

A Study on Service Quality and satisfaction of passengers towards Rail transport, with special reference to Southern division of Indian Railways

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Abstract:

The success of any organization very much depends on the satisfaction of its customers. So satisfaction of the customers and their retention is one of the major determinants for measuring the quality of products or services. As importance of quality is increasing in our life, customers like to have a relatively better quality of products or avail superior quality services. India is a highly populated country and its rapid population growth contributes to an increased travelling demands. Railways are one of the most popular modes of transport which is mostly used by the common people of India. This paper aims to find out the passengers' perceptions about the service quality of rail transport system especially Southern division of Indian Railways. A modified SERVQUAL instrument including eight service qualities constructs. Assurance, reliability, tangibles, timeliness, responsiveness, empathy, information system, food and safety and security were used to measure the passengers' perceptions about the service quality of railways. 200 respondents were selected and these respondents were frequent railway travelers on these routes. Results indicated that passengers who perceived that quality of services delivered to them are not satisfied.

Key words: Service quality, Rail transport, Passenger satisfaction, SERVQUAL

Introduction

Every organization and companies fail or succeed based on quality and effectiveness of employees working there. Successful firms of today recognize that for competing in global markets, they must have world class human resource managers who wish to take active participation in operational and strategic decisions. Human resources managers play a central and a great role even when the officials are reengineering the pay and benefits of the company or implementing Total Quality Management (TQM) programs. With the maximum effort of all human resources of the railways, they try to provide maximum service to their passengers with high satisfaction.

Quality is one of the major and key parameters for measuring the performance of the products or services. It is even one of the primary indicators to check organizational performance. It is needed to help

the organization, train, reward motivate the workers. It is also necessary to ensure whether the organizational goals are met with efficiency. The process not only deals with the employees but can also deal with a department, service, product or customer process; which everything move towards enhancing or adding value to them. Nowadays there is an automated performance management system, which carries all the information designed for helping managers for the evaluation of the performance of the employees and also to assess them accordingly on their training and development needs. In the older days, quality was considered only for the production sector but during the recent decades there is a tremendous growth in service sector all around the globe and the concept of quality has arisen in this sector. It is evident from the literature that now the service sector has become one of the fastest growing sectors in global economy and it is the major reason is why the American economy has become a service economy.

Service sector has realized that the service quality is one of the main sources of gaining competitiveness and is remaining as successful one in the market and many other researchers had emphasized that quality initiatives in the service sector had ended in achieving a sustainable competitive advantage. Accordingly, it is evident that concept of service quality has been increased important topic for the service industry. Hence, service quality is a subject which gains a considerable interest of both the academicians and the service providers. Now the Service organizations had started putting their maximum effort towards customer-focused services and thus continuous performance improvement.

The perception of the customers plays a very significant role in order to measure the service quality of the service provider and also the performance of the organization. It is also evident from the literature review that superior quality of services helps to gain loyalty, customer satisfaction, increased market share and there by increased productivity and performance

For measuring how customers perceive about the quality of public transport, there are some evidences from the literature that the customers (passengers) perceive: that timing, reliability, frequency cleanliness and fare, comforts, transport network and coverage which also includes the safety issues, stoppages and information system are considered to be more important factors in order to evaluate the service quality. Evidences suggested that the quality of services lead to enhanced productivity and thus increased profitability, market share, positive word-of-mouth, reduced costs return on investment and ultimately overall cost effectiveness that benefits the customers. This trend of evaluating the customer requirements and delivering services according to customer requirements is now seen in the developing countries.

This study is aimed at investigating the perception of the customers (passengers) about the service quality of public rail transport system, with special reference to South zone of Indian railways. Demand for public transportation in India is high due to its rapid population growth. Trains network in India, a major public transport hold a unique position in the transportation sector of country and are considered to be the major determinant for her national growth. Transportation sector is still passing through its transformational stage as it also is in its preliminary stages and is still insufficient to serve the fastest growing 125 crores population of India. However, still with inadequate resources this sector is one of the growing sectors of Indian economy that contributes about 24.42% of GDP. There is a vast development of new national highways, growth in the road networks and also an additional motorways network. Even then transport system was lacking from the development and growth process. Most of the railway tracks were built before independence. Rail transport system is a public sector rail transport service which is known as Indian Railways and is one of the oldest systems of transport. It is administered by the Government of India and runs under the Ministry of Railways. Currently, all major cities of India are connected together with rail transport network. This railway network is divided into many zones or divisions. This study deals with the customer satisfaction of Southern railway division of India.

During the couple of decades, rail transport system is towards its worst decline. Therefore, there is a wide scope of research to measure the service quality in India in general and also to measure the perception of the passengers, about the quality of service delivered to them by rail transport in particular. Uniqueness of this study is that there is no such work has been studied before relating to this topic and this had been evident from the literature on this topic. Structural equation modeling (SEM), one popular technique, was employed to explore the relationship among the service quality attributes and passengers' satisfaction

Literature Review

Service quality can be described as a rationale of differences between expectation and perceptions. It also encompasses many important quality dimensions. Parasuraman, Zeithaml and Berry identified ten requirements which are useful for evaluation of quality of services by the passengers; namely, reliability, tangibles, responsiveness, Information, Empathy, Assurance, timeliness and also understanding the passengers and service accessibility. Zeithaml, Parasuraman, and Berry, proposed a service quality scale (SERVQUAL), a generic instrument that has 8 dimensions of service quality: reliability, assurance, responsiveness, tangibles and empathy, the constructs were found to have high correlation.

This instrument is widely used in marketing studies of customer preference and consumer satisfaction. The stage of performance that a top quality service will need to give was conditioned through the expectation of the customers. Service quality is judged less when the performance was below expectation and vice versa. In the present study, a modified SERVQUAL instrument was employed to measure the service quality of railways.

SERVQUAL: Due to intangible in nature, the service quality is difficult to measure as compared to products. Also the characteristics of service appear to be difficult and considered as a very complicated task. The first comprehensive service quality model was coined by Parasuraman. He further stated that service quality is always influenced by five gaps and earlier this model was known as gap model. It denotes that service quality is measured by several gaps; from 1-5. They are as follows;

Gap 1 - Difference between expectations of the customers and management perceptions about the customer expectations

Gap 2 - Difference between the management perceptions about the customer expectations and then translate this perception in to service quality specification.

Gap 3 - Difference between the actual services delivered by the front line service employees on daily basis and the management specifications

Gap 4 - Difference between the service delivery and what is promised to consumers in external communication.

Gap 5 - Difference between customer expectations and perceptions

SERVQUAL instrument was based on gap 5. Later on came Parasuraman and Berry came out with the 10 dimensions of service quality. These ten dimensions were then reduced to 5 dimensions namely; empathy, tangibles, assurance, reliability and responsiveness. These five constructs were further represented by 22 items. Today, SERVQUAL is one of the most commonly used models for measuring the service quality in all types of industries. According to SERVQUAL has been successful used in healthcare, fast food, banking, telecommunication, retail chains, information systems, library services etc. On the basis of the above discussion and through literature review the following eight hypotheses were developed, to find out the service quality enjoyed by the customers of Indian railway network

H1: Assurance will have a significant impact on passenger satisfaction

H2: Responsiveness will have a significant impact on passenger satisfaction

H3: Safety will have a significant impact on passenger satisfaction

H4: Tangibility will have a significant impact on passenger satisfaction.

H5: Empathy will have a significant impact on passenger satisfaction

H6: Food plazas will have a significant impact on passenger satisfaction

H7: Information will have a significant impact on passenger satisfaction

H8: Timeliness will have a significant impact on passenger satisfaction

This research was carried out to measure the service quality of Southern zone of Indian Railways based on perception of passengers that are frequently travelling on trains operated from Thiruvananthapuram to other big cities such as, Ernakulam, Kozhikode, Chennai, Bangalore and Hyderabad. A modified SERVQUAL instrument was used for developing a well structured questionnaire for the evaluation of service quality of South zone Indian Railways on the basis of passengers' perceptions. This questionnaire consisted of eight constructs which included Assurance, tangibles, Punctuality, empathy, responsiveness, safety, Catering, Information which represented the independent variables while the dependent variable is the passenger satisfaction. Five point Likert scale from highly satisfied '5' to least satisfied '1' was used in the study. A total 200 questionnaires were distributed among the passengers travelling from Thiruvananthapuram to other cities of the country on fast moving and nonstop trains.

The demographic characteristics of the respondents are shown as follows;

Table No.1

Gender wise classification of respondents

Sl. No	Gender	Frequency	Percentage
1	Male	152	76
2	Female	48	24
TOTAL		200	100

Source: Field survey

Table no.1 shows that the gender distribution of the respondent passengers groups was quite uneven, with 76 per cent male respondents and 24 per cent female respondents. Majority of the respondents were male passengers.

Table No.2

Age wise classification of respondents

Sl. No	Age	Frequency	Percentage
1	20-30	28	14
2	31-40	76	38
3	41-50	62	31
4	51 & above	34	17
TOTAL		200	100

Source: Field survey

The table shows that the majority of the respondents belonged to age group of 31- 40 years (38 per cent), followed by 41- 50 years (31 per cent), 51 and above (17 per cent), and 20-30 years (14 percent).

Table No. 3

Education wise classification of respondents

Sl. No	Education	Frequency	Percentage
1	Up to Secondary	24	12
2	Under Graduate	36	18
3	Graduate	56	28
4	PG & above	34	17
5	Technical/ Professional	50	25
TOTAL		200	100

Source: Field survey

In terms of level of education, 28 per cent of the respondents were graduates; 25 per cent Professionals, and 18 per cent are under-graduates or with 10 plus two education level. 17 percent Post-graduate and beyond, and 12 per cent with secondary school education. The results show that sample respondents have relatively high educational attainment

Table No 4.

Occupation wise classification of respondents

Sl. No	Occupation	Frequency	Percentage
1	Professional	40	20
2	Private service	36	18
3	Business/Industrialist	46	23
4	Govt Servant	40	20
5	Farmers	16	8
6.	Others	22	11
TOTAL		200	100

Source: Field survey.

In terms of occupation, 23 per cent respondents are businessmen/industrialist, 20 per cent respondents are government servants. 20 per cent respondents are professionals (including software engineers, doctors, lawyers, etc.) 18 per cent related to employment in private sector, 11 per cent respondents are contractors, realtors, etc., and 8 percent agriculturists (includes formers, landlords, etc.).

Descriptive Statistics

Table No.5

Sl. No	Variables	N	Mean	S.D
1	Assurance	200	3.71	1.098
2	Responsiveness	200	3.66	1.13
3	Safety	200	3.58	1.22
4	Tangibility	200	3.52	1.12
5	Empathy	200	3.47	1.18
6	Catering	200	3.32	1.22
7	Information	200	3.4	1.28
8	Timeliness	200	3.44	1.31

Statistical Analysis: For measuring the reliability of the instrument, Cronbach Alpha was calculated as reliability and validity of the instrument played a significant role while performing the statistical analysis and consistency in the results and reliability of the data. It is stated that a value of Cronbach Alpha greater than 0.70 is acceptable. The Cronbach Alpha in this study is 0.78 which provides an acceptable value. This research is aimed at exploring the relationship among the service quality of Indian Railways and the passengers perceptions about quality of services delivered to them.

Also from the table, it can be viewed that the variable 'Assurance' (3.71) has got the greatest mean, while it is lowest for the variable 'Catering' (3.4).

Hypothesis Testing: Service Quality Dimension and Customer Satisfaction

In the table no.6, the result of regression is displayed. It shows that the Eight perceived service quality dimensions explained 61% of the customer satisfaction towards the Southern division of Indian railways ($F=161.08$, $p<0.01$), which confirms the fitness of the model. We found out that staff responsiveness has got the strongest effect on the customer satisfaction ($\beta=0.265$, $p<0.01$), followed by Catering ($\beta=0.221$, $p<0.01$), Tangibility ($\beta=0.190$, $p<0.01$). Assurance ($\beta=0.180$, $p<0.05$), and however, it was found to be insignificant towards customer satisfaction is safety, empathy, information, and punctuality.

Table No. 6

Hypothesis	Variable	B	SE B	b	p- value	Result
H 1	Assurance	0.153	0.034	0.180	0.031	Accept
H 2	Responsiveness	0.160	0.048	0.265	0.001	Accept
H 3	Safety	0.183	- 0.13	0.174	0.322	Reject
H 4	Tangibility	0.073	0.041	0.190	0.000	Accept
H 5	Empathy	0.251	- 0.041	0.152	0.071	Reject
H 6	Catering	0.140	0.064	0.221	0.000	Accept
H 7	Information	0.159	- 0.139	0.151	0.121	Reject
H 8	Punctuality	0.128	0.024	0.175	0.056	Reject

The results of the study after the analysis provide statistical evidence to support the identified determinants of customer satisfaction as Responsiveness, Assurance, Safety, tangibility, Catering, empathy, information and punctuality behavior towards passengers.

- Latent variable ‘Assurance’ is represented by six items and has significant p-values; however this latent variable has a very low standardized regression weight 0.05 with significant p-value 0.031 which shows that assurance has only a moderate impact on passenger satisfaction.
- Three items are used to discuss the two latent variables ‘Responsiveness’. This latent variable has got a positive standardized regression weights providing a significant p-values (0.001). The result indicates that passengers provide satisfaction with latent variable responsiveness.
- 6 items are used to describe the latent variable ‘Tangible’ and all these items have p-value less than 0.05 providing insights that all the items gave significant results in defining the same. This latent variable has standardized coefficient 0.42 with p-value 0.000 showing the result that the variable ‘Tangible’ has a significant effect on passenger satisfaction.
- Latent variable ‘Empathy’ is represented by 4 items and all have a significant p-value. But this variable has a standardized regression weight -0.004 and insignificant p-value 0.072, which shows that it has a negative impact on passenger satisfaction.
- To represent the variables ‘Catering’ information and safety, three items each are used. The variables, Safety and information has a negative regression weights, whereas ‘Catering’ has a positive regression weight but all these three construct has insignificant p-value representing passengers’ dissatisfaction with these construct.

Results and Discussions

The main objective of this study was to examine and assess the quality of services which was delivered to the passengers by the Southern division of rail transport of the country. For measuring the passenger perceptions about the quality of services provided during travelling, a modified SERVQUAL instrument was used. Eight service quality constructs comprising of 31 variables were used. Statistical analysis of this study provided us an understanding about the passenger dissatisfaction about the service quality of rail transport system in India. The overall structure equation model constructed to study the service quality of rail transport system which is based on passengers' perception provide dissatisfaction against all the parameters of service quality except one variable namely, 'Tangibles'. Passengers were more satisfied with the cleanliness, lighting and air-conditioning in the coach, comfortable seats, proper resting facilities and parking facilities. From the study, we can find that the rail transport system is declining day by day due to lack of planning and wrong strategies. Poor implementation of safety measures, poor information system, problems faced by passengers before and during travelling and the present findings from the study validate these facts.

Conclusions

The empirical findings of this study clearly shows that passenger perceive the rail transport system, especially Southern division of Indian railways is not providing good quality of services up to their expectations. It is also apparent that visible efforts by Indian Railways should be there to improve the rail transport system. In short, service quality of rail transport is regarded as critical indicator that would enhance its customers' satisfaction. However, findings of this study will be helpful for the authorities in making suitable strategies and planning the policies in future for a better management. There are some limitations of this study as it was conducted in a limited area and with a limited number of respondents and therefore, the results of this study cannot be generalized. As per the findings, it can be understood that the quality of service that mostly affect the satisfaction of passengers in the order of their rank is Responsiveness, Catering, Tangibility, Assurance, Safety, Information. The least important factor is 'punctuality', towards the passengers. Even though several repeated attempts are done by the Southern division of Indian railways to improve the quality of services, the result would not satisfy the customers' needs. This reveals that comprehensive, continuous, lengthy intentional performance and attempts are essential to fill these service gaps.

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