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Findings of the usage of Passenger Amenities of Indian Passenger Bus Terminals

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Abstract—Improving the performance of urban bus service is important as it will improve the environment of Indian cities. People use buses for public transport/ It provide important mobility with in urban area. An important factor of a transport system is the quality of satisfied transfers and accessibility of the bus terminal amenities by the passengers. The facilities offered shall be safe, convenient, comfortable and easily accessible ones. A study has been conducted to measure the passenger satisfaction on the amenities provided at the bus terminal. To evolve solutions to enhance the performance of the passenger amenities is the motive of this study.

By designing an empirical research methodology and framework, a survey among the passengers was conducted. Respondents are selected at random and their perceptions are drawn out by means of an online questionnaire survey. Statistical analysis with SPSS and AMOS indicates that the performance of the amenities is lagging. For claiming better services to the people of a developed nation, the provision of amenities has to be improved. Out of the 23 indicator items used in the survey, 20 are reported below average The remaining three are not much promising. It is recommended to apply industrial engineering techniques by selecting each amenity for detailed study and improvement alternatives.

Keywords - Bus terminals, Passenger satisfaction, Amenities, Comfort, Safety, Industrial Engineering.

1. INTRODUCTION

A. BACKGROUND

Passenger satisfaction is an important term, that will change from person to person and companies to companies. Evaluation of passenger satisfaction is complicated, as it is related to the physical aspects of people and psychological state of mind. Studies are conducted to understand passenger attitude and passenger's satisfaction for the services availed [1]. It will worth to list out the knowledge that drives customer satisfaction and dissatisfaction in public transport domain. This will help design a better and profitable public transport. A good public bus transportation framework is a significant factor for the development of a nation [2].

B. SCOPE OF THE STUDY

The study of the utilization of bus terminals is of social and operational implications. Why this study is worthy is explain as given below:

- Bus terminals are very important mode of passenger transport.
- Users expect safe, easy accessible, convenient and comfortable transport.
- Lack of facilities prompt people to migrate to other transport modes.
- Collecting passenger opinion, observing the working and analysis of data in the industrial engineering context can contribute betterment of the service.

C. STATEMENT OF PROBLEM AND OBJECTIVES

Public bus transport services, being the most indispensable, help the people for mobility. Every passenger wants to avail better and comfortable travel. Study of the passenger amenities and layout of bus terminals will list out the gap (difference between that is needed and that is available for a convenient, safe and user's friendly passenger experience). Evaluation of the operation of the selected bus terminals, based on selected check points will provide avenues for improvement.

Objectives of this study are stated as follows:

1. To assess satisfaction of passenger amenities and facilities of the selected bus terminals.
2. To propose solutions that will enhance passenger amenities and facilities.

2. LITERATURE REVIEW

An integral factor for improving the efficiency of a transport system is the quality of convenient transfers and the movement of passengers within terminal spaces [3]. Interchange facilities are located at critical junctions of the

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Vol. 15 Issue 03 , March - 2026

route network where several types of services or modes intersect.

Passenger Satisfaction is a measurement of how a given service fulfils the passenger's expectations. In the context of public transport, satisfaction is the customer's overall experience with a service compared to his or her pre-defined expectations [4]. Singh [4] identified the areas for improvement of passenger satisfaction with public bus transport. Among the five factors used, comfort and safety are got most impact on overall satisfaction [5].

Kumar & Anand [6] measured the level of customer satisfaction of services offered by Uttar Pradesh State Public Transport Corporation. The study classified the factors most critical to satisfaction and decision making towards opting a service and surveyed data with a questionnaire. Abou-Zeid and Fujii [7] evaluated the satisfaction experienced by passengers for conveniences on amenities of platform at Allahabad Railway Junction, India. An aggregate of 32 platform amenities inspected through a sample of 1,248 passengers. Service quality performance matrix was arranged to distinguish luxuries requiring improvement. Customer Satisfaction Index was determined to decide a need for development of these amenities.

Nandan [8] studied the service quality of railway platforms and level of passenger satisfaction. The study was conducted by using questionnaire. The questionnaire included 16 variables to measure 7 customer (passenger) satisfaction from service quality, including: sufficiency of seating space, lighting, fans, drinking water and sanitation, clarity of announcements, accuracy of announcements, frequency of announcements, reservation chart display, affordability of refreshments, quality of refreshments, quantity of refreshments, security of self, security of luggage, behavior of porters, behavior of railway staff, management of parking.

Previous research lists the fundamental infrastructures as-ticketing and queuing areas for passengers, waiting room, passenger conveniences, security for baggage, where feeder infrastructure, seating, landscaping, lighting, wayfinding and public art are some of the things that are needed for supporting infrastructure [9], [10]. Passenger dissatisfaction can arise from other factors such as bus delays, insufficient customer service, lost luggage, or uncomfortable seating [11]. In the context of safety and security, there are three main factors that contribute to passenger dissatisfaction in terminals are inadequate boarding and departure facilities, insecure shelters and an absence of law enforcement agency surveillance [12], [13].

According to Lovelock and Wright [14], customer satisfaction can be thought of as a kind of emotional response that resulted from a real experience. The experience of having one's expectations fulfilled is known as satisfaction. According to Brunhn and George [15], customer satisfaction is the assessment of a good or service based on how well it satisfies the needs and expectations of the customer. Truong and Foster [16] state that there are two circumstances in which customer satisfaction occurs. The product or service fulfils the customer's expectations; and (2) The product or service surpasses the expectations. Ghosh & Ojha [17] measured passenger satisfaction of platform-based amenities. Regression analysis [18], [19], [20] service quality performance and user satisfaction index applied. Results confirm poor state of amenities.

Literature review discussed the significant findings about passenger satisfaction, bus terminal amenities, its use and service quality. Studies conducted about the linkage between these constructs in different context are useful to design the model and analysis plan of this study.

3. DESCRIPTION OF RESEARCH METHODOLOGY

This study aims to measure the passenger satisfaction and evaluate the data for evolving betterment suggestions. Review of the existing literature, theory of facilities layout design and contemporary research literature help identify the measurable constructs and methods. User satisfaction is revealed by a structured questionnaire survey conducted online. Indicators are identified from similar studies. Data collection is planned by distributing questionnaires as Google form. The data is sorted, screened, tabulated, coded and analyzed with IBM SPSS Statistics 27 and AMOS 17.

A. SCHEME OF WORK

1. Two bus terminals are selected for the study. After physical visit, review of literature and theory, necessary terms for evaluating passenger amenities are understood. CAD drawings of the bus station layouts are prepared.

2. Based on previous studies, a model and framework is developed to conduct the study.

3. Questionnaire items (total 23 indicators) are phrased on a Five - point Likert Scale. Google forms prepared.

4. Data collected online. Out of 150 inquiries, 113 complete responses are received.

5. Preliminary descriptives, validity and reliability tests, T-tests and ANOVA, fitting a multiple regression model and testing of hypotheses using Structural Equation Modeling are uses to analyze the data and to interpret the results.

B. FRAMEWORK DEVELOPED

Use of passenger amenities are measured under five constructs, namely, "Accessibility", "Comfort", "Safety and Security", "User Services" and "Overall Satisfaction". Total 23 indicators (two items of accessibility, 13 items of comfort, 3 items of safety, 4 items of user services and 2 items of overall satisfaction) are used for measurement.

A multiple regression model formulated to evaluate overall satisfaction is given by the following equation:

$Y = a_0 + a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4$ ……..
Where, Y = Overall Satisfaction

X_1, X_2 …… indicators of comfort, accessibility etc.

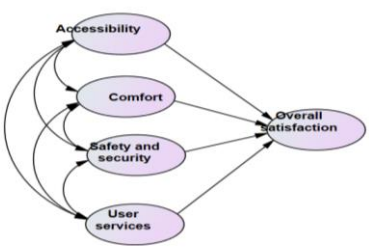

Figure 1: Structural Model

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Vol. 15 Issue 03 , March - 2026

Structural equation model used to evaluate the influence of the constructs on overall satisfaction of usage of passenger amenities is shown in Figure 1. Hypotheses formed to evaluate the influence is shown in Table 1.

Table 1: Hypotheses Formulated

Hypotheses	Description
H1	Accessibility leads to overall satisfaction
H2	Comfort leads to overall satisfaction
H3	Safety leads to overall satisfaction
H4	User services lead to overall satisfaction

C. SELECTION OF THE INDICATORS

There are five constructs used in this study. They are:

- Accessibility of bus terminals
- Comfort of the amenities
- Safety and Security
- User satisfaction
- Overall satisfaction of travel

1) Accessibility of Bus Terminals

This construct is measured with 2 questions representing the following indicators:

Table 2: Accessibility of Bus Terminals

Sl. No	Question
1	Ease of accessibility of bus stand
2	How satisfied by Parking services for other vehicles

2) Comfort offered

Comfort is measured with the following 13 indicator items:

Table 3: Indicators of Comfort

Sl. No	Question
1	Platform and Seating facility
2	Drinking water facility
3	Toilets
4	Rest Room for ladies
5	Pedestrian Facilities
6	Eateries / Canteen
7	Cleanliness
8	Free Wi-Fi facility in waiting area
9	Lighting condition
10	Facilities for disabled persons
11	First Aid Facility
12	Feeding room/child care area
13	Cloak rooms

3) Passenger Services

There is a large demand for more accurate and timely delivery of passenger information's, these are measured by asking the following questions:

Table 4: Passenger Services

Sl. No	Question
1	How do you satisfy with Announcement / Enquiry services in terms of clarity& accuracy
2	How well you are satisfied with the Information display (Bus schedule)
3	How well you rate willingness of staff to address queries
4	How well you satisfied with complaint redressal services

4) Safety and Security

Safety has great influence on passenger's choice of travel or level of satisfaction on the provided facilities. In order to measure passenger's satisfaction on the safety and security provided at the bus terminal following questions are asked:

Table 5: Safety and Security

Sl. No	Question
1	How well you satisfied with safety of luggage at waiting room
2	How well you satisfied with the self - security provided
3	How satisfied with the police assistance booth

4. RESULTS

A. Normality and Validity of Data

A structured questionnaire survey instrument is developed to measure the constructs "Accessibility of bus terminals", Comfort", "Service quality" and "Safety and Security". Four demographic variables are used for cross case evaluation. Gender, Age, Frequency of travel and Occupation of the respondent are the demographic variables used in this study. Normality of data set is a basic assumption needed for further statistical analysis. Normality is tested graphically by plotting the Histogram with normal distribution curve and then by conducting one sample Kolmogorov – Smirnov tests.

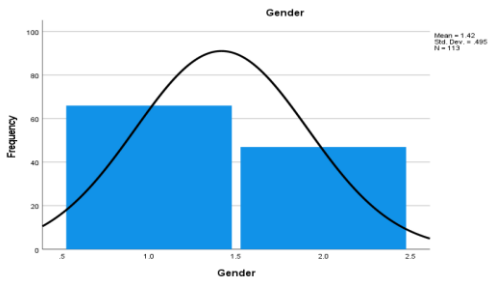

Figure: 4: Gender of Respondent

Kolmogorov – Smirnov test result is shown in Table 6. All the variables are normally distributed.

Table 6: Normality Test Results

One Sample Kolmogorov – Smirnov Test of Normality				
	Gender	Age	Occupation	Frequency of travel

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N		113	113	113	112
Normal Parameters	Mean	1.42	1.99	1.41	2.45
	Std. Deviation	.495	.491	.715	1.089
Most Extreme Differences	Absolute	.384	.422	.415	.248
	Positive	.384	.422	.415	.194
	Negative	-.297	-.410	-.285	-.248
Test Statistic		.384	.422	.415	.248
Asymp. Sig. (2-tailed)[c]		.000	.000	.000	.000
a. Test distribution is Normal.					

Content Validity is established from previous research findings. Construct validity (Reliability of the items) is established by the satisfactory values of Cronbach's Alpha (0.9 is considered excellent, 0.8 is very good, 0.7 is good and 0.6 is considered fair). Reliability values are shown in Table 7.

Table 7: Reliability values

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Ease of accessibility	.383	.949
Satisfaction on parking	.575	.946
Platform and seating	.576	.946
Drinking water	.636	.946
Toilets	.745	.944
Restroom	.638	.946
Pedestrian facilities	.680	.945
Canteen	.635	.946
Cleanliness	.706	.945
Wi-Fi	.511	.948
Lighting	.651	.946
For the disabled	.808	.943
First aid	.755	.944
Child care	.724	.945

B. Analysis of the Descriptive Statistics

Descriptive statistics (Mean and Standard Deviation) of the indicators show that the ratings of the bus terminal amenities are below average. Perception about the amenities are ranked from the lowest score as first and so on. The ranking of the amenities are shown in table 8.

Table 8: Mean scores of the Items

Descriptive statistics of questionnaire items, Ranked from lower to the higher N = 113, Minimum Score = 1, Maximum Score = 5			
Rank	Items	Mean	Std. Deviation
1	Toilets	1.92	1.019
2	Drinking water	2.14	1.043
3	Restroom	2.14	.999
4	Wi-Fi	2.15	1.079
5	Child care	2.25	1.082
6	First aid	2.41	1.015
7	For the disabled	2.43	1.060
8	Cleanliness	2.46	1.044
9	Cloak rooms	2.51	.992
10	Pedestrian facilities	2.59	.988
11	Overall rating of facilities	2.60	1.022
12	Complaint Redressal	2.64	.907
13	Canteen	2.65	1.042
14	Willingness of Staff	2.73	.869
15	Police assistance	2.73	.916
16	Self Security	2.81	.944
17	Platform and seating	2.84	.882
18	Satisfaction on parking	2.84	.872
19	Lighting	2.89	.967
20	Information display	2.93	.894
21	Enquiry services	3.03	.921
22	Safety of waiting rooms	3.05	.924
23	Ease of accessibility	3.10	.962

From the table it is clear that 20 out of the 23 items are reported with less than neutral satisfaction level. This means the state of the art of amenities are either very poor or poor. This situation has to be improved. The condition of the toilets, drinking water, Rest Room, Wi-Fi, Child Care facilities, arrangements for the disabled people, Cleanliness and condition of the cloak rooms are reported with least mean score (less than or equal to 2.51 in a Five – point scale). These scores indicate the urgent need to improve the situation.

C. Results of T-Tests and ANOVA

Purpose of T-test and ANOVA is to test for significant differences within groups. Four control groups, namely Gender of the respondent, Age, Frequency of travel and Occupation are selected for comparison of the scores. The dependent variable is overall satisfaction.

Following 16 hypotheses are tested by using T- tests and ANOVA:

Table 9: Overall Summary of the Hypotheses Tests

Hypothesis	Statement	Significance	Conclusion
H_{1a}	No difference in accessibility of bus terminals by male and females	> 0.05	The control variables, namely Age,
H_{1b}	No difference in accessibility of bus terminals by different age groups	> 0.05	
H_{1c}	No difference in the accessibility of	> 0.05	

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	bus terminals by occupational level		Gender, Frequency and occupation of the respondent did not influence the Accessibility, Safety, Comfort and User services.
H_{1d}	No difference in accessibility of bus terminals by travel frequency levels	> 0.05	
H_{2a}	No difference in the perceptions of comfort by male and females.	> 0.05	
H_{2b}	No difference in the perceptions of comfort by different age groups	< 0.05	
H_{2c}	No difference in the comfort by different travel frequency levels	> 0.05	
H_{2d}	No difference in the perceptions of comfort by occupational levels	> 0.05	
H_{3a}	No difference in the perceptions of safety by male and females	> 0.05	
H_{3b}	No difference in the perceptions of safety by different age groups	> 0.05	
H_{3c}	No difference in the perceptions of safety by travel frequency levels	> 0.05	
H_{3d}	No difference in the perceptions of safety by occupational levels	> 0.05	
H_{4a}	No difference in the user service by men and women	> 0.05	
H_{4b}	No difference in the perceptions of user service by different age groups	> 0.05	
H_{4c}	No difference in the perceptions of user service by different travel frequency levels	> 0.05	
H_{4d}	No difference in the user service by different occupational levels.	> 0.05	

One way ANOVA has been conducted for the control variables Frequency of Travel, Age and Occupation of the respondent. Neither of the groups indicated any significant differences among the measured values of Bus terminal accessibility, Comfort, User service and Safety. It is inferred that Frequency of Travel, Age and Occupation of the respondent do not make any significant difference. Results of one control variable (Frequency of travel) are summarized in table 9. Similar results are obtained for other control variables, namely age and occupation. of the respondent.

Table 9
ANOVA Test Results: Control variable – Frequency of Travel

		Sum of Squares	df	Mean Square	F	Sig.
Ease of accessibility	Between Groups	2.954	3	.985	1.065	.367
	Within Groups	96.120	104	.924		
	Total	99.074	107			
Satisfaction on parking	Between Groups	2.018	3	.673	.874	.457
	Within Groups	83.089	108	.769		
	Total	85.107	111			
Enquiry services	Between Groups	2.414	3	.805	.939	.424
	Within Groups	92.506	108	.857		
	Total	94.920	111			
Information display	Between Groups	1.065	3	.355	.434	.729
	Within Groups	88.363	108	.818		
	Total	89.429	111			
Willingness of Staff	Between Groups	.384	3	.128	.168	.918
	Within Groups	82.473	108	.764		
	Total	82.857	111			
Safety of waiting rooms	Between Groups	3.478	3	1.159	1.371	.255
	Within Groups	91.299	108	.845		
	Total	94.777	111			
Self - Security	Between Groups	6.282	3	2.094	2.458	.067
	Within Groups	91.995	108	.852		
	Total	98.277	111			

D. Fitting a Multiple Regression Model

A Multiple Regression model is fitted with Overall Satisfaction as dependent variable and all 23 indicators as independent variables. The linear regression is of the following form:

$$\mathbf{Y = a_0 + a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 - - - - - - - - - \text{ etc}}$$

where, Y represents the numerical score of overall passenger satisfaction and X_1, X_2, X_3, X_4 respectively are the numerical scores of the dimensions of passenger satisfaction. The fitted model explains 68 percent of the variability (R square value). This shows the presence of more variables, which are not included in this study. The regression coefficients indicate that fit with the regression equation is not supported with significant p values (p value less than 0.05). The model tested is not a stable one. This is a limitation of the fitted model.

Table 10: Regression Model Summary

Model	R	R Square	Adjusted R Square	R Square Change
1	.826[a]	.683	.602	.683
Predictors: (Constant), Police assistance, Wi-Fi, Ease of accessibility, Information display, Platform and seating, Restroom, Canteen, Cloak rooms, Willingness of Staff, Safety of waiting rooms, Satisfaction on parking, Enquiry services, Cleanliness, Lighting, Drinking water, Pedestrian facilities, First aid, Complaint Redressal, Child care, Self Security, For the disabled, Toilet				

E. Analyzing the linkage between variables using Structural Equation Modelling

A measurement model and structural model is used for testing and conformation of the proposed theory. It is basically a regression model. Four independent variables, namely Passenger Accessibility of bus terminal, Comfort, Safety and security and Passenger Services are the dependent variables. Above mentioned four dependent variables are used to predict the dependent variable “Overall passenger satisfaction”.

Measurement Model

In the measurement model, all the constructs are allowed to co-vary freely. The results are analyzed and checked for the results coming within the permissible limits for the parameters such as NFI, CFI, TLI, GFI (Different types of model fit indices) and statistical validity is checked with parameters such as RMR and RMSEA. Overall model fit is assessed with a Chi-square test, for which the significance level below 0.05 is considered as acceptable.

The standardized loadings show that there is strong correlation between the five constructs, namely, Comfort, Accessibility, Safety, User Services and Overall Satisfaction. All correlations are above 0.8, closer to the stated hypotheses. All indicators are connected to the respective constructs in a meaningful manner. The model fit is established by the Chi-square value of

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287.947, with degree of freedom 126, significant at 99 percent confidence level. RMSEA and GFI values are 0.107 and 0.838 respectively. Fit indices, NFI, CFI and TLI are 0.791, 0.716 and 0.866 respectively. These results are somewhat lower than the accepted level, but the model is reasonable because of the lower sample size (N = 113) used in this study. The measurement model is found valid and thus proceeded to carry out the confirmatory factor analysis.

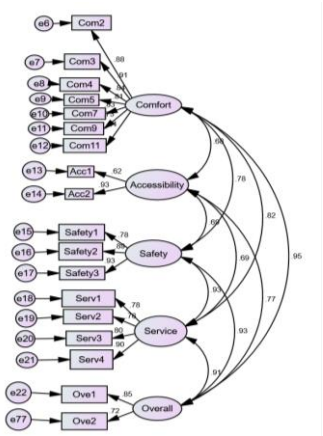


Figure 5: Measurement Model

Structural Model

In the structural model, a pre-defined structural relationship is tested. Here the relationship is a linear – multiple regression model. All paths of the structural model show the respective weightage or path coefficient. If this loading value is strong (above 0.7), the relationship is strong. Path coefficients give useful inputs for managerial decision making. Following hypotheses are tested:

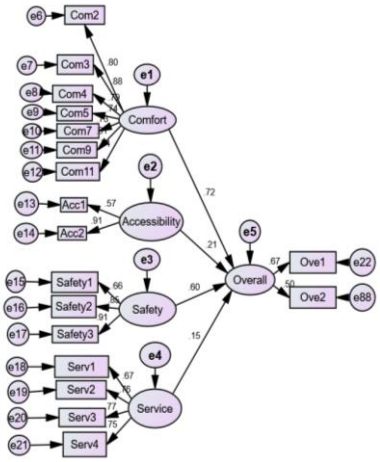
Table 11: Hypotheses Test Results

Hypotheses	Description	Value	Inference
H1	Accessibility leads to overall satisfaction	**0.21*** **	Weak influence
H2	Comfort leads to overall satisfaction	**0.72*** **	Strong influence
H3	Safety and Security leads to overall satisfaction	**0.60*** **	Moderate influence
H4	User services lead to overall satisfaction	**0.15*** **	Weak influence

The model is tested with a valid Chi-square of 451.51, with 131 degrees of freedom significant at 99.9 percent level. RMSEA value is 0.147. CFI, GFI, NFI and TLI values are between 0.672 and 0.734. These values are slightly higher than the acceptable. RMSEA value of 0.106. This deviation is attributed to the limited sample size. For higher sample size, more better values and thereby better results can be expected.

The user comfort leads to better satisfaction level/ Strong linkage between passenger comfort and satisfaction indicates the need to give extreme care to passenger comfort. But the linkage between user services and satisfaction is weak. The linkage between safety and satisfaction is also moderate. These are the areas identified for improvement. Depth surveys and detailed analysis are recommended.

Figure 6: Standardized loadings of Structural Model



5. CONCLUSIONS

- There is no significant difference (in majority cases) in the usage of bus terminals with respect to gender, age, occupation and frequency of travel. Condition of amenities are low. Average score of the (except for a few) indicators is below 3 in the five - point scale.
- Ratings of the indicators show that almost all areas need improvement. Study is based on a low sample size of 113. Analysis with large sample is needed.
- Regular users, casual users, different age groups and occupation status expressed their dissatisfaction on the use of amenities.
- Strong linkages between accessibility, comfort, safety and user services indicate the need of detailed study. The amenities of bus stations are lagging far behind the standards. The amenities are to be strengthened.
- Application of industrial engineering tools is recommended as an extended work.

REFERENCES

[1] Nikhila Ann Anil and Reghunathan Rajesh, “Study of passenger amenities and facilities in a bus terminal,” Mini Project Report of Masters in Industrial Engineering, Rajiv Gandhi Institute of Technology, Kottayam, unpublished, 2021

[2] Group. (2013). Transit capacity and quality of service manual.Transportation Research Board Of The National Academics.

[3] B.Jagadesh,G.Nagasubramaniyan (2017). “Assesment of Service Quality of public Bus Transport system(TNST) Tiruchirappalli”.International journal for research in Applied Science & Engineering Technology,Volume 5 Issue v..

[4] Singh, S. (2016). Assessment of passenger satisfaction with public bus transport services: A case study of Lucknow City (India). Studies in Business and Economics, 11(3), 107-128.

[5] SGA Architects (2015). “Bus Terminal design Guidelines.

[6] Kumar, M., Anand, V., & Srivastava, A. (2016). Public Transport Service Quality and Passenger Satisfaction: A Case of UPSRTC, Agra, India. Pacific Business Review International, 8(11), 82-92.

[7] Abou-Zeid, M., & Fujii, S. (2016). Travel satisfaction effects of changes in public transport usage. Transportation, 43(2), 301-314.

[8] Nandan, S. (2010). Determinants of customer satisfaction on service quality: A study of railway platforms in India. Journal of public transportation, 13(1), 6.

[9] Arabi, M., Beheshtitabar, E., Ghadirifaraz, B., & Forjanizadeh, B. (2015). Optimum locations for intercity bus terminals with the AHP

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Vol. 15 Issue 03 , March - 2026

approach: Case study of the city of Esfahan. International Journal of Environmental and Ecological Engineering, 9(2), 545–551.

[10] Saeedi, I., Mikaeili Tabrizi, A. R., Bahremand, A., & Salmanmahiny, A. (2023). Planning and optimization of green infrastructures for stormwater management: The case of Tehran West Bus Terminal. Natural Resource Modeling, 36(4), e12378. https://doi.org/10.1111/nrm.12378.

[11] Lushakuzi, S. S. (2011). Analysis of quality service factors and passengers' satisfaction at bus terminals in Dar es Salaam and Morogoro regions, (Doctoral dissertation, Tanzania Mzumbe University).

[12] Kyaw, K. S. (2022). Public bus transportation in Yangon City: A case study of passengers' satisfaction on Yangon Bus Services YBS (Doctoral dissertation,).

[13] Rahman, F., Chowdhury, D. T., & Haque, T. (2017). Identifying existing bus service conditions and analyzing customer satisfaction of bus service in Dhaka City. Journal of Transportation Technologies, 7, 107–122. https://doi.org/10.4236/jtts.2017.710 09.

[14] Dea van Lierop ,Madhav G. Badami &Ahmed M. El-Geneidy (2018).What influences satisfaction and loyalty in public transport? Transport Reviews Volume 38, - Issue 1.

[15] Lovelock,C&Wright,L.(2002). Principles of service marketing and management prentice –hall,Inc,New Jersey.

[16] Bruhn,M. &George, D. (2006). Managing the service value chain. Person education limited, London.

[17] Ghosh, P., & Ojha, M. K. (2017). Determining passenger satisfaction out of platform-based amenities: A study of Kanpur Central Railway Station. Transport Policy, 60, 108-118.

[18] Darren George, SPSS for Windows (2008): Pearson Education, New Delhi.

[19] Norman Blaikie (2003), "Analyzing Quantitative Data: From description to explanation", SAGE Publication, London.

[20] J. F. Hair, W. C. Black, B. J. Babin, R. E. Anderson and R.L. Tatham, "Multivariate Data Analysis", Pearson Education, 2011, New Delhi.

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