	.043	-.323	-7.755	.000
R		.918 <sup>a</sup>				
R Square		0.842				
Sig		0.000				

Here, variables Illumination & Signages, Booking Clerk Competency & Behaviour, Cleanliness of Toilets, Cleanliness of Platforms, Punctuality, Safety, Seating, Water, Trolley facilities at the Platform, Linen/Bedroll Cleanliness, Fans and Lights in the Trains are directly proportional to age.

The factors Availability of Porters (Coolies) at the Station, Clarity of Announcement at Stations, Unauthorized Vendors & Passengers, Late Running of Trains, Quality of services, Ambience of Waiting Rooms/Rest Rooms, and Pricing of Food are inversely proportional to the factor age.

**Descriptive Statistics:**

The tool descriptive statistics is used to find out the major factors which have impact towards the attributes based on the average of mean.

**Level of Satisfaction of Passengers:**

Descriptive Statistics			
	N	Mean	Std. Deviation
Illumination & Signages	500	2.46	.783
Availability of Porters(Coolies)at the Station	500	2.67	.857
Booking Clerk Competency & Behaviour	500	2.70	1.111
Clarity of Announcement at Stations	500	2.48	1.121
Cleanliness of Toilets	500	3.33	1.441
Unauthorized Vendors& Passengers	500	3.07	1.107
Cleanliness of Platforms	500	2.64	1.062
Late Running of Trains	500	2.97	1.218
Punctuality	500	2.88	1.120
Quality of services	500	2.67	.912
Safety	500	2.69	1.028
Ambience of Waiting Rooms/Rest Rooms	500	2.94	1.168
Seating, Water, Trolley facilities at the Platform	500	2.92	1.087
Pricing of Food	500	2.60	.815
Linen/Bedroll Cleanliness	500	2.98	1.071
Fans and Lights in the Trains	500	2.92	1.001
Valid N (list wise)	500		

**Interpretation:**

The above table shows about the mean score for level of satisfaction of passengers. The mean score for most of the elements given in the satisfaction of passengers is below 3, which indicates that the satisfaction level of the respondents are below average.

**Correlation between Gender and acceptance Level on Catering Services:**

Particulars	Correlation	Gender	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Acceptance on affordability towards buying of eatables	-.099	Male	40	20	117	114	66	357
		Female	19	0	84	20	20	143
Acceptance on quality of eatables	.079	Male	41	22	165	63	66	357
		Female	0	20	59	44	20	143

**Interpretation:**

The average correlation for the dimension acceptance level on catering services is at (-0.001) were its negatively correlated with gender which shows that there is no relationship between gender of the respondents and acceptance level on catering services.

**Factor Analysis:**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.576
Bartlett's Test of Sphericity	Approx. Chi-Square	2.946E3
	df	66
	Sig.	.000

**Interpretation:**

The factors above 0.5 are taken in to consideration for the decision making process. The factors are acceptance on allowing in general compartment, acceptance on wastage of water every day, acceptance on completion to purchase the same at an exorbitant, and acceptance on nonworking of fans.

**Findings:**

- ✓ Majority 71.4% of the respondents were male in our study.
- ✓ Most 36.2% of the respondents were from the age group of 18-25.
- ✓ Majority 56.2% of the respondents have completed their under graduate.
- ✓ Majority 51% of the respondents are from urban area in our study.
- ✓ Most 36.2% of the respondents are from above 20000/month.

**Recommendations:**

The passengers don't have awareness about safety measures provided by southern railway department. It shows that the railways will make the people aware about the various safety measures such as Railway Protection Force (RPF), Internet Protocol based Close Circuit Television (CCTV) surveillance system with video analytics and recording facility, Access control, Personal and baggage screening system, Bomb Detection and Disposal System etc.

**Conclusion:**

The study concludes that improving the quality of service is one of the ways to improve the competitiveness of Railway Passenger Business. In all the trains and at stations the above questionnaire can be used for collecting the feedback from passengers. According to the passengers they are dissatisfied with the online booking portals, first aid and medical services, power supply and quality of water of the trains, handling of theft cases that happens in the train, and occupancy of coach toilets by unauthorized vendors of railway department. These factors should be taken in to consideration for increasing the level of satisfaction of passengers in southern railways in future period of time.

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