



Methodological Evaluation of Manufacturing Plant Systems in Kenya Using Panel Data for Adoption Rate Measurement

Okoth Owino^{1,2}, Gatero Gitonga², Mwangi Kiunjuri^{3,4}, Kihoro Were^{1,3}

¹ Jomo Kenyatta University of Agriculture and Technology (JKUAT)

² Moi University

³ Department of Sustainable Systems, Technical University of Kenya

⁴ Department of Sustainable Systems, Kenya Agricultural and Livestock Research Organization (KALRO)

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Correspondence: owino@outlook.com

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Author notes

Okoth Owino is affiliated with Jomo Kenyatta University of Agriculture and Technology (JKUAT) and focuses on Engineering research in Africa.

Gatero Gitonga is affiliated with Moi University and focuses on Engineering research in Africa.

Mwangi Kiunjuri is affiliated with Department of Sustainable Systems, Technical University of Kenya and focuses on Engineering research in Africa.

Kihoro Were is affiliated with Department of Sustainable Systems, Technical University of Kenya and focuses on Engineering research in Africa.

Abstract

Manufacturing plants in Kenya face challenges related to system adoption rates, necessitating a methodological evaluation. A panel-data estimation approach was employed to analyse the impact of various factors on system adoption among Kenyan manufacturers. Panel-data analysis revealed a significant positive correlation between training programmes and system adoption rates, with an estimated coefficient of +0.56 (95% CI: 0.42-0.71). The study concludes that tailored training programmes significantly enhance the adoption rate of manufacturing plant systems in Kenya. Manufacturers and policymakers should prioritise investment in employee training to improve system adoption rates and overall productivity. manufacturing, panel data, adoption rate, Kenyan factories The maintenance outcome was modelled as $Y_i = \beta_0 + \beta_1 X_i + u_i + \epsilon_i$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: Kenyan, manufacturing, panel-data, econometrics, systems-analysis, adoption, qualitative-methodology

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