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Methodological Evaluation of Manufacturing Plants Systems Adoption in Uganda Using Difference-in-Differences Approach

Ignatius Ssemakura[1], **Francis Musoke**[2], **Patrick Kizza**[1,3], **David Achieng**[1]

[1] Medical Research Council (MRC)/UVRI and LSHTM Uganda Research Unit

[2] National Agricultural Research Organisation (NARO)

[3] Department of Mechanical Engineering, Makerere University, Kampala

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Correspondence: issemakura@outlook.com

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Author notes

Ignatius Ssemakura is affiliated with Medical Research Council (MRC)/UVRI and LSHTM Uganda Research Unit and focuses on Engineering research in Africa.

Francis Musoke is affiliated with National Agricultural Research Organisation (NARO) and focuses on Engineering research in Africa.

Patrick Kizza is affiliated with Medical Research Council (MRC)/UVRI and LSHTM Uganda Research Unit and focuses on Engineering research in Africa.

David Achieng is affiliated with Medical Research Council (MRC)/UVRI and LSHTM Uganda Research Unit and focuses on Engineering research in Africa.

Abstract

This study examines the adoption of manufacturing plants systems in Uganda, focusing on identifying factors influencing their implementation. A Difference-in-Differences (DiD) model was employed to analyse data from a sample of Ugandan manufacturing plants, utilising time-series data spanning two years to measure adoption rates. During the study period, there was an increase in system adoptions by 15% among the sampled enterprises, with significant differences observed between those exposed to policy incentives and controls. The DiD model provided robust estimates of adoption rates, suggesting that targeted interventions may significantly enhance the diffusion of manufacturing systems across Uganda. Manufacturing companies in Uganda should consider implementing system upgrades based on identified drivers of successful adoptions. Policymakers should also focus on incentives to encourage wider adoption of these systems. Difference-in-Differences, Manufacturing Systems Adoption, Ugandan Industry, Policy Analysis The maintenance outcome was modelled as $Y\{\} = beta0 + beta1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Uganda, Manufacturing Systems, Adoption Rates, Difference-in-Differences, Econometrics, Supply Chain Management, Geographic Information Systems*

ABSTRACT-ONLY PUBLICATION

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