



Methodological Evaluation of Process-Control Systems in Uganda Using Difference-in-Differences for Efficiency Gains Analysis

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Abstract

This Data Descriptor focuses on evaluating process-control systems in construction management within Uganda's engineering sector. A difference-in-differences (DiD) econometric model will be utilised to analyse the pre- and post-intervention efficiencies in construction projects. The study will compare control and treatment groups before and after implementing process-control systems. The preliminary findings suggest a mixed pattern of efficiency gains, with some sectors demonstrating substantial improvements while others show no significant change. Despite initial indications, further detailed analysis is required to fully understand the system impacts and identify areas for improvement. Future research should focus on longitudinal data collection and more granular process-control systems implementation reviews. The maintenance outcome was modelled as $Y_i = \beta_0 + \beta_1 X_i + u_i + \varepsilon_i$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Uganda, construction management, process-control systems, econometrics, DiD model, efficiency gains, African engineering*

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