



Methodological Evaluation of Secondary Schools Systems in Uganda via Time-Series Forecasting Models for Clinical Outcomes Assessment

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Abstract

Secondary schools in Uganda face challenges related to clinical outcomes due to resource constraints and educational disparities. A comprehensive analysis was conducted using ARIMA (AutoRegressive Integrated Moving Average) model for forecasting clinical outcomes over a period of five years, with robust standard errors accounting for prediction uncertainty. The ARIMA model demonstrated an R^2 value of 0.75 in predicting school performance metrics related to student health and well-being, indicating a moderate fit. This study confirms the utility of ARIMA models in forecasting clinical outcomes within secondary schools systems in Uganda. Further research should explore integration of these forecasting tools into existing educational policies for improved clinical outcomes assessment. secondary schools, time-series forecasting, ARIMA model, clinical outcomes, Ugandan education The empirical specification follows $Y = \beta_{0+\beta} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: African context, qualitative methods, intervention studies, longitudinal analysis, resource allocation, time-series analysis, socioeconomic indicators

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