

Determinants of Customer Satisfaction on Service Quality of Railway Platforms in Bangladesh: A Study on Chittagong and Dhaka Railway Platforms

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***Abstract:** The present study has been attempted to understand and examine the factors influencing the customers (passengers) satisfaction in the Bangladesh Railway Platforms. The study is exploratory in nature and used factor analysis to identify the foremost significant factors of customers' satisfaction with service quality. The research methodology is empirical and a survey of passengers (customers) was conducted. The study found that six factors are very significant with railway platforms. These are "Behavior, security, refreshment, lighting, information and basic facilities which bring 65.945% variance explained. Theoretical implications are dawn and discussed in the paper and a model has been proposed.*

***Keywords:** Customer, Satisfaction, Service, Quality*

1. Introduction

Satisfaction from service is gradually evaluated in the term of functional quality and technical quality (Gronroos, 1984). Naturally, all customers do not have enough knowledge about the technical aspects of the quality. So, functional quality has become the prime factors to form perceptions of service quality since ancient time. Satisfaction means the ratio between perceived value and expected value of goods and services. Satisfaction is customer's fulfillment response (Rust and Olivers 1994). Quality means capability of product and services to satisfy the target customers need and want as per expectation. Service quality is measured in terms of customer perception, expectations of customer satisfaction and customer's attitude (sachdev and verma, 2004).

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Service quality is the crucial factor for any service organization to craft the difference and obtain the shortcomings in Railway passenger service. Quality changes the nature of business competition and, possibly more than any other factor, it stated how companies make products or deliver services. In the global economy quality is just the entry ticket. It is recognized that high quality service is essential for organizations that want to be successful in their business (Parasuraman et al 1988; Rust and Oliver, 1994).

Bangladesh Railway (Bengali: বাংলাদেশ রেলওয়ে) (reporting mark BR) is the state-owned rail transport agency of Bangladesh. It operates and maintains the entire railway network of the country. BR is controlled by the Directorate General of Bangladesh Railway under the Ministry of Railways along with Bangladesh Railway Authority (BRA) which works for policy guidance of BR. Key features of BR are the coexistence of several gauges, Broad gauge, Metre gauge and dual gauge, and the separation of the system by the Jamuna River (Brahmaputra) into a Western and Eastern Zone of operations with only one bridge, the Bangabandhu Bridge, connecting the two zones. Bangladesh Railway covers a length of 2,855 route kilometers and employed 34,168 people. BR operates international, inter-city and suburban rail systems on its multi-gauge network. It also owns coach production facilities (Bangladesh Railway, 2012).

In the industry context, Bangladesh railway plays monopoly position in the transport industry, majority of its passengers are illiterate/ semi educated, low/ middle income with no/ low consciousness for quality aspects of service. Rails provide them with a convenient, accessible and affordable mode of transportation. The monopoly market structure has created a typical situation where the Bangladesh Railway has no competition and affords to ignore aspects such as customers' satisfaction, product promotion and quality of services. Now Bangladesh Railway has become a losing department due to lack of technical facilities, managerial facilities as well as dissatisfaction on the total railway services including the health and satisfaction. Very recently, many railway roads were stopped by the authority due to inadequate number of passenger's and loosing concerns. From the experience of neighboring country, we can justify that Bangladesh railway may become lifeline in the transportation sector of Bangladesh. This study focuses on the analysis of managerial aspects of services rather than to study the technical and engineering aspects of Bangladesh railway.

1.1 Statement of the Problem

The service of Bangladesh Railway can be divided into three broad categories; ticketing, on-board service and facilities at platforms. Through the field study it was found that Bangladesh railway applied modernize passengers' reservation to minimize ticket dispensing time. It is also mentionable that Bangladesh. Railway developed a

mobiticketing system by the bilateral contracts with mobile operators. On the other hand, it is also found that average on-board and platform services of Bangladesh Railway is very much poor as per passengers demand. There is a common complaint by the passengers that railway platforms have been the safe residential zone of crime. So, the passengers never feel secure with their luggages and belongings in the platform.

BR has undertaken various studies on its operation and engineering aspects. But no effort has been undertaken to measure the platforms management which is an important part of railway system. Waiting by passengers may range from 20 min to several hours (especially Bangladeshi context, due to late running of trains and wait for a connecting train).

There are various outlooks to explain this situation. But the present study observed that passenger's necessities to the platform services and their suffering may be mitigated by taking the study on railway platforms and suggesting right physical evidence as per service marketing mix. Hence, the study has been attempted to determine customer's (passengers) perceptions of satisfaction on service quality at railway platforms.

1.2 Literature Review

Various scholars have considered different dimensions of service quality. Gronoos (1884) considered technical, functional, and reputation quality; Lehtinen and Lehtinen (1982) considered interactive, physical, and corporate quality; and Hedvall and Paltschik (1989) focused on willingness and ability to serve and the physical and psychological access to the service. In conceptualizing the basic service quality model Rahaman R.K. & Rahaman Md. A (2009) explored that overall service satisfaction depend on eight distinct service quality attributes like security inside the train, environment inside the train, waiting arrangement, station information, space for moving on train, security in the station, behaviors of the staff in the station, waiting time for train. Geetika & Nandan, S. (2010) revealed that, five factors were important for determining satisfaction with railway platforms, the most important of which are refreshments, behavior, information system efficiency, basic facilities and security factors. Parasuraman et al. (1985a) identified ten key determinants of service quality as perceived by the service provider and the consumer, namely, reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding / knowing the customer, and tangibility to formulate a service quality framework, SERVQUAL. Parasuraman et al. (1988b) modified the framework to five determinants: reliability, assurance, tangibles, empathy, and responsiveness, or RATER.

The review of earlier work, point out that a lot of research works have been conducted the proposed subject but in a different economic and cultural status. In Bangladesh no in depth studies have been conducted on the subject. Such research gaps motivated the present researchers to undertake a study on the “*Determinants of Customer Satisfaction on Service Quality of Railway Platforms in Bangladesh*”.

1.3 Objectives of the study:

The study attempts to analysis the passengers’ perceptions on the platform services of Bangladesh Railway. The basic objectives of the study are viz:

- I. To identify the important factors determining service quality of Bangladesh railway platforms that lead to customers’ satisfaction.
- II. To develop a model of customer satisfaction in platform services.

1.4 Methodology of the study:

The study was an exploratory in nature. Universe of the study was defined the entire population of the country and foreign nationals visiting Bangladesh. The study was mainly based on primary data, the data were collected by designed questionnaire especially likert scale ranging from least satisfied” to most Satisfied” for measuring the customer degree of response with particular variables. The questionnaire included 16 variables to measure factors influencing customers’ satisfaction in the railway platform (appendix-1). Sample of the study was two major railway platforms (Dhaka Kamlapur Station platform and Chittagong Station platform). The sample platforms are very significant platform due to platform of capital city and platform of commercial capital city of Bangladesh. Total 100 samples were surveyed, of which 50 samples from Kamlapur railway station Dhaka and another 50 samples from Chittagong railway station at the time of waiting for trains in platforms since February 20, 2012 to March 30, 2012. For analysis of the collected data, the study used a sophisticated method of statistics “Factor Analysis” (FA) using Principal axis factoring and varimax rotation analyzing the collected data under the support of SPSS 18. Finally ranking of factors have been made on the basis of factor scores. The study utilized some secondary data to understand the customers’ satisfaction on service by using literatures, research monographs and relevant articles. Collected data were tabulated by the use of sound statistical methods to derive salient finding. These were then interpreted and incorporated in this study.

Table 1 Identification of Variables Influencing the Customer Satisfaction on Service Quality of Railway Platform in Bangladesh:

Code	Variables	Code	Variables
V1	Seating space	V9	Affordability of refreshments
V2	Lighting	V10	Quality of refreshment
V3	Fans	V11	Quantity of refreshment
V4	Pure drinking water and sanitation	V12	Security of self (passenger)
V5	Clarity of announcement	V13	Security of luggage
V6	Accuracy of announcement	V14	Behavior of porters
V7	Frequency of announcement	V15	Behavior of staff
V8	Reservation chart display	V16	Management of parking

2. Finding and Analysis

2.1 Analysis and Data Interpretation

Nhat and Hau (2007) identified the determinants of retail service quality using factor analysis. The same tool was used by Hsu et al. (www.academic-papers.org) and Agrawal (2008) to identify determinants of customer satisfaction on Internet shopping. Rahaman R.K. & Rahaman Md. A. (2009) to identify attributes affecting the satisfaction of railway passengers. The same method was used here to identify the factors determining customer (passenger) satisfaction. Factor analysis was done to identify the factors determining

passenger satisfaction on railway platforms and to test the hypothesis formulated regarding the factors determining passenger satisfaction. Data were analyzed using SPSS 18 software.

The passengers were asked to rate the 16 variables (Table 1) on a five-point scale according to their experience. The test of validity of data was examined with the help of a Kaiser-Meyer-Ohlin (KMO) measure of sample adequacy and Bartlett's test of Sphericity. The KMO statistic varies between 0 and 1. A value of 0 indicates that factor analysis is likely to be inappropriate; on the other hand 1 indicates that factor analysis should be yield distinct and reliable factor (Kaiser, 1974) recommends accepting values greater than 0.5 as acceptable (values below this should lead you to either collect more data or rethink which variables to include). Furthermore, values between 0.5 and 0.7 are mediocre; values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are superb (Hutcheson and Sofroniou, 1999). Table 2. Kaiser-Meyer-Ohlin Measure and Bartlett's Test

Table 2: Kaiser-Meyer-Ohlin Measure and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.731
Bartlett's Test of Sphericity	Approx. Chi-Square	1041.933
	df	120
	Sig.	.000

The above given table provide the information regarding data adequacy and validate of factor analysis for the current research. For these data KMO value lies on 0.731. According to Kaiser (1974) which falls into the range of being good; so, we should be confident that factor analysis is appropriate for these data. On the other hand, Bartlett's Test of Sphericity is Chi-Square value 1041.93 with 120 degrees of freedom at the 0.05 level of significance. The Test of Sphericity showed that significant is valued perfectly because of the significance $p < 0.05$. It was decided the appropriateness of factors and also suggested further investigation using Principal Axis Factoring method.

The correlation of all variables was subjected to Principal Axis Factoring analysis. The next step in the process was analysis of communalities to examine the rate of sample response similarity about variables which can be found from table-3.

Table -3 Communalities

Variables	Initial	Extraction	Variables	Initial	Extraction
Seating space	.405	.506	Affordability of refreshments	.331	.613
Lighting	.281	.427	Quality of refreshment	.441	.516
Fans	.231	.262	Quantity of refreshment	.297	.245
Pure drinking water and sanitation	.211	.371	Security of self (passenger)	.527	.718
Clarity of announcement	.327	.552	Security of luggage	.388	.422
Accuracy of announcement	.384	.492	Behavior of porters	.479	.606
Frequency of announcement	.257	.369	Behavior of staff	.521	.671
Reservation chart display	.230	.194	Management of parking	.239	.407

Extraction Method: Principal Axis Factoring

The above given table provided the results obtain through factor analysis. Each value under column extraction shows the percentage of similar response by the passengers against each variable. The value for security of self (passenger) showed that 71% passengers were found with similar response about this variable. It is 67% for behavior of staff and 61% for affordability of refreshments and for behavior of porter and so for others.

When a Principal Axis Factoring used, a rough rule of thumb was to choose the number of Eigen value with greater than one. The Eigen value were (appendix-2) showed that six factors could be extracted using the rule of thumb method.

The results from the survey were coded and entered for statistical analysis. The data obtained for the study were analyzed by using Principal Axis Factoring Rotation Method:

Varimax with Kaiser Normalization to identify the key factors, preferred by the respondents, also identified common dimension of variables from observed variables that have higher correlation with observed variables and seemingly unrelated but no correlation among the factors. Principal Axis Factoring with two rotated factor loading (Table -3) was performed on the survey data. Variables with a factor loading of higher than 0.5 were grouped under a factor. A factor loading is the correlation between the original variables with specific factors.

When the original sixteen variables were analyzed by the principal axis factoring with varimax rotation the factor analysis resulted in six factors- behavior, Security, Refreshment, lighting, information, and basic facilities. The six factors were found to have Eigen values greater than 1 e.g (3.984 to 1.018). It was also seen that those six factors covered around the 65.945% of total variance of railway platform services in the sample platforms. The factor loading of the variables determining satisfaction in each factor, the Eigen value and percent of variation explained by the factors showed in the table -4

Table- 4:- Factor Loading of Variables

Factor	Variables	Factor loading	Eigen Value	Percent of variation explained
Behavior towards Passengers	Behavior of railway staff	0.705	3.984	24.899
	Behavior of porters	0.538		
	Accuracy of announcements	0.538		
Security	Security of self (passenger)	0.740	1.914	11.965
	Security of luggage	0.593		
Refreshment	Affordability of refreshments	0.715	1.407	8.794
	Quality of refreshment	0.594		
Lighting	Lighting	0.576	1.118	6.985
Information	Clarity of announcement	0.597	1.111	6.942
Basic facilities	Pure drinking water and sanitation	0.582	1.018	6.360
	Total Variance		65.945%	
Sources:- Appendix 2, 3				

Table 3 given result provides statistical evidence to support identified determinants of customer satisfaction as refreshment, security, lighting, information, basic facilities and behavioral aspect of service quality. The given table is endowed with the synopsis of factors determining the customers satisfaction in the railway platforms. The most important factor determining satisfaction on railway platforms was found to be;

Factor 1: “Behavior toward passengers” since the Eigen value and percent of variation explained by this factor were 3.984 and 24.899, respectively. This factor consists of three variables (X15, X6, and X14) which have worked properly with factor loading (0.7050, 0.538, and 0.538), it has been found that the included variables explained the percent variation explained by this factor was 24.89% percent.

Factor 2: “Security” this is the second most important factor since the Eigen value and percent of variation explained by this factor were 1.914 and 11.965, respectively. This factor consists of two variables (X12, X13) with factor loading (0.740, 0.593), it has been found that the included variables examine the percent variation by this factor was 11.96%.

Factor 3: “Refreshment” this is the third factor since the Eigen value and percent of variance explained by factors were 1.407 and 8.794, respectively. This factor constitute with two variables (X9, X10) with factor loading (0.715, 0.594), it has been shown that included variables explained the percentage of variance was 8.8%.

Factor 4: “Lighting” this is the fourth factor since Eigen value and percent of variation explained by this factor were 1.118 and 6.985 respectively. This factor is a single variable X2 with factor loading 0.576; it has been found that variable explained the percent of variance was 6.98%.

Factor 5: “Information” is the fifth factor since Eigen value and percent of variation explained by this factor were 1.111 and 6.942, respectively. This factor included single variable X5 with factor loading 0.597, it has been found that percent of variance was 6.94%

Factor 6: “Basic facilities” this is the last factor since Eigen value and percent of variance explained by this factor were 1.018 and 6.360 respectively. This factor included variable X4 with factor loading 0.582. It has been shown that percent of variance was 6.36 %.

Through extensive study of statistical tools factors were ranked as per score to measure the priority of the factors among the determinating factors. Table 5 showed the rank among various factors.

Table 5 : Factor Ranking

Factors	Mean	Rank
Factor 1	1.733	1
Factor 2	1.580	4
Factor 3	1.435	5
Factor 4	1.602	3
Factor 5	1.704	2
Factor 6	1.092	6

Source : Appendix 4 (Highest is First)

The table-5 has denoted that factor 1 belongs to rank I, which suggests that Bangladesh railway should give first priority to factor 1 (Behavior toward passengers), second should be given to factor 5 (Information), third should be given to factor 4 (Lighting), then railway should give the priority to factor 2 (security) at last should give the priority to factor 3 and factor 6 (Refreshment and Basic Facility) for ensuring the customers satisfaction in the railway platforms of Bangladesh specially in sample platforms.

2.2 Customer Satisfaction Model:

On the basis of factor analysis, a model of customer (Passenger) satisfaction on railway platforms is proposed in the Figure 1. In the model, customer satisfaction is dependent variable and behavior towards passengers, security, refreshment, lighting, information and basic facilities are the independent variables.

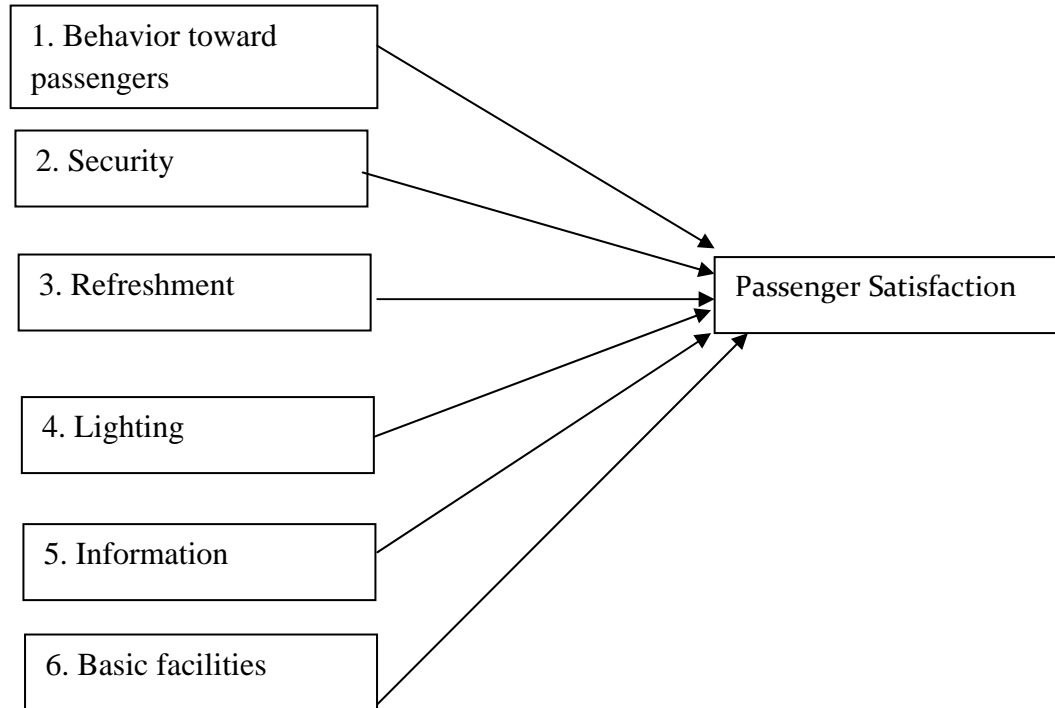


Figure 1. Research Model for Determinants of Passenger Satisfaction on Railway Platform

The model has been derived on the basis of statistical evidence; hence, it is validated. It can be further used and developed for similar other researches.

3. Result and Discussion:

The relation between overall passenger satisfaction and variables associated with service quality stated earlier through a satisfaction model. From this model it has been observed that the satisfaction of Bangladesh railway service in sample platforms were depended on six distinct service quality variables, such as behavior toward passengers, security, refreshment, lighting, information and basic facilities. These six variables covered the 65.945% variance of passenger satisfaction in the railway platforms of Bangladesh. Through statistical analysis (factor analysis SPSS 18, Principal Axis Factoring, Varimax Rotation), it was found that behavior of staffs and porters in platforms can play a significant role on the satisfaction of passengers in sample platforms. Security of passengers and luggage in the platform is another important factor for enhancing passenger satisfaction in platforms. On the other hand, refreshment facility affordable by

the passengers is another crucial factor for passenger satisfaction in the platform. By this way, information accuracy and clarity of announcement in the platforms is another justified factor for passengers' satisfaction in the platform as well as lighting, pure drinking water and sanitation are more defensible factor for overall passengers' satisfaction in the railway platforms of Bangladesh particularly in sample platforms.

According to the declaration of Bangladesh Railway Citizen Charter, this is the duty of Bangladesh railway to provide different types of customers (passengers) supporting services in platform including (security, information, lighting, seating space, sanitation, pure drinking water, polite behavior, available and affordable refreshment service etc.), on board, and other specific zones where customers have the necessity of service for maintaining the fundamental rights of passengers. But at the time of field study and close observation of sample platforms at different times in a week, it has been observed that the situation is beyond the question of satisfaction to the passengers. Reasons are as follows:

- **Behavior towards passengers:** - In the study it has been found that significant factor for overall satisfaction of passengers in the platform of Bangladesh is affected by the offensive behavior of staffs & porters. In ticket reservation system, entrance point and sometime platform officers do not maintain minimum code of conduct of human behavior. So, railway administration should focus on this particular point for maximizing passenger satisfaction in the platform area.
- **Security:** Through statistical analysis it has been proved that, security is second most influencing factor for overall satisfaction in platform area. It has been observed in sample platforms, passengers feel insecure about their personal life and luggage's in the platform area. It has been experiential that platform areas are the safe zone of addicted people, prostitute's, criminals and other types of antisocial people. By recently it has also been made out that in the platform areas very freely sell the different types of drugs through muscular people, but railway police are immobile to protect such types of works at the platform areas. By personal interview with stakeholders it has been found that, they are to manage the police people paying a substantial amount on a monthly basis. So, for maximizing passenger satisfaction in the platform areas, railway administration (BR) should ensure maximum security of passenger's and their luggage's at the time of waiting, traveling and on board.
- **Refreshment:** It has been found that refreshment at platform is the third important factor for overall passenger satisfaction in platform. It has been observed that, in platform area there have not any organized store, and restaurant. There have a few tea stalls and departmental stores (by name only) in platform area and their service quality is very poor & unhygienic. But their service charge is very high compare to

the stores of outside the platform. Hawkers are primarily dictating the platform business for passenger refreshment. But railway administration failed to take any punitive measures against those hawkers for ensuring quality services at the platform areas. So, railway administration (BR) should allow & give permission to those traders who are running similar types of business with reputation in other areas of the city.

- **Lighting:** It has been proved that lighting at platform is significant factor for passenger security in platform. It has been observed that, in the platform area; there have no sufficient lighting facilities. Passengers complained that insufficient lighting may cause of accident and boosting the security threat and criminal activities at platform areas. So, railway administration (BR) should ensure sufficient lighting in platform areas in day and night as per requirement of surface to accelerate the overall satisfaction of passengers platform service.
- **Information:** It is also attested that, information at platform is considerable factor for overall satisfaction to the travelling passengers. It has seen that, in sample platform there have not designed information desk for passengers help. It was noticed mismatch about announcement of train arrival and departure and announcement is not clear for poor sound system at platform areas. So, railway administration should maintain all necessary facilities to ensure accuracy and clarity of announcement at platform area to secure the overall satisfaction at platform service.
- **Basic facilities:** Basic facilities were testified factor for overall passenger satisfaction in platform. It is a fundamental factor for a passenger waiting time at platform. Lack of sufficient sanitation facilities and pure drinking water is a common phenomenon in the platform. By the close observation it has been found that at Chittagong railway platform only one toilet is available in female rest room, others were stopped due to lack of repairing. In both sample platforms there Lacs drinking water facility. Authority opined that, railway is taking project to facilitate the sanitation and pure drinking water for passengers at platform areas. So, railway administration should take all initiative to ensure pure drinking water and hygienic sanitation facility at railway platforms for maximizing passengers overall satisfaction.

4. Conclusion:

With the increase of transportation demand in this route, excessive pressure on railway service has emerged. But with increasing demand of service no effective initiative has yet been taken to improve the performance of railway service. However, in most cases the existing service quality at platform has not observed at satisfactory provision although a

large amount of passengers of different income brackets have dependency on this sector. So, it needs further improvement of this service so that more passengers may attract to use platform services. The satisfaction model will be helpful to determine the overall satisfaction that is overall situation of existing rail services in different circumstances. Furthermore this will provide the guideline for further assessment, betterment and improvement process. It will provide a mean of measuring the passenger perception in terms of platform service quality which in turn will help to assess the efficiency of supply side of service.

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Appendix I
Statistical Descriptive

Variable	Mean	Std. Deviation	Analysis N
X1	2.5462	1.0028	260
X2	2.7808	0.931	260
X3	2.2385	0.8814	260
X4	1.8769	0.9301	260
X5	2.8538	1.0735	260
X6	2.9385	0.7885	260
X7	2.8462	0.8696	260
X8	2.5692	1.0091	260
X9	2.2346	0.8759	260
X10	2.1423	0.8869	260
X11	2.1769	0.7856	260
X12	2.3962	1.0438	260
X13	2.3385	0.9137	260
X14	2.5692	0.9621	260
X15	2.6423	0.8956	260
X16	3.0077	1.0134	260

Appendix II
Correlation Matrix(a)

		X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16
Correlation	X1	1.000	0.364	0.219	-0.11	0.214	0.218	0.398	0.188	0.051	0.333	0.102	0.401	0.291	0.377	0.343	0.239
	X2	0.364	1.000	0.139	-0.08	0.219	0.208	0.182	0.142	-0.107	0.178	-0.015	0.106	0.092	0.308	0.262	0.247
	X3	0.219	0.139	1.000	-0.03	0.143	0.021	0.245	0.125	-0.018	0.159	0.106	0.371	0.23	0.153	0.187	0.223
	X4	-0.11	-0.08	-0.03	1.000	-0.064	-0.068	-0.109	0.046	0.164	0.134	0.12	0.023	-0.023	-0.223	0.077	0.132
	X5	0.214	0.219	0.143	-0.064	1.000	0.272	0.315	0.138	-0.066	-0.116	-0.23	0.228	0.236	0.174	0.182	0.157
	X6	0.218	0.208	0.021	-0.068	0.272	1.000	0.166	0.18	0.122	0.189	0.08	0.321	0.206	0.398	0.548	-0.038
	X7	0.398	0.182	0.245	-0.109	0.315	0.166	1.000	0.206	0.027	0.149	-0.005	0.216	0.144	0.16	0.172	0.098
	X8	0.188	0.142	0.125	0.046	0.138	0.18	0.206	1.000	0.163	0.259	-0.011	0.291	0.226	0.094	0.209	0.2
	X9	0.051	-0.107	-0.018	0.164	-0.066	0.122	0.027	0.163	1.000	0.374	0.383	0.139	0.007	0.13	0.166	-0.159
	X10	0.333	0.178	0.159	0.134	-0.116	0.189	0.149	0.259	0.374	1.000	0.23	0.368	0.155	0.398	0.405	-0.036
	X11	0.102	-0.015	0.106	0.12	-0.23	0.08	-0.005	-0.011	0.383	0.23	1.000	0.103	0.196	0.096	0.134	-0.002
	X12	0.401	0.106	0.371	0.023	0.228	0.321	0.216	0.291	0.139	0.368	0.103	1.000	0.523	0.451	0.528	0.099
	X13	0.291	0.092	0.23	-0.023	0.236	0.206	0.144	0.226	0.007	0.155	0.196	0.523	1.000	0.377	0.356	0.056
	X14	0.377	0.308	0.153	-0.223	0.174	0.398	0.16	0.094	0.13	0.398	0.096	0.451	0.377	1.000	0.502	-0.012
	X15	0.343	0.262	0.187	0.077	0.182	0.548	0.172	0.209	0.166	0.405	0.134	0.528	0.356	0.502	1.000	0.029
	X16	0.239	0.247	0.223	0.132	0.157	-0.038	0.098	0.2	-0.159	-0.036	-0.002	0.099	0.056	-0.012	0.029	1.000
Sig. (1-tailed)	X1		0	0	0.039	0	0	0	0.001	0.205	0	0.05	0	0	0	0	0
	X2	0		0.012	0.098	0	0	0.002	0.011	0.042	0.002	0.402	0.045	0.069	0	0	0
	X3	0	0.012		0.315	0.011	0.367	0	0.022	0.388	0.005	0.044	0	0	0.007	0.001	0
	X4	0.039	0.098	0.315		0.15	0.136	0.039	0.229	0.004	0.016	0.027	0.359	0.353	0	0.109	0.017
	X5	0	0	0.011	0.15		0	0	0.013	0.144	0.031	0	0	0	0.002	0.002	0.006
	X6	0	0	0.367	0.136	0		0.004	0.002	0.025	0.001	0.099	0	0	0	0	0.271
	X7	0	0.002	0	0.039	0	0.004		0	0.331	0.008	0.467	0	0.01	0.005	0.003	0.058
	X8	0.001	0.011	0.022	0.229	0.013	0.002	0		0.004	0	0.432	0	0	0.064	0	0.001
	X9	0.205	0.042	0.388	0.004	0.144	0.025	0.331	0.004		0	0	0.013	0.458	0.018	0.004	0.005
	X10	0	0.002	0.005	0.016	0.031	0.001	0.008	0	0		0	0	0.006	0	0	0.284
	X11	0.05	0.402	0.044	0.027	0	0.099	0.467	0.432	0	0		0.05	0.001	0.061	0.015	0.489
	X12	0	0.045	0	0.359	0	0	0	0	0.013	0	0.05		0	0	0	0.055
	X13	0	0.069	0	0.353	0	0	0.01	0	0.458	0.006	0.001	0		0	0	0.186
	X14	0	0	0.007	0	0.002	0	0.005	0.064	0.018	0	0.061	0	0		0	0.421
	X15	0	0	0.001	0.109	0.002	0	0.003	0	0.004	0	0.015	0	0	0		0.323
	X16	0	0	0	0.017	0.006	0.271	0.058	0.001	0.005	0.284	0.489	0.055	0.186	0.421	0.323	

Appendix III
Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.983834	24.898963	24.898963	3.5165896	21.978685	21.97868499	1.6897	10.560625	10.560625
2	1.9143809	11.964881	36.863843	1.3896887	8.6855543	30.66423926	1.5773165	9.8582281	20.418853
3	1.4070658	8.7941615	45.658005	0.8251996	5.1574972	35.8217365	1.4012723	8.7579521	29.176805
4	1.1175949	6.9849679	52.642973	0.611605	3.822531	39.64426753	1.1112594	6.945371	36.122176
5	1.1107798	6.9423735	59.585346	0.5462741	3.4142133	43.05848087	0.9038949	5.649343	41.771519
6	1.0176587	6.3603666	65.945713	0.4804012	3.0025075	46.06098835	0.686315	4.289469	46.060988
7	0.8701631	5.4385195	71.384233						
8	0.7963791	4.9773692	76.361602						
9	0.7115579	4.4472369	80.808839						
10	0.6382177	3.9888604	84.797699						
11	0.5987891	3.7424321	88.540131						
12	0.4579118	2.8619491	91.40208						
13	0.3799258	2.3745364	93.776617						
14	0.3424857	2.1405356	95.917152						
15	0.3352195	2.0951221	98.012274						
16	0.3180361	1.9877258	100						
Extraction Method: Principal Axis Factoring.									

Appendix IV
Rotated Factor Matrix (a)

	Factor					
	1	2	3	4	5	6
X15	.705	.319	.196	.159	.045	.078
X6	.665	.072	.058	.026	.197	-.037
X14	.538	.316	.190	.202	.004	-.374
X12	.342	.740	.171	.052	.145	.026
X13	.242	.593	.040	.010	.091	-.043
X3	-.050	.433	.055	.221	.140	.004
X9	.111	-.056	.715	-.204	.173	.121
X10	.266	.191	.594	.234	-.025	-.003
X11	.014	.138	.456	-.008	-.117	.061
X2	.269	.001	-.044	.576	.112	-.092
X16	-.119	.173	-.148	.492	.117	.293
X1	.174	.312	.189	.485	.267	-.190
X5	.257	.154	-.318	.065	.597	.011
X7	.033	.177	.080	.239	.498	-.159
X8	.123	.207	.150	.162	.251	.156
X4	-.019	-.009	.165	-.009	-.071	.582

Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization.

(a) Rotation converged in 10 iterations.

Appendix V
Factors grant average

Factors	Variables	Factor Loading (1)	Mean of Factors (2)	Factor loading* Mean of factor (1x2)	Total	AVERAGE OF FACOTRS
Behavior towards Passengers	X15	0.705	2.6423	1.8628215	5.1991536	1.7330512
	X6	0.665	2.9385	1.9541025		
	X14	0.538	2.5692	1.3822296		
Security						
	X12	0.74	2.3962	1.773188	3.1599185	1.57995925
	X13	0.593	2.3385	1.3867305		
Refreshment	X9	0.715	2.2346	1.597739	2.8702652	1.4351326
	X10	0.594	2.1423	1.2725262		
Lighting	X2	0.576	2.7808	1.6017408	1.6017408	1.6017408
Information	X5	0.597	2.8538	1.7037186	1.7037186	1.7037186
Basic facilities	X4	0.582	1.8769	1.0923558	1.0923558	1.0923558

(Source: Appendix 1 and IV)

Sir/ Madam

I am a university student. I want to collect valuable opinion on the following issues for conducting a research on a subject for meeting academic requirement. Hope your sincere cooperation in this regard.

(Please use \surd on your choosing boxes, please don't use double \surd for a single question)

Name:- _____ Profession: _____ Cell No: _____

1. Kamlapur rail station has sufficiency of seating space

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
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2. Kamlapur rail station has enough lighting in platform

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
-------------------	----------	----------------------------	-------	----------------

3. Kamlapur rail station has enough fans platform

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
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4. Kamlapur rail station has sufficient pure drinking water and sanitation

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
-------------------	----------	----------------------------	-------	----------------

5. Kamlapur rail station has enough clarity of announcements

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
-------------------	----------	----------------------------	-------	----------------

6. Kamlapur rail station has accuracy of announcements

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
-------------------	----------	----------------------------	-------	----------------

7. Kamlapur rail station has frequency of announcements

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
-------------------	----------	----------------------------	-------	----------------

8. Kamlapur rail station has enough reservation chart display

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
-------------------	----------	----------------------------	-------	----------------

9. Kamlapur rail station has enough affordability of refreshments

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
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10. Kamlapur rail station has enough quality of refreshments

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
-------------------	----------	----------------------------	-------	----------------

11. Kamlapur rail station has enough quantity of refreshments

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
-------------------	----------	----------------------------	-------	----------------

12. Kamlapur rail station has enough security of self (Passengers)

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
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13. Kamlapur rail station has enough security of luggage in platform

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
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14. Behavior of porters in Kamlapur rail station is very polite

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
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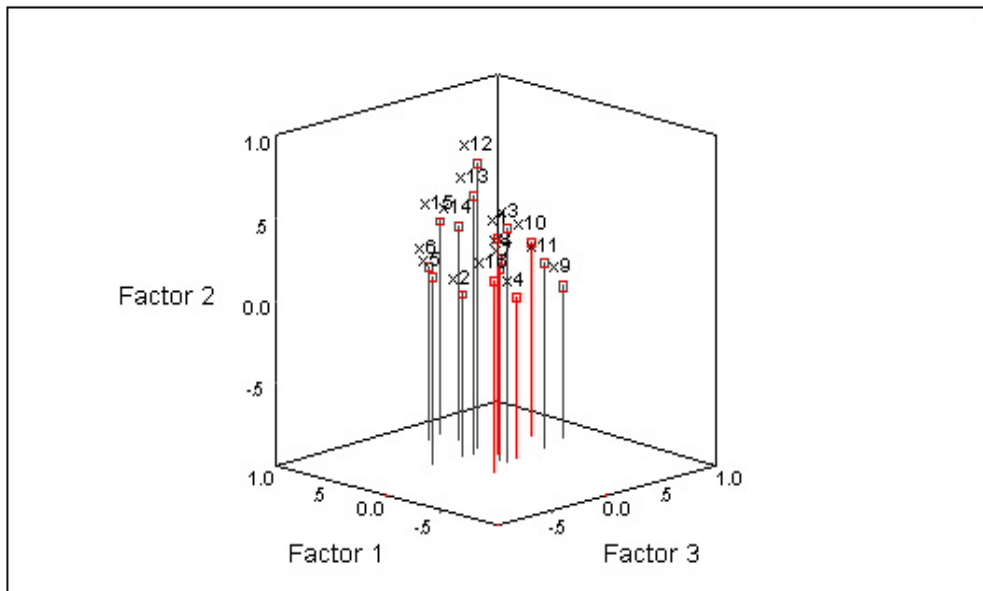
15. Behavior of staffs in Kamlapur rail station is very polite

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
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16. Kamlapur rail station has enough management of parking

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
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Factor Plot in Rotated Factor Space



Analysis weighted by P ARKING