Methodological Evaluation of Transport Maintenance Depot Systems in Uganda Using Multilevel Regression Analysis to Measure Adoption Rates

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Abstract

Transport maintenance depots (TMDs) play a crucial role in ensuring efficient vehicle operations within Uganda's transportation sector. A mixed-method approach was employed, combining quantitative data from surveys with qualitative insights gathered through interviews. Multilevel regression models were utilised to analyse the impact of various factors on adoption rates. In one region, a proportion of 72% showed significant interest in adopting TMD systems, indicating high potential for system implementation. The multilevel regression analysis revealed that environmental support and infrastructure availability are key determinants influencing the adoption of TMDs. Investment in supportive policies and improved infrastructure is recommended to facilitate wider adoption of TMD systems in Uganda. Transport Maintenance Depots, Adoption Rates, Multilevel Regression Analysis, Uganda The maintenance outcome was modelled as $Y\{\} = beta\,0 + beta\,1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Transportation, Maintenance, Depots, Multilevel, Regression, Analysis, Africa*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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