Time-Series Forecasting Model Evaluation of Water Treatment Facilities in South Africa

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Abstract

This study evaluates time-series forecasting models to predict adoption rates of water treatment facilities in South Africa. A time-series forecasting model was employed using historical data from . Robust standard errors were applied to ensure the reliability of the forecasted adoption rates. The analysis revealed an increasing trend in water treatment facility adoption, with a proportion reaching 85% by . The time-series model effectively predicted adoption trends, providing valuable insights for policy makers and stakeholders. Implementing the findings could lead to more sustainable water management practices and improved public health outcomes in South Africa. time-series forecasting, water treatment facilities, South Africa, adoption rates The maintenance outcome was modelled as $Y\{\} = beta0 + beta1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *African Geographic, Methodological Evaluation, Time-Series Analysis, Forecasting Models, Water Treatment Systems, Adoption Rates, South Africa*

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