



Adoption Rates in Transport Maintenance Depots Systems: A Randomized Field Trial in Kenya

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Abstract

Transport maintenance depots (TMDs) play a critical role in ensuring the reliability and safety of vehicles within transport systems. In Kenya, these depots are essential for regular vehicle servicing and repairs. However, their operational efficiency can be influenced by various factors such as staff training, equipment availability, and customer service. A randomized field trial was conducted across five randomly selected urban and rural depots, involving over 200 participants representing various user groups including drivers, fleet managers, and depot staff. Data collection included pre- and post-trial surveys to measure changes in adoption rates and satisfaction levels with the TMD systems. The findings indicate that a structured organisational model significantly increased adoption rates by 35% compared to depots without such structures, demonstrating a clear positive impact on user engagement and system effectiveness. Specifically, drivers showed higher satisfaction (90%) when their depot was organised according to best practices. This randomized field trial provides valuable insights into the factors that influence the adoption of TMD systems in Kenya's transport sector. The structured organisational model emerges as a key driver for enhancing user satisfaction and system performance. Based on these findings, it is recommended that all future depots adopt a structured organisational approach to maximise adoption rates and improve overall service quality. The maintenance outcome was modelled as $Y = \beta_0 + \beta_1 X + u_i + \epsilon_i$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *African geography, adoption rates, randomized trials, maintenance systems, transport reliability, field evaluation, service protocols*

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