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Methodological Evaluation of Industrial Machinery Fleets in Uganda: Panel Data Estimation for Measuring Cost-Effectiveness in African Contexts

Bobiwire Rubare[1,2], **Kizza Muhumuza**[3,4], **Nakato Tumwesabe**[4], **Mirembe Kirabo**[1,2]

[1] Mbarara University of Science and Technology

[2] Kyambogo University, Kampala

[3] Department of Civil Engineering, National Agricultural Research Organisation (NARO)

[4] Department of Sustainable Systems, Kyambogo University, Kampala

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Correspondence: brubare@yahoo.com

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Author notes

Bobiwire Rubare is affiliated with Mbarara University of Science and Technology and focuses on Engineering research in Africa.

Kizza Muhumuza is affiliated with Department of Civil Engineering, National Agricultural Research Organisation (NARO) and focuses on Engineering research in Africa.

Nakato Tumwesabe is affiliated with Department of Sustainable Systems, Kyambogo University, Kampala and focuses on Engineering research in Africa.

Mirembe Kirabo is affiliated with Mbarara University of Science and Technology and focuses on Engineering research in Africa.

Abstract

Industrial machinery fleets play a crucial role in the Ugandan economy by facilitating various sectors such as manufacturing and construction. A mixed-method approach was employed, combining quantitative analysis with qualitative insights from interviews and surveys. Panel data were collected using a structured questionnaire to assess fleet performance across different industries. The study revealed that the average cost per unit of machinery in agricultural sectors is $100 higher compared ¿ manufacturing , highlighting significant variations ∈ operational efficiency . This research Y{it}=\beta0+\beta1X{it}+ui+\varepsilon{it}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Uganda, panel data, econometrics, stochastic frontier analysis, productivity, reliability, maintenance costs*

ABSTRACT-ONLY PUBLICATION

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