



Methodological Assessment of Transport Maintenance Depot Systems in South Africa: Quasi-Experimental Evaluation of Adoption Rates

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Abstract

The adoption of transport maintenance depot systems in South Africa has been inconsistent across different regions. A mixed-methods approach was employed, combining quantitative data from surveys with qualitative insights from interviews. The study utilised logistic regression for predicting adoption outcomes and robust standard errors for assessing the reliability of results. In a sample of 100 depots, we observed an adoption rate of approximately 65%, with significant variation across different regions (e.g., urban vs rural). The quasi-experimental design provided robust insights into the factors affecting the adoption rates and highlighted areas for improvement. Policy-makers should prioritise training programmes tailored to specific regional contexts to enhance depot system adoptions. The maintenance outcome was modelled as $Y_i = \beta_0 + \beta_1 X_i + u_i + \varepsilon_i$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: Sub-Saharan, African, methodology, survey, research, quasi-experimental, transportation

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