



Time-Series Forecasting Model Evaluation in Ugandan Manufacturing Plants Systems: A Theoretical Framework for Risk Reduction Analysis

Orika Nsubuga¹, Chewol Musoke^{1,2}, Nyakamu Muteesa³

¹ Uganda National Council for Science and Technology (UNCST)

² Kyambogo University, Kampala

³ Makerere University, Kampala

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Correspondence: onsubuga@aol.com

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Author notes

Orika Nsubuga is affiliated with Uganda National Council for Science and Technology (UNCST) and focuses on Agriculture research in Africa.

Chewol Musoke is affiliated with Uganda National Council for Science and Technology (UNCST) and focuses on Agriculture research in Africa.

Nyakamu Muteesa is affiliated with Makerere University, Kampala and focuses on Agriculture research in Africa.

Abstract

This study focuses on methodological evaluation of manufacturing systems in Ugandan plants to reduce operational risks through time-series forecasting models. A theoretical framework will be developed based on existing literature and empirical observations, incorporating statistical models such as ARIMA (AutoRegressive Integrated Moving Average) to forecast future trends in operational risks within Ugandan manufacturing plants. This theoretical framework provides a robust method for assessing and managing operational risks in Ugandan manufacturing plants using advanced statistical techniques. Manufacturing companies should consider implementing these models to enhance their risk management strategies, leading to improved operational efficiency and cost savings. The empirical specification follows $Y = \beta_{0+\beta}^{\vec{p}} X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: African Geography, Manufacturing Systems, Time-Series Analysis, Forecasting Models, Risk Management, Econometrics, Supply Chain Theory

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