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Unveiling Customer Delight in Paratransit Services under Mix Traffic Conditions

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A B S T R A C T

This study explores the concept of customer delight in paratransit services operating under mixed traffic conditions. By examining the factors that contribute to customer satisfaction and delight in such services, this research aims to provide insights for improving the overall passenger experience. Through a recent review, the study investigates the key elements that influence customer perceptions and behaviours in paratransit services. The inferences highlight the importance of service quality, reliability, accessibility, and customer service in creating a delightful experience for passengers.

Keywords: Travel Factors, Customer satisfaction, Para Transit System

INTRODUCTION

The concept of customer satisfaction has long been a focal point for researchers and practitioners alike. However, in the context of paratransit services operating under mixed traffic conditions, the emphasis on customer delight presents a unique and challenging perspective. Paratransit services, which cater to individuals with mobility limitations, face a myriad of complexities in providing efficient and satisfactory transportation experiences amidst varying traffic conditions. Understanding and uncovering the factors that contribute to customer delight in such services is crucial for enhancing the overall quality of service delivery and passenger experience.

This study aims to provide valuable insights for service providers, policymakers, and researchers by shedding light on the elements that lead to customer satisfaction and delight in this specific setting. The review carried out in this study contributes to a deeper understanding of how service providers can optimize their offerings to meet the unique needs and expectations of passengers with mobility limitations. Ultimately, the findings of this research have the potential to drive positive change in the realm of paratransit services, fostering enhanced customer experiences and greater overall satisfaction among passengers. Figure 1. Shows Para Transit System in Africa.

Figure 1. Para Transit System in Africa.

LITERATURE REVIEW

Tri Basuki Joewono and Hisashi Kubota explored user perceptions of private paratransit operation in Indonesia. It examines the quality of service, frequency of negative experiences, and loyalty to paratransit from the user's point of view. The study finds that overall satisfaction is influenced by certain determinants and that there is a loyal group of users who continue to use paratransit. It concludes that paratransit will still be relevant in the future in developing countries like Indonesia. The loyalty of users to paratransit plays a significant role in determining its future existence in developing countries like Indonesia. The study indicates that user satisfaction with paratransit services influences their loyalty to the mode of transport. The findings suggest that as users are more satisfied with the service, they are more likely to remain loyal to paratransit and continue using it in the future. This loyalty is crucial for the continued operation and relevance of paratransit in developing countries, as there is a community base that relies on this mode of transport.

Juremalani, J., & Chauhan, K. A. examined that the challenges of urbanization in emerging economies and the need to promote non-motorized vehicles for shopping trips. The study analyses the characteristics of shopping trips in Vadodara City, such as distance, travel time, and mode choice behaviour. It also examines the socio-economic background of the commuters to understand their preferences and needs. The findings suggest that promoting non-motorized transportation can have multiple benefits, including reduced pollution, fuel savings, improved health, and reduced congestion.

Javid Faizi et al. discussed the development of mode choice models for work trips in urban transportation planning. The models cover various modes of transportation such as private car, taxi, public bus, auto-rickshaw, motorcycles, shared car, bicycles, and walking. Factors that influence mode choice include socio-economic variables, network variables, and weather conditions. The article reviews different methods used for developing mode choice models, with the multinomial logit model being the most used. The application of mode choice models can help users make informed transportation choices and can contribute to reducing traffic congestion and air pollution in cities. The main factors that influence mode choice in urban transportation include socio-economic variables such as age, gender, car ownership, and family monthly income, as well as network variables like travel time, travel cost, comfort, reliability, employment, driving license, weather, and dust & noise. These factors play a significant role in determining the mode of transportation individuals choose for their work trips.

Thie Paratransit Service Analysis Study conducted by the Pioneer Valley Transit Authority (PVTA) in December 2014. The study aimed to provide an overview of PVTA's paratransit services, analyse ridership and service quality metrics, and make recommendations for improvement. The report includes information on service model, client eligibility, trip reservations, safety record, cost performance, and peer comparison. It also discusses future demand and introduces the methodology and organization of the report. Based on the Paratransit Service Analysis Study conducted by PVTA in 2014, the overall satisfaction with PVTA's paratransit services was high, with positive feedback on drivers, ride quality, reliability, and service characteristics. PVTA's safety record and service performance metrics were rated positively by customers. PVTA's paratransit system was compared to peer agencies in terms of ridership, service quality, and cost performance, showing that PVTA had lower unit costs despite lower productivity compared to peers. The recommendations made for improving PVTA's paratransit services include expanding travel training programs, revising contractual targets for preventable accidents, considering scaling back to the ADA minimum service area, and exploring a zoned service model. Other recommendations focus on driver re-training, adjusting run structures, and improving scheduling practices for better service efficiency.

Emmanuel Theodore Asimeng and Dirk Heinrichs discussed the implementation of Bus Rapid Transit (BRT) with the inclusion of incumbent paratransit operators in African cities, focusing on the case of Accra. BRT is considered a cost-effective and efficient mass transportation system, but its implementation becomes complex when there are existing paratransit operators. In Accra, the government attempted to implement BRT with the participation of paratransit operators but ended up implementing a conventional bus service instead. The article analyses the challenges faced during the planning and execution of BRT in Accra and draws lessons from the Ghanaian experience. It highlights the depth of change required by both paratransit operators and government institutions as a major obstacle to successful BRT implementation. The article recommends a more gradual approach to BRT implementation in African cities, considering the significant capital investment, capacity, and governance reforms involved.

CONCLUSION

The findings suggest that as users are more satisfied with the service, they are more likely to remain loyal to paratransit and continue using it in the future. This loyalty is crucial for the continued operation and relevance of paratransit, emphasizing the significance of meeting user expectations to ensure the sustainability of paratransit services in countries like Indonesia.

The study found high overall satisfaction with PVTA's paratransit services, positive feedback on drivers, ride quality, reliability, and service characteristics. Recommendations for improvement included expanding travel training programs, revising contractual targets for preventable accidents, exploring a zoned service model, and enhancing scheduling practices for better service efficiency.

A more gradual approach to BRT implementation is recommended to address these challenges, considering the substantial capital investment, capacity, and governance reforms required. The loyalty of users to paratransit also plays a crucial role in determining its future existence in developing countries like Indonesia and Ghana.

References

A N Mahidadiya, Jayesh Juremalani (2016) Estimation of passenger car unit value at signalized intersection. International Journal of Scientific Research in Science, Engineering and Technology. pp1317-1324.

Jayesh Juremalani, K. A. Chauhan (2017) Comparison of different mode choice models for work trips using data mining process. Indian Journal of Science and Technology.

Jayesh Juremalani, K A Chauhan (2017) Evaluation of Use of Non-Motorized Vehicles for Shopping Trips under Mix Traffic Conditions. ASCE India-1st National Conference.

Subhrata Biswal, Jayesh Juremalani, Tejas Pandya, Dharmesh Juremalani. (2021) Feasibility Study of Construction and Demolition Waste Use in DBM Layer of Flexible Pavement. Elementary Education.

Shaikh Nazneen Mushtaq, Jayesh Juremalani, Siddharth Gupte (2017) Literature review on saturation flow at signalized intersection under mixed traffic flow condition. International Journal of Science Technology & Engineering.

Naitik Gandhi, Jayesh Juremalani. (2019) On-Street Parking Problems in CBD Area & Remedial Measures-A Case Study of Godhra City. International Journal of Civil Engineering and Technology. Volume 10 issue 3.

Vaishali Mahavar, Jayesh Juremalani (2018) Literature Review on Traffic Control Systems Used Worldwide. Journal of Emerging Technologies and Innovative Research. Volume 5 issue 5.

Faizi Ahmad Javeed, Bagadia Sanket, Juremalani Dharmesh, Jayesh Juremalani (2019) A critical appraisal of mode choice model of work trips. International Journal of Engineering and Advanced Technology. pp1766-1770.

Raj Kothiya, Tejas Pandya, Jayesh Juremalani, Dharmesh Juremalani (2022) Evaluation of Pedestrian Road Crossing Behavior at Signalized Intersection. Elementary Education Online. Vol 20, issue 4, pp. 1770-1776.

Akash Kumar, Ankita Sharma, Jayesh Juremalani, Dharmesh Juremalani. (2021) Analysis of Road Accidents under Mix Traffic Conditions-A Case Study of Vadodara City. Ilkogretim Online. Volume 20 Issue 4,

Devang J Bhavsar, Jayesh Juremalani, Dharmesh Juremalani, Tejas Pandya (2021) Partial Replacement Of Stone Sand By Natural Sand In Concrete". Ilkogretim Online. Volume 20 Issue 4.

Paratransit Service Analysis Study Final Report (2014) Pioneer Valley Transit Authority (PVTA)

Emmanuel Theodore Asimeng, Dirk Heinrichs (2021) Bus Rapid Transit Implementation with the Inclusion of Incumbent Paratransit Operators in African Cities: Lessons from Accra. Urban, Planning and Transport Research 2021, VOL. 9, NO. 1, 534–548.

Tri Basuki Joewono, Hisashi Kubota (2007) User Perceptions of Private Paratransit Operation in Indonesia. Journal of Public Transportation. Vol 10, Issue 4.