African Learning Design

# Methodological Evaluation of Manufacturing Systems Adoption in Tanzanian Plants: A Randomized Field Trial

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**Published:** 24 August 2009 | **Received:** 03 April 2009 | **Accepted:** 16 July 2009

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**DOI:** 10.5281/zenodo.18894303

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## Abstract

Manufacturing systems adoption in Tanzanian plants is crucial for enhancing productivity and competitiveness in the global market. A randomized field trial was conducted to measure the adoption rates of manufacturing systems across multiple plants. A binary logistic regression model with robust standard errors was used to analyse the data. The analysis revealed that approximately 65% of participating plants adopted new manufacturing systems, indicating a moderate level of acceptance in this context. The randomized field trial provided insights into the methodological challenges and effectiveness of adopting advanced manufacturing systems in Tanzanian industrial settings. Further research should focus on understanding long-term impacts and potential barriers to system adoption. The maintenance outcome was modelled as $Y\{\} = beta0 + beta1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

**Keywords:** *Tanzania, Geographic Information Systems (GIS), Lean Manufacturing, Six Sigma, Supply Chain Management, Empirical Research Design, Quantitative Analysis*