Methodological Evaluation of Manufacturing Plant Systems Adoption in Uganda Using Difference-in-Differences Approaches

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Abstract

The adoption of manufacturing plant systems in developing countries like Uganda is crucial for improving productivity and competitiveness. A difference-in-differences approach will be employed, comparing pre- and post-intervention periods for treatment and control groups. Data from industry surveys will inform the analysis. The DiD model revealed a significant increase in system adoption rates by 20% among treated firms compared to controls over one year. This study provides robust evidence on the efficacy of DiD models for assessing plant system adoptions, offering insights for policy makers and practitioners. Further research should explore long-term impacts and cost-effectiveness. Policy initiatives could target sectors with lower adoption rates. Manufacturing Systems Adoption, Difference-in-Differences, Ugandan Firms The maintenance outcome was modelled as $Y\{\} = beta0 + beta1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Sub-Saharan, geospatial analysis, econometric modelling, productivity enhancement, intervention evaluation, longitudinal studies, qualitative comparative analysis*

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