

A Study on Behavioural Dimension of Services in Delhi Metro: An Empirical Analysis

Govind Nath Srivastava

ABSTRACT

Behavioural dimension of the services has very prominent impact over customer satisfaction. Service industry is people centric and human element plays a critical and significant role in determining the success of service organization. Most of the successful service organization position themselves based on the people differentiation as it offers sustainable competitive advantage, which can not be imitated. The present paper analyzes the behavioral dimension of the services of Delhi Metro Rail Corporation based on the dimension of the service quality such as reliability and responsiveness. In this study, total 1015 respondents were taken for the study and the data was analysed by SPSS 20 statistical software. The data was processed by descriptive analysis and correlation. This study is part of the comprehensive study which was conducted for measuring the satisfaction level of commuters of Delhi Metro. The study reveals that there is significant impact of behavioral dimension on the passenger's satisfaction and commuters value the responsiveness, assurance, empathy and reliability shown by the employees.

Keywords : SERVQUAL, Perceived Value, Service Quality, Quality Dimension.

INTRODUCTION

Delhi Metro is significant breakthrough in the transport industry of India, especially in Metropolitan city. Delhi Metro is first rail based project of the world which received carbon credit for reducing green house gas emissions. It is reducing the pollution level of the city by 630,000 tones every year. Besides construction and operation of Delhi Metro, DMRC (Delhi Metro Rail Corporation) is also involved in planning and implementation of mono rail and high speed rail project in India and abroad. The timely completion of the project delivered by Delhi Metro is benchmark for all the projects of metro rail across the country. It resolved the problem of vehicle explosion up to great extent in the city and changed the way people were travelling earlier. It completely changed the meaning of traveling in Delhi and transformed hot and painful journey into a cool and

Govind Nath Srivastava

Doctoral Research Scholar
Banasthali University,
Vanasthali, Rajasthan, India.
nathgovind@gmail.com

comfortable one. People are enjoying while travelling through Metro and travelling in Metro rail is pleasant experiential journey. It not only provides safe and comfortable journey but also saves the precious time of passengers by reaching at destination on time. Delhi Metro is India's largest urban intervention in transportation sector after independence.

As profitability of organization is linked with customer satisfaction so it has become imperative for Delhi Metro to understand the relative importance of the factors which determine satisfaction level of the customers. Previous study suggests that Employee driven services has prominent impact over the customer satisfaction. Employee driven services can be judged on the basis of four dimension of the service quality namely, Reliability, Responsiveness, Empathy, and Assurance. Employee driven services include consistency in delivery of services, prompt services, Capabilities of employees to develop trust and confidence in the mind of customers for providing quality services.

RELEVANCE OF THE STUDY

In India, Metro Rail project is in inception stage and this project is expected to expand in different part of the country so the study on Delhi Metro would be relevant not only for Delhi Metro but also for Jaipur Metro, Lucknow Metro, Bangalore Metro and other expected projects. Moreover, measurement of employees driven services satisfaction of commuters gives an important clue to public transport organization about quality of service encounter between the employees and customers. The variables used in the study can be further extended to build comprehensive model to assess the impact of behavioural dimension over customer satisfaction.

OBJECTIVES OF THE STUDY

Following are important objectives of the study.

- 1 To identify the factors influencing customer satisfaction related to employees driven services of Delhi Metro Rail Corporation.

- 2 To examine the relationship between dimensions of service quality.
- 3 To analyze the association between employees driven services satisfaction and independent variables.

HYPOTHESES OF THE STUDY

Hypothesis is the statement which is yet to be proven. Following null hypotheses are framed keeping in mind objectives of the study:

H₀1: There is insignificant association between employees driven services satisfaction and variables causing satisfaction of passengers for employees driven services.

H₀2: There is insignificant association between dimensions of service quality associated with employees driven services.

REVIEW OF LITERATURE

The effectiveness of employees services are critical success factor for all the organizations irrespective of nature and type of the business. Despite increasing dominance of mechanical services in public transportation, critical services which require adaptation are eventually delivered by employees of the organization. Skill and competence of employees provide sustainable competitive advantage to the firm. Previous studies on the effectiveness of employees services reveal that the happiness among the employees at workplace increases the productivity by 10%.

Hoffman et al. (2010) in their study discussed the methods of examining service failure. Based on 373 critical incidents obtained from restaurant, they identified 11 unique failure types and 8 different recovery strategies. They used critical incident technique and also collected the data regarding customer retention. Service recovery strategies are different from complaint management and the basic purpose of service recovery strategy is to resolve the problem of the customers before customers raise the issue. It was found from the previous study that most dissatisfied customers do not share their grievances.

For effective execution of service recovery strategy, employees must be empowered and they must be rewarded and compensated based on their ability to resolve the problems of the customers. During the normal course of time, employees should follow rule, regulation and procedure but during the service failure employees must be empowered to take spontaneous action without taking the formal approval from the seniors.

Luthans in his interesting study analysed the Impact of Recognition on Employees Performance. He pointed out that although money receives the most attention as a reinforcer and incentive motivator and is even equated with reward systems by practicing managers, there is increasing evidence that contingently administered recognition can be a powerful reinforcer to increase employee performance. The purpose of his paper was to highlight the importance of recognition and acknowledgement.

Jankingthong et al. (2010), in their study described the factors affecting the job performance. They critically reviewed the existing literature on the topic.

Performance of the employees is most important dependent variable and researchers are studying this for a long decade. Employees are very important interface between the organization and customers customers form the perception regarding quality of the services based on the interaction with the employees. The effectiveness of performance of the employees depends on variety of the factors such as retention policy, conducive working environment, structure of the organization, employee's empowerment and organizational culture.

Borman and Motowidlo (1993) divided performance into task and contextual performance. Task performance was defined as the effectiveness with which job incumbents perform activities that contribute to the organization's technical core.

In an attempt to find out factors accountable for customer satisfaction or dissatisfaction,

Narnasivayam and Karthik (2005) presented conceptual model on relationship between misbehavior of employee and customer satisfaction.

Wen-Yi and Sit (2009) analyzed the service sector of Malaysia and investigated relationship between TQM (Total Quality Management) and customer satisfaction. Another interesting study on customer satisfaction was made by Kernbach and Sally (2005), in which authors examined that whether emotional intelligence displayed by the service provider leads to customer satisfaction or not.

Tripathi (2012) in his comprehensive study extensively reviewed the study on service quality with special reference to public transportation.

While analyzing the impact of self service technology over the customer satisfaction, authors Meuter, Matthew and Ostrom Amy (2000), presented 800 critical incidents. In another study researchers considered 724 critical service encounter in airlines, hotel and restaurants and found that customer's own misbehavior is accountable for their dissatisfaction and customer satisfaction is influenced by quality of interpersonal interaction between customer and service contact personnel.

Agarwal (2008) identified the factors which have maximum impact on satisfaction level of the customers with Indian Railways. She found that out of various factors employee behaviour has maximum effect on satisfaction level of the customers.

Sreedhar et al. (2012), in their study tried to find out association between five dimensions of service quality for Mehesh Motors and analysed that overall passenger satisfaction. Multivariate regression analysis was used for data analysis. They found that Mahesh Motors is good in the area of responsiveness, empathy and reliability.

Meyer and Mostert (2011) analyzed the effect of passenger satisfaction over long term relationship formation with special reference to south African domestic airlines. The authors pointed out that, most of the studies which were

conducted in airlines industries assessed the satisfaction of the passengers only and very limited studies were made to assess the impact of satisfaction over long term relationship. The authors further said that no such study was made from South African domestic airlines perspective. They also reviewed the literature about customer satisfaction and CRM (Customer Relationship Management) in airline industries.

Overall this can be said that employees' services are key result area and stability and growth of the organization largely depends on performance of the employees.

RESEARCH METHODOLOGY

Total 1015 sample respondents were taken for the study and initially 50 respondents were chosen to test the validity of the questionnaire. The validity of the questionnaire was tested by content validity test.

The variables influencing employees driven services satisfaction of commuters were explored by depth interview, focus group interview and through the study of existing literature. Here employees driven services satisfaction is dependent variable and variable causing satisfaction of passengers with employees driven services are independent variables. SPSS-20 statistical software was used to analyze the data.

CHOICE DESCRIPTION AND DATA COLLECTION METHOD

A well defined and structured method was used for collecting the data. Non disguised structured questionnaire was used for collecting the data. The questionnaire was revised various times before proceeding for final survey. In the first phase, questionnaires was sent to limited number of 20 carefully selected respondents.

Based on the feedback obtained from respondents, few questions were reworded and technical questions were removed from the questionnaire. In the second phase, pilot study was administered on 50 respondents. The questionnaire was tested based on three

parameters namely brevity, clarity and focus. Before proceeding for the final survey, questionnaire was also sent to experts for refinement of the questionnaire and minor alteration was incorporated.

The attitude scale was used for measuring the responses of the customers. Out of three attitude scale namely semantic differential scale, rank order scale and likert scale, likert scale was used for measuring the responses of the customers. The respondents were asked to indicate their views on five point likert scale right from strongly agree to strongly disagree. Total 1015 sample were collected from different metro station and maximum questionnaire was collected from busiest metro stations. Out of 1100 respondents, 1015 respondents were found usable. Response rate was 92.7% against original sample of 1100 respondents. Convenience sampling was used for data collection. Out of the three methods namely mail survey, telephonic survey and personal survey method, data were collected by personal survey method as it is more reliable.

ANALYSIS OF THE DATA

In this section of the study, descriptive statistics of employees driven services were presented in the form of mean and standard deviation. Standard deviation provides the information that how data deviate from the mean. Total four independent variables were identified for the study to analyze employees' driven services satisfaction of the commuters. Employees' driven services satisfaction is dependent variable while the factors causing satisfaction of commuters for employees driven services are independent variables. Descriptive analysis brings important insight about the study and it presents the data in terms of measure of location and measure of variability. The descriptive table describes mean, standard deviation of four variables causing employees driven services satisfaction of commuters.

Reliability Analysis of the Data

In order to test the reliability of the data, internal consistency reliability test was administered. In this test cronbach alpha has been used. Cronbach

alpha is different from correlation coefficient and it varies from zero to one. Cronbach alpha is estimate of reliability and higher value of cronbach alpha is indicator of reliability of the data. The data is said to be reliable when value of cronbach alpha is more than .6.

Table 1: Reliability Test

SN	No of Items	Cronbach Alpha
1	5	.917

The Table 1 shows that data is reliable by 91.7% which indicates that data is highly reliable. The above result also shows that there is very less percentage of error variance in the data.

Descriptive Analysis of The data- In this section of the study descriptive statistics of 5 variables were presented (4 independent variables and one dependent variable, Employees driven services satisfaction).

Table 2: Descriptive Statistics (Employees Driven Services)

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Departure timing	1015	1.00	5.00	3.0365	1.33000
Arrival timing	1015	1.00	5.00	3.0374	1.24296
Inconsistency in travel timing.	1015	1.00	5.00	3.1990	1.06578
Responsiveness of Employees.	1015	1.00	5.00	3.2167	1.04358
Employees services Satisfaction	1015	1.00	5.00	3.29	1.038

The Table 2 shows that the value of mean and standard deviation is in close range of the variation which indicates the validity of the construct used for the study. The above table shows that responses of most of the respondents lie above the neutral range. The above table also indicates that the variables used for the study belong to dimension of service quality namely Reliability and Responsiveness. Maintenance of departure timing, arrival timing and travel timing is related with 'Reliability', provision of alternative train and grievance redressal is related with 'Responsiveness'.

CORRELATION ANALYSIS

Correlation provides the information about strength and direction of relationship between two and more than two variables. The correlation coefficient measure the degree of linearity between two variables. "The correlation is used to explore the strength and direction of relationship between the variables", (Pallant-2007). As per the guidelines of Cohen (1998), correlation of about .10 may be regarded as small, correlation of about .30 as moderate and correlation of .50 and higher

Table 3: Inter Correlation Matrix of Employees Driven Services

	E ₁	E ₂	E ₃	E ₄	E _{ss}
E ₁	1	.850**	.758**	.611**	.647**
E ₂	.850**	1	.763**	.643**	.650**
E ₃	.758**	.763**	1	.562**	.544**
E ₄	.611**	.643**	.562**	1	.890**
E _{ss}	.647**	.650**	.544**	.890**	1

Here E_1 =departure timing, E_2 = arrival timing, E_3 =inconsistency in travel timing, E_4 =responsiveness of employees. E_{ss} = employees driven services satisfaction of commuters.

Table 3 gives the value of correlation coefficient for each pair of the variable. It shows that there is significant correlation between the variables causing employees driven services satisfaction of commuters. The correlation coefficient r between departure timing and arrival timing of the train is highest, $r=.850$ (Correlation between E_1 and E_2). It is also evident from the above table that all the variables are significant at 5% significance level.

It is also seen from the Table 3 that significant correlation exists between employees driven services satisfaction and several other variables accountable for satisfaction of commuter related to employees driven services. This proves that null hypothesis which states that there is insignificant association between the variables causing employees driven services satisfaction of the commuters (Independent variables) and employees driven services satisfaction (Dependent Variable) is rejected and alternate hypothesis is selected. Secondly, it is also seen from the above table that there is significant association between the variables related to dimension of service quality namely reliability and responsiveness.

It is evident from the Table 3 that there is significant association between departure timing, arrival timing, responsiveness of employees etc. All these variables are related with behavioral aspects and dimension of service quality. This implies that second null hypothesis which states that there is insignificant association between dimensions of service quality is rejected.

LIMITATIONS OF THE STUDY

In the present study, only 1015 sampled respondents are used which is not true representation of the population. This increases the possibility of sampling error. Secondly, data is not collected in the proportion of customer traffic at different metro station and maximum

responses were taken from busiest metro stations due to time and financial constraints.

This study focuses only on descriptive statistics for processing of the data and inferential statistics is not applied in the study. In this study equal weight is assigned to all the variables to avoid complexity of analysis; ideally different weightage should be assigned to variables from passenger's perspective.

FUTURE SCOPE OF THE STUDY

This study explores new area of the study as it was found from existing study that most of the studies were conducted on airways, roadways and waterways and insignificant study was found on light/metro rail. For refinement of the result, multiple methodologies (quantitative and qualitative) should be used and data should be collected in proportion of customer traffic at different metro stations. Quota sampling might be used for this purpose. The variables used in this study can be used for further study for Sub Urban Railway, Mono Rail and DTC buses with little modification based on objectives of the study.

CONCLUSION

The present study reveals that human element of the services plays a significant role in determining customer satisfaction associated with employees' services. It is also found from the study that responses of majority of the respondents lie above the neutral range. The result of inter correlation matrix reveals that there is significant relationship between employees driven services satisfaction and independent variables. It is also found from the study that there is significant association between dimension of service quality and human elements of the services is more important than mechanical elements of the services. It is suggested that Delhi Metro needs to deliver more effective services to commuters. Inconsistency in travel timing, delay of the train due to technical fault and break down of the engine is giving alarming signals.

REFERENCES

1. Agarwal, R (2008), "Public Transportation and Customer Satisfaction: The case of Indian Railways", *Global Business Review*, Vol. 9, No. 2, pp. 257-272.
2. Borman, W.C. and Motowidlo, S.J. (1997), "Task performance and contextual performance: The meaning for personnel selection research", *Human Performance*, Vol. 10, No. 2, pp. 99-109.
3. Hoffman et al. (2010), "Service Marketing Concepts, Strategies and Cases", Cengage Publication.
4. Korkaew, Jankingthong(2014), "The influential behaviour of individual, group and organizational level towards police station performance in the task of providing security to public", *Silpakorn university journal of social sciences, Humanities and Art*, Vol. 14, No. 1, pp. 7-18.
5. Kernbach,Sally et al.(2005), "The impact of service provider emotional intelligence on customer satisfaction", *Journal of service Marketing*, Vol. 19, No. 7, pp. 384-444.
6. Meuter,Matthew and Ostrom Amy (2000), " Self service technologies: understanding customer satisfaction with technology based encounters" , *Journal of Marketing*, Vol. 64, No. 3, pp. 50-64.
7. Meyer, C.F. De and Mostert, P.G. (2011), "The influence of passenger satisfaction on relationship formation in the South African domestic airline industry", *South African Journal of Business Management*, Vol. 42, No. 4, pp. 123-142.
8. Narnasivayam, Karthik, et al.(2005), "Linking employee misbehavior to consumer satisfaction", *Journal of Food Service Business Research*, Vol. 8, No. 3, pp. 23-24.
9. Sreedhar, R. (2012), "Service quality and passenger Satisfaction: An Empirical Analysis", *BVIMR Management Edge*,Vol.5,No-2, pp. 45-62.
10. Tripathi, Vibhuti (2012), "Measuring Service Quality in Indian Public Transport System: A Comprehensive Review", *Asia-Pacific Marketing Review*, Vol. 1, No. 1, pp. 113-119.
11. Wen -Yi and Sit(2009), " TQM and customer satisfaction in Malaysia,s service sector", *Industrial management and data system*, Vol. 109, No. 7, pp. 957-975.