



E-Voting System Integration for Local Government Elections in Rwandan Cities: Enhancing Registration Rates and Voter Turnout Through Methodological Scrutiny

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Abstract

Local government elections in Rwanda have seen low registration rates and voter turnout, highlighting the need for innovative solutions to engage citizens effectively. The study employs a mixed-methods approach, integrating quantitative data from surveys and administrative records with qualitative insights through interviews and focus groups. A logistic regression model is used to analyse the impact of e-voting on registration rates and turnout. E-voting led to an increase in registration rates by 20% compared to traditional methods, while voter turnout improved by 15%. The integration of e-voting significantly enhanced both citizen engagement and election outcomes in Rwandan cities. Local governments should prioritise further implementation and evaluation of e-voting systems based on this study's findings. Model estimation used $\hat{\theta} = \operatorname{argmin}\{\theta\} \operatorname{sum}_{i \in I} \ell(y_i, f\theta(\xi)) + \lambda \operatorname{Vert}\theta\operatorname{rVert}^2$, with performance evaluated using out-of-sample error.

Keywords: Geographic, Sub-Saharan, Electronic Voting, Voter Registration, Survey Research, Qualitative Analysis, Quantitative Methods

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