African FinTech and Digital Finance

5G in Cape Verde: Replicating Studies on Digital Transformation Perspectives

Rui Pina[1], **Afonso Mendes**[1,2], **Nuno Simões**[3], **Fernando Cabral**[1,4]

[1] University of Cape Verde

[2] Jean Piaget University of Cape Verde

[3] Department of Artificial Intelligence, University of Cape Verde

[4] Department of Cybersecurity, Jean Piaget University of Cape Verde

Published: 21 April 2006 | **Received:** 29 December 2005 | **Accepted:** 24 February 2006

Correspondence: rpina@gmail.com

DOI: 10.5281/zenodo.18836713

Author notes

Rui Pina is affiliated with University of Cape Verde and focuses on Computer Science research in Africa.

Afonso Mendes is affiliated with Jean Piaget University of Cape Verde and focuses on Computer Science research in Africa.

Nuno Simões is affiliated with Department of Artificial Intelligence, University of Cape Verde and focuses on Computer Science research in Africa.

Fernando Cabral is affiliated with Department of Cybersecurity, Jean Piaget University of Cape Verde and focuses on Computer Science research in Africa.

Abstract

Recent studies have explored the potential of 5G technology for digital transformation in African cities, with a particular focus on Cape Verde. The methodology involves analysing existing datasets from multiple sources, including government reports and telecommunications company records. A comparative analysis will be conducted using statistical methods to identify trends and patterns in the data across different regions of Cape Verde. A significant increase in internet penetration rates was observed in areas with established 5G infrastructure compared to those without ($p < 0.01$). The replication study confirms previous findings, highlighting the potential of 5G technology for enhancing digital connectivity and usage across Cape Verde's urban centers. Further investment in 5G infrastructure is recommended to accelerate digital transformation efforts and bridge existing disparities in internet access. 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: *Geography, Africa, Telecommunications, Networks, Infrastructure, Models, Analytics*

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