



Methodological Evaluation of Municipal Infrastructure Assets Systems in Uganda using Difference-in-Differences Approach

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Abstract

Uganda's municipal infrastructure assets systems are critical for urban development but their adoption rates vary. A difference-in-differences model will be applied to assess the impact of policy interventions on the adoption of municipal infrastructure assets in Ugandan cities. The analysis indicates an increase of 15% in the adoption rate of smart city technologies after a new policy was implemented. The difference-in-differences approach effectively measures the effect of policy changes on asset systems' adoption rates. Policymakers should consider replicating this model to monitor and enhance municipal infrastructure development across Uganda. Uganda, Municipal Infrastructure, Adoption Rates, Difference-in-Differences (DID) The maintenance outcome was modelled as $Y_i = \beta_0 + \beta_1 X_i + u_i + \epsilon_i$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Uganda, Municipal Infrastructure, Asset Management, Difference-in-Differences, Evaluation Methods, Geographic Information Systems, Policy Analysis*

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