



Panel Data Estimation for Measuring Efficiency Gains in Nigerian Transport Maintenance Depots Systems: An Empirical Analysis

Obioma Osita¹, Funmilayo Ogunley^{1,2}, Chinwe Okoro³

¹ Babcock University

² National Institute for Medical Research (NIMR)

³ Department of Civil Engineering, National Institute for Medical Research (NIMR)

Published: 18 June 2010 | **Received:** 04 March 2010 | **Accepted:** 01 May 2010

Correspondence: oosita@hotmail.com

DOI: [10.5281/zenodo.18906578](https://doi.org/10.5281/zenodo.18906578)

Author notes

Obioma Osita is affiliated with Babcock University and focuses on Engineering research in Africa.

Funmilayo Ogunley is affiliated with National Institute for Medical Research (NIMR) and focuses on Engineering research in Africa.

Chinwe Okoro is affiliated with Department of Civil Engineering, National Institute for Medical Research (NIMR) and focuses on Engineering research in Africa.

Abstract

Efficient transport maintenance depots are crucial for reducing logistics costs in Nigeria's post-harvest sector. Panel data from 10 major transport maintenance depots over five years were analysed using a stochastic frontier model to estimate technical efficiency. The estimated average efficiency gain across all depots was 25%, with significant variability between depots. This study provides empirical evidence on the performance of Nigerian transport maintenance depots, contributing to their optimization and cost reduction. Implementing targeted interventions based on identified inefficiencies could further enhance depot operations and logistics performance. transport maintenance depots, efficiency gains, panel data analysis, Nigeria, stochastic frontier model The maintenance outcome was modelled as $Y_i = \beta_0 + \beta_1 X_i + u_i + v_i \epsilon_i$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: Nigerian, Panel Data, Efficiency, Econometrics, Logistics, Transportation, Maintenance

ABSTRACT-ONLY PUBLICATION

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

✉ **REQUEST FULL PAPER**

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge