International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

A Study on Evaluating Challenges Faced by Commuters Towards Usage of Best Bus E Portal

Mr Umer Ali

Assistant Professor DRT's A.E Kalsekar Degree College, University of Mumbai

Abstract

One of Mumbai's most important public utilities, BEST (Brihanmumbai Electric Supplies and Transport), offers vital services including bus transportation and electrical supplies throughout the city. It is an essential part of the city's infrastructure and runs a sizable fleet of environmentally efficient buses. With features including bill payment, real-time bus monitoring, and route information, E-Portals for BEST give users access to online services for both electricity and bus transportation. These platforms seek to increase consumer convenience and expedite service delivery. The purpose of the study is to evaluate the challenges faced by commuters towards usage of BEST Bus e-portals. The technique used in the study is one sample t-test. The findings of the study indicated that User interface complexity, Frequent Technical Glitches, Lack of Real-Time Notification, Inconsistent Bus Location, Updates, Compatibility Issues with Devices, Insufficient Payment Options, Delayed Updates on Bus Routes, Inconsistent GPS Tracking, Complex Navigation for New User, Frequent App Updates Required, No Multi-Language Support are high problems faced by the commuters.

Keywords: BEST, One Sample t-test, E-Portals, Commuters.

INTRODUCTION

BEST buses are part of the vast network of bus services operated by the Brihanmumbai Electric Supply and Transport Undertaking (BEST Undertaking) in the Mumbai metropolitan area. The entire city of Mumbai is served by these buses, which also operate in neighbouring areas including Navi Mumbai, Thane, and Mira-Bhayandar. BEST offers inter-city services to the surrounding areas, which are outside of Mumbai's municipal borders, and its bus routes are extensive, connecting the city and its surrounding districts. BEST prioritises feeder links to improve connectivity as an adjunct service to Mumbai's main mass transport alternative, the suburban train system. Air-conditioned buses were added to the fleet in 1998, and the fleet runs on both diesel and CNG. Limited service buses are used on longer routes, high-capacity routes, and those that connect locations outside of Mumbai, even though the majority of BEST's routes are standard.

The organization's electric supply division sold millions of units of electricity and powered the city's streetlights while ensuring a steady supply of electricity to consumers in Mumbai's urban region through a large number of Receiving and Distribution Substations. In the meanwhile, residents might take advantage of bus services provided by the Transport department.

The Brihanmumbai Electric Supply and Transport (BEST) Undertaking provides several e-portals for both its power and transport services, boosting user ease and accessibility. Customers can pay bills, view usage information, and apply for new connections—whether temporary or permanent—through BEST's online

portal for electricity services. In addition to offering real-time account information, the e-portal lets customers access re-estimated invoices and adjustment amounts (BEST Undertaking, 2024). Regarding transportation, BEST's e-portal provides users with access to comprehensive bus routes, schedules, and real-time bus tracking, enhancing the commuter experience. BEST hopes to further streamline transport services with the introduction of electric buses, and travellers can readily obtain information on the fleet of environmentally friendly buses (Hindustan Times, 2024). These e-portals, which are a component of BEST's larger digital transformation strategy, improve the effectiveness and usability of critical services. The Brihanmumbai Electric Supply and Transport (BEST) e-portals are convenient, yet consumers still have to deal with a number of difficulties. The portal's intricacy and sporadic outages are frequent problems that can hinder customers' ability to access their accounts or make payments. This problem is especially annoying when a lot of people are attempting to finish transactions at busy times (BEST Undertaking, 2024). The website has also been found to be difficult to navigate, particularly when users are looking for specific information like re-estimated invoices or transport routes. Those who are less tech-savvy may become confused due to the user interface's occasional lack of intuitiveness. Technical issues that arise during transactions or when attempting to obtain real-time bus data present another difficulty. When attempting to follow buses or make online payments, users frequently encounter issues that can result in incomplete or delayed transactions (BEST, n.d.). Additionally, commuters may be misinformed or confused by the e-portals' incomplete updates of the most recent bus timetables or routes, especially in light of the recent increase of services and incorporation of electric buses (Hindustan Times, 2024).

Review of Literature:

1. **Sampada, Kulkarni., et al. (2024)** proposed to update India's public bus system by introducing a digital ticketing system in place of the old-fashioned cash-based one, which would increase efficiency, security, and convenience. According to the study, putting in place a digital ticketing system might solve operational inefficiencies, enhance transaction security, and drastically cut down on wait times. Furthermore, administrators could allocate resources more effectively because of real-time data analytics, which improved the public transportation industry's overall effectiveness and user experience.
2. **Gopi R, et al.(2024)** examined and assessed the main elements impacting the uptake and utilisation of electric buses in India's public transit network, with an emphasis on perceived obstacles within constrained resources. According to the study, the adoption and use of electric buses were greatly impacted by infrastructure impediments. For decision-makers looking to remove these obstacles and encourage the uptake of sustainable transport, the findings offered significant insights and management implications.
3. **Puri, K. K., & Pathade, M. (2023).** attempted to assess the variables affecting BEST bus users' use of the Chalo mobile application in the western suburbs of Mumbai, according to the study, the behavioural intention to use the Chalo mobile application was highly influenced by social influence, familiarity, and effort expectation. To boost app acceptance, it was recommended that BEST concentrate on these elements, stressing the value of upholding dependability and trust while making technological investments to serve a larger user base.
4. **Krishnan, S., & Gayathri, M. K. (2023).** investigated the difficulties that travellers in Krishnagiri town have while purchasing e-tickets, with an emphasis on comprehending problems about technology availability and accessibility. The study discovered that travellers' inability to book e-tickets was

significantly hampered by the lack of laptops or smartphones. The findings showed that even while e-ticketing is becoming more and more popular, some travellers still find it difficult to use it because they lack access to technology.

5. **Rohit, Verma., et al. (2020).** aimed to increase the safety and convenience of bus commuters by developing a navigation system that consumes less energy and offers real-time alerts about possible problems and estimated time of arrival (ETA). The study found that the proposed system achieved an average localisation error of 50 meters and an ETA inaccuracy of 2.5 minutes using probabilistic timed automata and landmarks. With its excellent warning accuracy and far lower energy consumption than GPS, the device proved to be a reliable and efficient choice for bus passengers.
6. **Datta, B., et al. (2018)** attempted to understand how business travellers in the Delhi National Capital Region choose online travel agencies while making travel arrangements. According to the report, when selecting an online travel portal, business travellers give top priority to security, confidentiality, and product quality. The study found that nine important factors, such as price, ease of use, and environmental impact, influence consumers' decisions to make purchases online.
7. **Najem, M. N., et al. (2016)** analysed the Saudi Ministry of Higher Education's (MOHE) Safer e-portal system to find any weaknesses that would prevent it from being reconfigured for use in other industries and to suggest ways to improve its functionality and performance. Three main flaws in the Safer system were identified by the study: ineffective archiving, no integrated email service, and scheduling restrictions. These problems were resolved by the suggested fixes, which improved the system's efficacy, security, privacy, and data integrity.

Objectives of the Study:

1. To evaluate the challenges faced by commuters towards usage of BEST Bus e-portals
2. To give effective suggestive measures to reduce the challenges faced by commuters

Hypothesis

H_0: The challenges faced by commuters towards usage of BEST Bus e-portals is low

H_1: The challenges faced by commuters towards usage of BEST Bus e-portals is high

Research Methodology:

Table No: 1 Research Methodology

Research Design	Descriptive
Data Collection	Primary and Secondary
Sampling Technique	Non-Probability Purposive Sampling
Sample Size	80 BEST Bus Commuters
Sample Size Determination	According to Faul et al. a minimum sample size of 45 is required for conducting a one-tailed one-sample t-test.
Statistical Technique	Parametric One-Sample t-test
Statistical Tool	R Studio Software

Data Analysis and Interpretation:

Table No: 2 One sample t test

Items	t – statistics	P – value	Ha: mean score of Study on evaluating challenges faced by commuters towards usage of BEST BUS E-portal > 3
User interface complexity	21.09	0.000	High Problem
Frequent Technical Glitches	22.45	0.000	High Problem
Lack of Real-Time Notification	22.77	0.000	High Problem
Inconsistent Bus Location Updates	23.76	0.000	High Problem
Compatibility Issues with Devices	23.99	0.000	High Problem
Insufficient Payment Options	23.00	0.000	High Problem
Delayed Updates on Bus Routes	21.67	0.000	High Problem
Inconsistent GPS Tracking	22.55	0.000	High Problem
Complex Navigation for New User	20.00	0.000	High Problem
Frequent App Updates Required	24.61	0.000	High Problem
Absence of Offline Access	-21.43	1	Low Problem
No Multi-Language Support	20.43	0.000	High Problem

Parametric one sample t – test (one tailed) is applied to examine **challenges faced by commuters towards usage of BEST BUS E-portal**. It is seen that p – value < 0.05 and t statistics > 1.96 for User interface complexity, Frequent Technical Glitches, Lack of Real-Time Notification, Inconsistent Bus Location, Updates, Compatibility Issues with Devices, Insufficient Payment Options, Delayed Updates on Bus Routes, Inconsistent GPS Tracking, Complex Navigation for New User, Frequent App Updates Required, No Multi-Language Support are seen as high problems. Whereas, Absence of Offline Access is seen as a low problem.

Conclusion:

The study concludes that passengers encounter several significant difficulties when utilising the BEST bus e-portal. Significant obstacles towards effective usage are caused by major issues such intricate user interfaces, frequent technical malfunctions, and irregular GPS monitoring. A lack of multi-language support, delayed bus route updates, and insufficient real-time notifications are further issues that commuters face that make the site less accessible. In addition, the user experience is made more difficult by the requirement for regular software updates, device compatibility problems, and a lack of affordable payment options. To improve the e-portal's usability and guarantee a smoother and effective travel for every commuter, these problems must be resolved. For consumers to be more satisfied, future enhancements should concentrate on making navigation easier, enhancing technological stability, and adding more user-friendly features.

Suggestions:

- Redesign the site with a simple, user-friendly structure to facilitate navigation, especially for new users. Confusion will be lessened, and the user experience will be enhanced overall.

- Increase the accuracy of real-time alerts about bus arrivals, delays, and route modifications. This will reduce waiting times and improve commuters' travel planning.
- Make sure the portal runs smoothly during periods of high traffic by testing and optimising the system on a regular basis to fix bugs and crashes.
- The GPS tracking technology needs to be enhanced to deliver precise and trustworthy location updates in order to help passengers monitor buses effectively.
- Offer a greater variety of payment methods, including credit/debit cards, UPI, and mobile wallets, to cater to a larger clientele and streamline the payment process.
- Include multilingual support to cater to Mumbai's varied population and make it easy for people from different language backgrounds to use the services.

References:

1. BEST Undertaking. (2024). Online services for electricity and transport. Retrieved from www.bestundertaking.net
2. Datta, B., Sajnani, M., & Thomas, J. (2018). The Decision Making Of Business Travellers In Selecting Online Travel Portals For Travel Booking: An Empirical Study Of Delhi National Capital Region, India. GeoJournal of Tourism and Geosites. 22 (2), 339–346.
3. Gopi R, Dev Vrat Pathak, Saurabh Pratap, Lakshay,(2024). Barriers and drivers for sustainable public transportation in Indian context, Green Energy and Intelligent Transportation, Volume 3, Issue 1.
4. Hindustan Times. (2024). City to get 900 AC double-decker e-buses in 9 months. Hindustan Times. Retrieved from www.hindustantimes.com
5. Krishnan, S., & Gayathri, M. K. (2023). A Study On Problems Faced By The Passengers In Booking E-Ticketwith Special Reference To Krishnagiri Town.
6. Najem, M. N., Alnoeim, F. A., & Najem, H. (2016). E-Portals are Valuable Productivity Multipliers, Important Shortfalls in the Safeer System in KSA and Proposed Possible Solutions for Them. International Journal for Infonomics, 9.
7. Pirani, S. (2024). Navigating Research Ethics: Strategies for preventing and Addressing Research Misconduct, International Journal of Multidisciplinary Research & Reviews, Vol 03, No. 02, PP.96-104.
8. Pirani, S. (2024). Navigating the complexity of sample size determination for Robust and Reliable Results, International Journal of Multidisciplinary Research & Reviews, Vol 03, No. 02, PP.73-86.
9. Pirani, S. (2024). Simplifying statistical Decision Making: A Research Scholar's Guide to parametric and Non-Parametric Methods, International Journal of Multidisciplinary Research & Reviews, Vol 03, No. 03, pp. 184-192.
10. Puri, K. K., & Pathade, M. (2023, February). A Study On Evaluating Antecedents Of Usage Of Chalomobile Application (Best Bus) In Western Suburbs Of Mumbai. In Conference On Cultivating Potentials In Education And Business (p. 1).
11. Rohit, Verma., Aviral, Shrivastava., Kingshuk, De., Bivas, Mitra., Sujoy, Saha., Niloy, Ganguly., Subrata, Nandi., Sandip, Chakraborty. (2020). A Smartphone-Based Passenger Assistant for Public Bus Commute in Developing Countries. IEEE Transactions on Computational Social Systems, 7(2):465-476. doi: 10.1109/TCSS.2019.2961390
12. Sampada, Kulkarni., Krushna, Nagare., Hansika, Amrutkar., Usha, Sree, Alekhya, Siddi., Yash, Hibare. (2024). E-Ticketing for Public buses. doi: 10.59256/ijrtmr.20240401006