Time-Series Forecasting Model for Measuring Adoption Rates in Tanzanian District Hospitals Systems,

Mashika Ndagwelu[1,2], **Kamkwamba Sserunkuma**[1,3]

[1] Department of Surgery, Nelson Mandela African Institution of Science and Technology (NM-AIST), Arusha

[2] Department of Internal Medicine, Tanzania Commission for Science and Technology (COSTECH)

[3] Tanzania Commission for Science and Technology (COSTECH)

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Correspondence: mndagwelu@aol.com

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Author notes

Mashika Ndagwelu is affiliated with Department of Surgery, Nelson Mandela African Institution of Science and Technology (NM-AIST), Arusha and focuses on Medicine research in Africa.

Kamkwamba Sserunkuma is affiliated with Department of Surgery, Nelson Mandela African Institution of Science and Technology (NM-AIST), Arusha and focuses on Medicine research in Africa.

Abstract

This study aims to evaluate the adoption rates of new healthcare technologies in Tanzanian district hospitals over a specific period. A time-series forecasting model was employed using historical data from Tanzanian district hospitals. The model incorporates robust standard errors to account for uncertainties in adoption rate predictions. The analysis revealed a significant increase (23%) in the adoption rates of electronic health records systems over the study period, with variability explained by seasonal fluctuations and technological advancements. This research provides evidence that supports the effectiveness of time-series forecasting models in monitoring healthcare technology adoption trends across district hospitals in Tanzania. The findings suggest implementing regular updates and continuous evaluation to ensure sustained adoption rates of new medical technologies. District Hospitals, Healthcare Technology Adoption, Time-Series Forecasting, Robust Standard Errors Treatment effect was estimated with $text\{logit\}(\pi)=beta0+\vec{\beta}\,p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, district hospitals, forecasting models, time-series analysis, healthcare technology adoption, econometrics, public health systems*

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