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Mobile Banking in Agricultural Enhancement: An Evaluation Among Sub-Saharan African Farmers in Kenya

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Abstract

This study addresses a current research gap in Computer Science concerning Evaluation of Mobile Banking Services in Increasing Agricultural Productivity Among Sub-Saharan African Farmers in Kenya. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A structured analytical approach was used, integrating formal modelling with domain evidence. The results establish bounded error under perturbation, a convergent estimation process under stated assumptions, and a stable link between the proposed metric and observed outcomes. The findings provide a reproducible analytical basis for subsequent theoretical and applied extensions. Stakeholders should prioritise inclusive, locally grounded strategies and improve data transparency. Evaluation of Mobile Banking Services in Increasing Agricultural Productivity Among Sub-Saharan African Farmers, Kenya, Africa, Computer Science, data descriptor This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Model estimation used $\hat{\{\theta\}} = argmin\{\theta\} sumiell(yi, f\theta(\xi)) + \lambda lVert\theta rVert 2^2$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, Agricultural, Evaluation, Mobile, Banking, Microlending, InformationSystems*

ABSTRACT-ONLY PUBLICATION

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

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