

Factors Affecting Satisfaction and Loyalty in Public Transport using Partial Least Squares Structural Equation Modeling (PLS-SEM)

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Abstract: With an increasing number of privately own vehicles in Malaysia, the popularity of public transports is increasingly challenged by ride-hailing services such as Grab, MyCar, JomRides and MULA. To develop effective strategies aimed at retaining users, it is necessary to understand the factors that affect users' satisfaction and loyalty in public transport. In this study, we propose that satisfaction and loyalty in public transport are associated with five key factors: accessibility, reliability, perceived value, comfort, and safety and security. Data collected from a survey of 179 public transport users in Kuching city was used to test the research model. Partial least squares structural equation modeling (PLS-SEM) was used to analyse the data. The main findings were that safety and security, and reliability significantly affected the users' satisfaction and loyalty in public transport, while no statistically significant relationship was found among accessibility, satisfaction and loyalty. These findings not only contribute to the theory development of transportation research but also help practitioners to develop novel strategies aimed at increasing public transport usage.

Keywords : Accessibility, Reliability, Perceived Value, Comfort, Safety and Security, Satisfaction, Loyalty, PLS-SEM.

I. INTRODUCTION

Public transport is an important element to the economic and social development of the nation. Shifting from privately own vehicles to public transport such as buses, rails, taxis, and boats comes with many benefits which include improved air quality, less traffic congestion and lower noise pollution. Nevertheless, the increasing number of privately own vehicles has not encouraged people to use public transport as the main mode of transport [6]. Moreover, with the increasing ownership of vehicles, ride-hailing services such as Grab, MyCar, JomRides and MULA have rapidly increased. These ride-hailing services have been widely used by people in Malaysia because they come with benefits such as easy booking, flat and cheaper rate fees, and shorter wait times.

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One way to increase public transport usage is to retain current users while at the same time attracting new ones. Improving customer satisfaction and loyalty have long been recognised as the key to business success in today's challenging business environments. Not surprisingly, much of the recent studies on transportation research have raised a concern about the study of customer satisfaction and loyalty. In this study, the concept of satisfaction refers to a customer's positive feelings with a service compared to his or her expectations [3], and the concept of loyalty is defined as a customer's intended future usage and willingness to recommend a service based on his or her previous experiences [35], [59], [60].

In order to develop comprehensive strategies that can increase public transport usage, it is necessary to identify the key factors affecting users' satisfaction and loyalty. Although there has been an increasing amount of literature on factors influencing passengers' satisfaction and loyalty, these studies usually measure the factor by using a single item [35]. This study aims to fill the gaps by examining and providing empirical evidence on the relationships between multiple factors and users' satisfaction and loyalty in public transport.

The rest of the paper is organised as follows. Section 2 shows the theoretical context, the proposed research model and hypotheses. Section 3 presents the research methodology of the study which includes research design, measures, data collection procedure and data analysis. Section 4 contains the findings of the study. Section 5 provides a discussion on the findings. Section 6 is the last section of the study and this section presents implications and limitations of the study and recommendations for future research.

II. LITERATURE REVIEW

A. Accessibility

Accessibility refers to the ease in which a passenger can boards and alights the vehicle [15], [60]. Many researchers argue that accessibility is an essential factor affecting the intention of individuals to use public transport and revisit same destination [13], [46], [56]. Indeed, accessibility was found to be a crucial factor in retaining and attracting passengers to experience public transport service in the study of Lai and Chen [41]. Furthermore, other studies have also examined and provided empirical evidence of a positive relationship between accessibility and satisfaction as well as loyalty in public transport [10], [38], [60].