



# Electric Vehicles among Small Retailers in Lagos: Financial and Environmental Impact Study

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## Abstract

Electric vehicles (EVs) are increasingly being considered as a sustainable transportation solution for small retailers in Lagos, Nigeria, given their potential to reduce operational costs and environmental impact. This study employs a mixed-method approach including surveys and interviews with small retailers to gather data on their operational costs, energy consumption patterns, and perceptions regarding EVs. Econometric models are used to analyse the financial impacts of adopting EVs. A preliminary econometric analysis suggests that EVs could decrease operating expenses by up to 20% for small retailers in Lagos, with a significant reduction in fuel costs being the primary driver. The findings indicate that while there are potential financial benefits, other factors such as initial investment and technological readiness may need consideration before widespread adoption. Small retail businesses should be provided with incentives to offset initial EV purchase costs. Additionally, improvements in charging infrastructure are recommended to enhance the feasibility of adopting EVs. The empirical specification follows  $Y = \beta_{0+\beta}^{-1} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** Nigerian, EVs, Lifecycle, Modelling, Sustainability, Retail, Transition, Urbanization

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