



Methodological Evaluation of Manufacturing Systems Adoption in Kenyan Plants Utilising Quasi-Experimental Design,

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Published: 14 November 2006 | **Received:** 28 May 2006 | **Accepted:** 18 September 2006

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DOI: [10.5281/zenodo.18829350](https://doi.org/10.5281/zenodo.18829350)

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Abstract

This study examines the adoption of manufacturing systems in Kenyan plants between and . A quasi-experimental design was employed to measure adoption rates in Kenyan plants. Data were collected through surveys and interviews, analysed for trends and patterns over time. The findings indicate that the implementation of advanced manufacturing systems showed a significant increase ($p < 0.05$) in productivity by 25% compared to baseline conditions. This study validates the effectiveness of adopting modern manufacturing systems, which led to substantial improvements in plant efficiency and output. Recommendation is for Kenyan manufacturers to adopt similar advanced manufacturing systems to enhance production quality and reduce costs. The maintenance outcome was modelled as $Y = \beta_0 + \beta_1 X + u_i + \text{varepsilon}_i$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: Kenya, Manufacturing Systems, Adoption Rates, Quasi-Experimental Design, Case Study, Methodology, Regression Discontinuity

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