

A Randomised Field Trial Methodology for Evaluating the Adoption of Industrial Machinery Fleet Systems in Uganda

Moses Kato¹

Makerere University, Kampala

Correspondence: mkato@hotmail.com

Received: 12 March 2001 | Accepted: 05 June 2001 | Published: 22 July 2001 | DOI: [10.5281/zenodo.18969857](https://doi.org/10.5281/zenodo.18969857)

ABSTRACT

Background: The adoption of advanced industrial machinery fleet systems in developing economies is critical for infrastructure development, yet robust methodologies for evaluating their uptake are lacking. Existing studies often rely on retrospective surveys or case studies, which are prone to selection bias and do not establish causal relationships between intervention and adoption.

Purpose and objectives: This article presents a novel methodological framework for conducting a randomised field trial to rigorously measure the causal effect of a targeted support programme on the adoption rates of modern fleet management systems among Ugandan construction and mining enterprises.

Keywords: *Randomised controlled trial, Technology adoption, Industrial machinery, Fleet management systems, Sub-Saharan Africa, Field experiment, Implementation science*

Article Highlights

- Proposes a cluster-randomised controlled trial design for Ugandan construction and mining firms.
- Intervention bundles technical training, telematics software access, and maintenance support.
- Primary outcome measured via software utilisation intensity from system logs.
- Causal effect estimated using a linear mixed model with cluster-level random effects.

Methodological Innovation

Moves beyond retrospective surveys by employing a field experiment to establish causal relationships between intervention and technology adoption.

This is a methodology article presenting a trial protocol; no empirical results from the trial's application are reported.



ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.



REQUEST FULL PAPER

 **Email:** info@parj.africa

Request your copy of the full paper today!



SUBMIT YOUR RESEARCH

**Are you a researcher in Africa? We
welcome your submissions!**

Join our community of African scholars and share
your groundbreaking work.

 **Submit at:** app.parj.africa



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global
Knowledge