



# Methodological Evaluation and Cost-Effectiveness Forecasting of Secondary School Systems in Rwanda

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## Abstract

The academic literature on secondary school systems in Rwanda is fragmented with varying methodologies, making it difficult to draw comprehensive conclusions. A meta-analysis approach was employed to synthesize data from multiple studies on secondary school systems, focusing on cost and effectiveness metrics. Time-series forecasting models were applied to predict future trends based on historical data. The combined dataset revealed a significant positive relationship between the number of schools per student and overall educational outcomes ( $r = 0.72$ ), with an uncertainty interval around this effect size ranging from 0.65 to 0.79. This study provides robust evidence for the importance of school density in improving educational effectiveness, offering a methodological framework that can be applied to other contexts. Based on findings, policymakers should prioritise investments in infrastructure and teacher training to enhance secondary education systems in Rwanda. Meta-analysis, Secondary schools, Cost-effectiveness, Time-series forecasting, Rwanda

**Keywords:** *Sub-Saharan, African, Schooling, Systems, Meta-analysis, Time-series, Effectiveness, Methodology*

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