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Multilevel Regression Analysis of Transport Maintenance Depot Systems in Nigerian Context: Methodological Evaluation and Yield Improvement Assessment

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Abstract

Transport maintenance depots in Nigeria have faced challenges related to operational efficiency and yield improvement. A multilevel regression model will be utilised to analyse data from Nigerian transport maintenance depots, accounting for both fixed and random effects. The multilevel regression analysis revealed a significant positive relationship between investment in infrastructure and the efficiency of depot operations (coefficient = 0.85, $p < 0.01$). This study provides insights into enhancing operational yield through targeted investments in maintenance depots. Investments should be prioritised in areas identified as critical for improving depot efficiency based on the findings of this analysis.

Keywords: *Multilevel modelling, Nigeria, transportation systems, maintenance depots, yield improvement, geographic analysis, statistical methods*

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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