



Blockchain-Based Supply Chain Transparency Initiatives for Coffee Farmers in Rwanda: Six-Month Supplier Relationship Management Practices Analysis

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Abstract

This study addresses a current research gap in Computer Science concerning Blockchain-Based Supply Chain Transparency Initiatives for Coffee Farmers in Rwanda: Supplier Relationship Management Practices After Six Months in Rwanda. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A structured review of relevant literature was conducted, with thematic synthesis of key findings. 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. Blockchain-Based Supply Chain Transparency Initiatives for Coffee Farmers in Rwanda: Supplier Relationship Management Practices After Six Months, Rwanda, Africa, Computer Science, scoping review This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Model estimation used $\hat{\theta} = \operatorname{argmin} \{ \theta \} \operatorname{sumiell} (y_i, f\theta(\xi)) + \lambda I \operatorname{Vert} \theta r \operatorname{Vert} 2^2$, with performance evaluated using out-of-sample error.

Keywords: *Geographic, Africa, Blockchain, SupplyChain, Transparency, Coffee, Farmers, Rwanda, Methodology, Theory, SupplyRelationshipManagement*

ABSTRACT-ONLY PUBLICATION

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