African Retailing Studies

Evaluation of Quasi-Experimental Design in Assessing System Reliability Within Ghana's Regional Monitoring Networks

Ameyaw Kofi[1,2], **Kwasi Adowa**[3], **Frimpong Kwadwo**[4], **Esi Afisahwa**[1,4]

[1] Ashesi University

[2] Kwame Nkrumah University of Science and Technology (KNUST), Kumasi

[3] Department of Artificial Intelligence, Ashesi University

[4] Ghana Institute of Management and Public Administration (GIMPA)

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Correspondence: akofi@gmail.com

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Author notes

Ameyaw Kofi is affiliated with Ashesi University and focuses on Computer Science research in Africa.

Kwasi Adowa is affiliated with Department of Artificial Intelligence, Ashesi University and focuses on Computer Science research in Africa.

Frimpong Kwadwo is affiliated with Ghana Institute of Management and Public Administration (GIMPA) and focuses on Computer Science research in Africa.

Esi Afisahwa is affiliated with Ashesi University and focuses on Computer Science research in Africa.

Abstract

This study aims to evaluate the effectiveness of regional monitoring networks in Ghana by assessing their system reliability. A quasi-experimental design was employed, including data collection from multiple regions with varied baseline conditions. System performance metrics were analysed to determine reliability. The analysis revealed significant differences in system reliability across different regions ($p < 0.05$), indicating the need for tailored interventions. Quasi-experimental designs provide a robust framework for evaluating regional monitoring networks, enhancing their effectiveness and efficiency. Tailored intervention strategies should be developed based on the findings to improve system reliability in each region. Regional Monitoring Networks, Quasi-Experimental Design, System Reliability, Ghana Model estimation used $\hat{\{}\theta\}=argmin\{\theta\}sumiell(yi,f\theta(\xi))+\lambda lVert\theta rVert2^{2}$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, Geographic Information Systems, Randomized Controlled Trials, Spatial Analysis, Network Architecture, Monitoring Networks, Data Collection Techniques*

ABSTRACT-ONLY PUBLICATION

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