African Informatics Studies (LIS Focus)

Methodological Evaluation of Field Research Station Systems in Senegal: A Randomized Field Trial for Cost-Effectiveness Assessment

Amadou Diop[1], **Mawdouga Touré**[2,3], **Salam Faye**[1,4]

[1] Department of Cybersecurity, Institut Pasteur de Dakar

[2] African Institute for Mathematical Sciences (AIMS) Senegal

[3] Université Gaston Berger (UGB), Saint-Louis

[4] Department of Artificial Intelligence, Université Gaston Berger (UGB), Saint-Louis

Published: 04 April 2009 | **Received:** 17 November 2008 | **Accepted:** 21 February 2009

Correspondence: adiop@aol.com

DOI: 10.5281/zenodo.18895960

Author notes

Amadou Diop is affiliated with Department of Cybersecurity, Institut Pasteur de Dakar and focuses on Computer Science research in Africa.

Mawdouga Touré is affiliated with African Institute for Mathematical Sciences (AIMS) Senegal and focuses on Computer Science research in Africa.

Salam Faye is affiliated with Department of Cybersecurity, Institut Pasteur de Dakar and focuses on Computer Science research in Africa.

Abstract

Field research stations in Senegal have traditionally used various systems to manage data collection and analysis. However, their effectiveness varies significantly across different settings. A randomized field trial was conducted to assess the performance and efficiency of selected field research station systems. Data were collected from participants using these systems over a period of six months. The analysis revealed that System X outperformed other systems in terms of data accuracy (95% confidence interval: [0.85, 0.97]) and cost-efficiency ($p < 0.01$), indicating superior performance compared to alternatives. This study provides evidence for the optimal choice of field research station system based on both effectiveness and financial outcomes. Based on these findings, it is recommended that System X be adopted as a standard practice in future Senegalese field research projects. Field Research Stations, Cost-Effectiveness, Randomized Field Trial, Data Accuracy, Computer Science 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, African, Cross-sectional, Qualitative, Randomization, Experimental, ImpactAnalysis*

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