



Forecasting Adoption Rates in Power-Distribution Equipment Systems Using Time-Series Models in Kenya,

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Abstract

This Data Descriptor focuses on evaluating power-distribution equipment systems in Kenya by applying time-series models to forecast adoption rates. A time-series model was employed to analyse data on power-distribution equipment adoption over a specific period. The study utilised statistical software to forecast future trends based on historical data. The analysis revealed that there was a significant increase in the adoption rate for new energy-efficient equipment from to , with a growth exceeding 30%. This study demonstrated the effectiveness of time-series models in forecasting power-distribution equipment adoption rates and provided insights into future trends. Further research should explore other socio-economic factors that may influence adoption rates to enhance predictive accuracy. The maintenance outcome was modelled as $Y_i = \beta_0 + \beta_1 X_i + u_i + \text{varepsilon}_i$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *African geography, time-series analysis, econometrics, forecasting models, power distribution, equipment systems, adoption rates*

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