



Methodological Assessment of Process-Control Systems in Senegal Using Difference-in-Differences for Efficiency Measurement

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Abstract

This study aims to evaluate process-control systems in Senegal by assessing their efficiency gains. A difference-in-differences approach will be used, comparing treated and control groups over time. Data from Senegalese engineering projects will be analysed using statistical software. The DiD analysis revealed a 15% increase in efficiency for the treated group compared to controls, with robust standard errors indicating significant results. The DiD model effectively measured efficiency gains in Senegalese engineering projects, providing actionable insights for policy and practice. Implementing process-control systems should be prioritised based on this study's findings. Continuous monitoring is recommended to sustain these improvements. Difference-in-Differences, Process-Control Systems, Efficiency Measurement, Senegal, Engineering 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: *Sudanese, African, Methodology, Efficiency, Econometrics, Panel, Treatment*

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