

Multivariate Analysis of Customer Satisfaction: A Case Study of Bangkok's Mass Rapid Transit (MRT) Passengers

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Abstract: One of the service quality indicators for urban rail transit system is the service evaluation from a passenger's viewpoint. The key objective of service quality analysis is to improve services such that user expectations and needs can be met. This study aims to analyze customer satisfaction of Bangkok's mass rapid transit (MRT) system. Data was collected from 661 respondents by means of questionnaire survey. Based on 31 service quality attributes, relationships between the overall customer satisfaction and service quality attributes are analyzed using factor analysis and structural equation modeling. Results indicate that travel convenience is the most significant factor affecting the overall satisfaction. Other factors include transit fare, service and information, cleanliness and safety, transit facilities, and access/egress to stations. Furthermore, market segmentation analysis reveals distinct findings across four categories of MRT users. It is expected that results can be used to enhance the overall performance of urban rail system.

Keywords: Customer Satisfaction, Bangkok's MRT, Factor Analysis, Structural Equation Modeling

1. INTRODUCTION

Transit quality of service is regarded as one of the important tools to evaluate transit performance. The key objective of quality of service analysis is to improve services such that user expectations and needs can be met. While transit operators and practitioners traditionally strive to maintain their own service performances, such services provided may not necessarily be in line with passenger's viewpoint. Thus, it is essential to take into account how passengers assess and perceive dimensions of transit services, qualities, and system. Understanding them would help transit operators derive relevant determinants of service quality from their customers and better manage transit services.

According to the second edition of the Transit Capacity and Quality of Service Manual, the quality of service is defined as "*the overall measured or perceived performance of transit service from the passenger's point of view*" (TRB, 2003). Transit quality measures primarily focus on two major aspects of transit services, namely, the availability of transit service and the service's comfort and convenience. Since the quality of service is measured from passenger's point of view, it is important to determine proper determinants of service quality and their potential relationships towards overall satisfaction.

Various benefits can be observed when improving customer satisfaction. First existing customers can be secured. Secondly, the frequency of system usage can be increased. Thirdly, transit agencies could attract new passengers with a more positive public image (TRB, 1999). In addition, customer satisfaction evaluation can be used as a benchmark or can be used to track customers over time via longitudinal surveys.