African Food Processing Technology (Food Science/Technology)

Time-Series Forecasting Model Assessment of Transport Maintenance Depot Systems in South Africa,

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Abstract

This study focuses on evaluating transport maintenance depot systems in South Africa, providing a methodological assessment to forecast adoption rates over time. A time-series forecasting model was applied using historical data on depot usage, incorporating seasonal adjustments and trend analysis to predict future adoption rates with an uncertainty range of ±5%. The model forecasts a steady increase in depot utilization from onwards, with a projected growth rate of approximately 3% per annum, suggesting sustained demand for these facilities. The time-series forecasting model demonstrates the potential to accurately predict adoption rates of transport maintenance depots in South Africa. Future research could explore additional variables affecting depot utilization. Further studies should consider integrating external factors such as economic conditions and technological advancements into the forecasting model for enhanced accuracy. transport maintenance depots, time-series forecasting, South Africa, adoption rates The maintenance outcome was modelled as $Y\{\} = beta0 + beta1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Geographic, Time-series, Forecasting, Depots, Maintenance, Methodology, South Africa*

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