



# Time-Series Forecasting Model for Evaluating Secondary School Systems Adoption Rates in Ethiopia: A Theoretical Framework

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## Abstract

Secondary school systems in Ethiopia have been under significant scrutiny for their adoption rates over time, with limited empirical studies providing a comprehensive analysis. A time-series forecasting model, specifically an autoregressive integrated moving average (ARIMA) model, will be employed to forecast adoption rates based on historical data from the Ethiopian Ministry of Education. This theoretical framework establishes a robust methodological approach to evaluating secondary school systems in Ethiopia using time-series forecasting models, providing insights into educational system dynamics and potential policy implications. The findings from this study should inform policymakers on the most effective strategies for improving adoption rates of secondary education systems in Ethiopia. Future research could focus on validating these predictions with actual data over a longer period. The empirical specification follows  $Y = \beta_{0+\beta}^{\rightarrow} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *Sub-Saharan, Africa, Time-Periodic, Qualitative, Regression, Forecasting, Stochastic*

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