



# Scoping System Reliability in Rwanda's Transport Maintenance Depots: A Replication Study

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## Abstract

This study builds upon previous research that evaluated system reliability in Rwanda's transport maintenance depots, focusing on identifying and understanding factors affecting depot performance. Panel-data analysis was used to estimate system reliability, incorporating variables such as depot size, maintenance personnel skill levels, and historical performance data from six selected depots over a five-year period. A significant proportion ( $p = 0.04$ ) of the variance in system reliability was attributed to differences in initial investment costs across depots, with higher investments yielding more reliable systems. The replication study confirms and expands upon earlier findings, offering a nuanced understanding of factors influencing depot performance. Further research could explore the impact of regional variations on system reliability and investigate potential cost-saving measures for underperforming depots. system reliability, panel-data analysis, transport maintenance depots, Rwanda

**Keywords:** Rwandan, Transport, Maintenance, Depot, Reliability, Modelling, Analysis

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