THE DIMENSIONS INFLUENCING RAIL MASS TRANSIT RIDERSHIP IN THE BANGKOK METROPOLITAN AREA

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School of Public Administration
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ABSTRACT

Title of Dissertation	The Dimensions Influencing Rail Mass Transit Ridership in the Bangkok Metropolitan Area
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The purpose of this dissertation is to investigate the dimensions influencing Rail Mass Transit (RMT) ridership in the Bangkok metropolitan area. The study asks three primary questions: What are commuter characteristics for selected modes of transportation? What factors do commuters consider important for switching over to Rail Mass Transit systems? And, what demographic and location variables are associated with commuters' attitudes on the dimensions influencing Rail Mass Transit ridership? In order to answer these questions, the dissertation encompasses the following: a review of the major advantages of RMT-based development; an examination of commute characteristics and reasons for using RMT systems in the Bangkok metropolitan area; identification of major factors in commuters' decisions to switch to RMT systems; determination of the rankings of the dimensions influencing RMT ridership; and an analysis of the demographic and location effects on the dimensions influencing RMT ridership.

An extensive review of the literature yielded seven dimensions influencing RMT ridership, namely, Price/Promotions, Government/External, Safety/Security, Information, System Availability, Facilities and Commuter Convenience, and Service Quality concepts. Accordingly, the research study focused on measuring commuter attitudes on these six dimensions.

The sample for the study consisted of 1,715 RMT commuters in Bangkok. Data collection using questionnaires was carried out at 41 RMT stations during October and November 2007.

The research findings concerning commute characteristics indicate that the majority of RMT users (65.3 percent) are occasional users, and only 22.5 percent are frequent users. In terms of demographics, RMT riders tend to be under 41 years of age (75.8 percent), single (63.1 percent), and predominantly female (59.6 percent). They also tend to have higher education levels (71.4 percent have at least a bachelor's degree) and higher incomes. Roughly one-fifth of commuters are students, 23.1 percent are public sector employees, and 38.8 percent are private sector employees. The two most cited reasons for using RMT systems are routine and work (or study) related, while the next two reasons are recreational.

With respect to the dimensions influencing RMT ridership, commuters rank the Price/Promotions and Safety/Security dimensions as the two most important factors. Gender, education, income and occupation are significantly associated with differences in attitudes on these two dimensions.

Analysis consisting of agglomerative hierarchical clustering using Ward's variance method yielded seven subgroups within the two primary groups. A K-means nonhierarchical cluster analysis was performed to for the two primary cluster groups with relatively homogeneous attitudes on the dimensions influencing RMT ridership. The first cluster group had lower scores on all dimensions influencing ridership, while the second cluster group had higher scores. The first group consists mainly of women, students, and persons with lower education and income levels, while the second group tends to be comprised of males, government officials, and persons with higher education and income levels.

The findings from cluster analysis suggest that RMT policymakers and system operators should consider providing customized measures to target commuter cluster groups based on the relative importance assigned by each group to the dimensions influencing RMT ridership. Findings from the study can be utilized by policymakers to formulate agendas and development plans to encourage motorized vehicle users to switch over to RMT systems, thereby creating financial feasibility for additional RMT development and formulation of policies where RMT systems are utilized for sustainable transportation development.

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