



Methodological Evaluation of Secondary School Systems in Tanzania Using a Difference-in-Differences Approach to Assess Adoption Rates

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Abstract

The secondary school system in Tanzania is a critical component of its education sector, aimed at providing quality education to young adults. Despite efforts to improve access and quality, challenges persist, necessitating an evaluation of current systems. A Difference-in-Differences approach was employed, leveraging pre- and post-intervention data from randomly selected secondary schools. The model incorporates robust standard errors for inference. Prevalence of digital learning resources increased by 30% in the intervention group compared to a control group over the study period. The DiD methodology demonstrated its efficacy in measuring adoption rates, providing actionable insights into educational technology adoption within secondary schools. Educational policymakers should prioritise the integration of digital learning resources based on these findings and continue monitoring their impact over time. Secondary Schools System, Difference-in-Differences (DiD), Adoption Rates, Tanzania, Educational Technology Model estimation used $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \{ \sum_i \ell(y_i, f\theta(\xi)) + \lambda \|\theta\|_2^2 \}$, with performance evaluated using out-of-sample error.

Keywords: Tanzania, Secondary Education, Methodology, Adoption Rates, Difference-in-Differences, Quantitative Research, Educational Policy

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