A Study on Indian Railways: A Passenger Service Quality Audit

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Abstract:

Present study identifies the attributes which passengers use to evaluate the service quality of Indian railways and develops a comprehensive instrument namely passenger service quality questionnaire. Generally in most of the service quality related studies five dimensions of service quality were predominant, but in this present study, eleven dimensions of passengers' service quality are taken into consideration. This study aims to reveal that whether the service offered by Indian railways is up to the expectation of their passengers with the help of factor analysis and chi-square test for which 104passengers from different region of India have been taken as respondents. This study focuses on the following objectives:

i) To identify the major problem areas in passenger service quality.

ii) To examine the impact of perception on passenger service quality factors on the passenger's satisfaction and the image of Indian Railways.

This study would help the policymakers to control and improve their service so that they can retain their passengers and make each of them happy to be in Indian Railway family.

Introduction:

Service quality is one of the most crucial factors for any service organization to create a difference and to obtain competitive advantage. This present study has been developed to perform an audit on the passenger service quality of Indian Railways at present, which is one of the biggest transporters of passengers' traffic in the world. In 2015-16, IR carried 8.101 billion passengers per year i.e. more than 22 million passengers per day, which is almost equal to the entire population of Australia i.e.23.13 million. While all these statistics are really impressive, it's to be noted that according to Morgan Stanley report, Indian Railway's share of passenger traffic has dropped to 14%, which is pretty alarming.

In this context, present study is quite significant. It aims to find out major problem areas in passenger service quality and to verify the impact of those particular factors on the passenger's mind as well as on the image of Indian Railways. Moreover, this also provides some valued recommendations on service quality improvement towards Indian Railways to satisfy their existing passenger and to restrict the inclination of their passengers to switch over to low cost airlines.

Research Methodology:

A descriptive research has been conducted with the help of personal interview and close ended questionnaire (for Indian Railway passengers). After collecting data from 104 respondents through questionnaire survey, Factor analysis and chi-square test have been used to analyze those data with the help of *SPSS* software and respectively *statistical calculator*.

Data Analysis:

1. FACTOR ANALYSIS

FACTOR IDENTIFICATION:

Determination based on eigenvalues:

In this approach, only those factors with eigenvalues greater than 1 are considered. Other factors are not included in this model.

Here, from the SCREE PLOT and the table TOTAL VARIANCE EXPLAINED, 5 factors are identified whose eigenvalues are more than 1.

Determination based on percentage of variance:

The number of factors extracted can also be determined in a way so that the cumulative percentage of variance extracted by the factors reaches a satisfactory level.

Here according to the analysis, the cumulative percentage of variance extracted by the 5 factors is 86.127 %(from the table TOTAL VARIANCE EXPLAINED), which is quite satisfactory.

FACTOR INTERPRETATION:

Factor interpretation is facilitated by identifying the variables that have large loading on the same factor. That factor can be interpreted in terms of variables that load high on it.

In the ROTATED COMPONENT MATRIX,

Component 1 has high coefficients .770 and .669 for variables *Catering Service and*

 Overall Safety

Component 2 has high coefficient .833 for variable *Arrival & Departure Assistance*

Component 3 has high coefficients .673 and .840 for variables *Customer Complaint Handling and Attitude and Behaviour of the Staff*

Component 4 has high coefficient .773 for variable *Punctuality*

Component 5 has high coefficient .914 for variable *Luggage Handling*

Component 1 is labeled as *Reliability*

Component 2 is labeled as *Staff Assistance*

Component 3 is labeled as *Responsiveness*

Component 4 is labeled as *Punctuality*

Component 5 is labeled as *Luggage Handling*

As Component 1 is treated as principal component, so, in this case, *Reliability* should be the most important factor or it can be termed as the major problem areas of Indian Railways at present followed by the *Staff Assistance,* Responsiveness, *Punctuality* and *Luggage Handling* according to the passengers.

2. CHI-SQUARE TEST

H1: THERE IS NO ASSOCIATION BETWEEN THE PERCEPTION OF THE YOUNG AND AGED PASSENGERS ABOUT THE RELIABLE SERVICE PROVIDED BY INDIAN RAILWAYS

TYPE OF RESPONDENT	TOTAL NUMBER	YES	NO
Young Passengers (18-25)	32	10	22
Age Group 25-40	34	16	18
Age Group 40-60	24	10	14

Using STASTICAL CALCULATOR, it is found that

Chi-square statistic   =1.754

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Degree of freedom   =2

Probability of chance (p-value) =0.4159

Here p-value > α   **(α = 0.05)**

Therefore we **accept** the hypothesis

There is no difference of opinion between the passengers of all age group, most of them disagreed with the statement that the service provided by Indian railways is reliable. As per the personal interview results only 31.2% young, 47% middle aged and 41.7% aged passengers agreed regarding the reliable service which indicates a major portion of aged, middle aged and specially young passengers are not perceiving Indian Railways service as a reliable one

H2: THERE IS NO DIFFERENCE OF OPINION BETWEEN THE CATEGORY OF RESPONDENTS (MALE OR FEMALE PASSENGERS) REGARDING THE ARRIVAL AND DEPARTURE ASSISTANCE (reservation charts, help from the railway enquiry etc.) IN INDIAN RAILWAYS

TYPE OF RESPONDENT	TOTAL NUMBER	YES	NO
Male Passengers	52	21	31
female Passengers	52	18	34

Using STASTICAL CALCULATOR, it is found that

Chi-square statistic   =.0369

Degree of freedom   =1

Probability of chance (p-value) =0.5434

Here p-value > α   (α = 0.05)

Therefore we accept the hypothesis

There is no difference of opinion between the categories of respondents (both male or female passengers disagreed) regarding the statement Indian railways staff provide proper assistance at the stations before or after the arrival or the departure of the train towards their passengers. As per the personal interview results only 40.4% male and 34.6% female passengers agreed upon this issue which signifies that ladies passengers are more annoyed than the gents regarding the railway staff assistance(arrival and departure assistance)

H3: THERE IS NO DIFFERENCE OF OPINION BETWEEN THE CATEGORY OF RESPONDENTS (POSTGRADUATE, GRADUATE OR UNDERGRADUATE PASSENGERS) REGARDING THE STATEMENT THAT THE INDIAN RAILWAYS' STAFF ARE QUITE RESPONSIVE IN COMPLAINT HANDLING OR IN GENERAL

TYPE OF RESPONDENT	TOTAL NUMBER	YES	NO
Postgraduate Passengers	29	11	18
Graduate Passengers	40	9	31
Undergraduate Passengers	35	5	30

Using STASTICAL CALCULATOR, it is found that

Chi-square statistic   =4.940

Degree of freedom   =2

Probability of chance (p-value) =0.0846

Here p-value > α   (α = 0.05)

Therefore we accept the hypothesis

There is no difference of opinion between the categories of respondents i.e. Postgraduate, Graduate or Undergraduate Passengers (disagreed) regarding the statement that Indian railways staff are quite responsive in complaint handling or in general. As per the personal interview results only 38% Postgraduate, 22.5% Graduate and 31.4 Undergraduate Passengers agreed, which shows that most of the passengers irrespective of their educational qualifications perceives that the responsiveness of the Indian railways employees is not at all satisfactory.

H4: THERE IS NO DIFFERENCE OF OPINION BETWEEN THE CATEGORY OF RESPONDENTS (SERVICE HOLDERS, BUSINESS PROFFESIONALS OR STUDENTS) REGARDING THE STATEMENT THAT THE TRAIN SERVICE OF INDIAN RAILWAYS IS QUITE REGULAR AND PUNCTUAL

TYPE OF RESPONDENT	TOTAL NUMBER	YES	NO
The Service Holders (Executives)	46	10	36
Business Professionals	44	14	30
Students	14	5	9

Using STASTICAL CALCULATOR, it is found that

Chi-square statistic   =1.629

Degree of freedom   =2

Probability of chance (p-value) =0.4428

Here p-value > α   (α = 0.05)

Therefore we accept the hypothesis

There is no difference of opinion between the business professionals, the service holders (executives) and the students (disagreed) regarding the statement that the train service of Indian railways is quite regular and punctual. As per the personal interview results only 21.7% business professionals, 31.8% service holders and 35.7% students agreed with this statement which confirms that most of the passengers irrespective of their professions are very much upset with the irregularity of the train service provided by Indian railways

H5: THERE IS NO DIFFERENCE OF OPINION BETWEEN THE CATEGORY OF RESPONDENTS (UPPER MIDDLE CLASS, MIDDLE CLASS OR LOWER MIDDLE CLASS) REGARDING THE STATEMENT THAT LUGGAGE HANDLING IN INDIAN RAILWAYS IS QUITE SATISFACTORY

TYPE OF RESPONDENT	TOTAL NUMBER	YES	NO
Upper middle class Passenger *(income > Rs. 20000)*	46	35	11
Middle class Passenger *(income Rs. 5000-10000)*	44	25	19
Lower middle class Passenger *(income < Rs. 5000)*	14	5	9

Using STASTICAL CALCULATOR, it is found that

Chi-square statistic   =8.515

Degree of freedom   =2

Probability of chance (p-value) =0.0142

Here p-value < α   (**α = 0.05**)

Therefore we **reject** the hypothesis

There is difference of opinion between the Upper middle class, the Middle class and the , Lower middle class regarding the statement that luggage handling in Indian railways is quite satisfactory. As per the personal interview results most of the Upper middle class passengers (76%) are quite satisfied with this particular service. On the contrary only 56.8% Middle class passengers and 35.7% Lower middle class agreed with this statement. It signifies that there is perceptual difference among the different income group regarding this issue.

Results and conclusion:

After analysing the data on the basis of among the eleven problem areas, five major areas have been identified. As per *factor analysis,* Reliability of service in terms of safe and secure journey and in terms of providing healthy and hygienic food to their passengers is rated as the most fragile area in Indian Railways. In that very list the next feeble area is Staff Assistance (reservation charts, help from the railway enquiry etc.) at the stations before or after the arrival or the departure of the train towards their passengers. Third and one of the major problems is the Responsiveness of the railway staff in general and specially in complaint handling. The next problem is the regularity and availability of the train which needs to be taken care of by the management to improve the image of the second largest sector in the world. The least rated problem area is Luggage Handling in case of luggage booking which comes under the commercial department of Indian Railways as because among the respondents, a small percentage of them have rated this as a major problem.

As per the result of *chi-square test,* there is no perceptual difference between the passengers of all age group regarding unreliable service provided by Indian railways.

And the picture is worse when people are asked on this issue. Interview reveals the fact that irrespective of age group, passengers do not perceive the service provided by Indian railway at present is reliable. Because of number of accidents occurring almost every single week in different region, the biggest transporters of Indian passengers' traffic are not yet the synonym of safe and secured journey. Moreover the food served by the railways is not at all hygienic result of which there is a big threat upon the trust factor of this largest and busiest sector. In case of *staff assistance,* both the male and female customers are not at all satisfied. According

to them the Indian railways staffs do not provide proper assistance at the railway stations before or after the arrival or the departure of the train towards their passengers.

The same story continues when it comes to *responsiveness* of the railway staff in complaint handling or in general. Most of the passengers of different educational background have the same opinion regarding this particular factor as most of them have already faced number of problems due to the insensible behaviour of the railway staff. Most of the staffs are still lacking 'ready to serve' mind-set, because of which passengers have also started having a negative attitude towards the behaviour of the railway staff. Then, again the same kind of responds are coming in the case of *availability* of the train service whether it's ease of ticketing or punctuality of the train service. As per the personal interview results, most of the passengers irrespective of their professions are very much upset with the irregularity of the train service provided by Indian railways. But the scenario is slightly different in case of *luggage handling* in Indian railways. In this particular factor, the dissatisfaction level in lower middle class, middle class and higher middle class passengers are high, moderate and low which mainly signifies that there might be slight partiality when the commercial clerks are dealing with different income group. It's not a healthy sign for the good will of Indian railways.

After identifying the major problem areas in passenger service quality and examining the impact of those service quality factors on the passenger's satisfaction level as well as the image of Indian Railways, conclusion can be drawn with the following recommendations towards the IR authority which in long run help this sector to satisfy and delight their each and every passenger irrespective of age, gender, occupation, qualification and class.

This present research has already identified five major problem areas and their impact on passengers' mind. All those areas like Reliability, Staff Assistance, Responsiveness, Punctuality and Luggage Handling can be improved if the IR staffs as well as the management ready follow the guidelines given below:

- Learn to listen to the railway passengers first
- Look at all complaints of the service as an opportunity to improve
- Establish an environment where quality service is recognized and rewarded and poor service is challenged and rectified.
- Ensure that the railway staff feels they are an important part of organization's success
- Do things regularly to improve the quality of railway passenger service
- Make each and every staff happy so that they can help to restrain their existing passengers through their quality service.

In this way in passengers' mind it is high time to build up the image of Indian Railways as INDIAN's RAILWAYS very soon.

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