



Cybersecurity Vulnerabilities and Mitigation Strategies in East African Financial Systems: A Namibian Perspective

Omotayo Nkweya¹, Makweta Simbanza^{2,3}, Chifundo Kanyale^{3,4}, Narangi Mupafeni³

¹ Namibia University of Science and Technology (NUST)

² Department of Artificial Intelligence, Namibia Agriculture Research Institute (NARI)

³ University of Namibia (UNAM)

⁴ Namibia Agriculture Research Institute (NARI)

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Correspondence: onkweya@gmail.com

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Author notes

Omotayo Nkweya is affiliated with Namibia University of Science and Technology (NUST) and focuses on Computer Science research in Africa.

Makweta Simbanza is affiliated with Department of Artificial Intelligence, Namibia Agriculture Research Institute (NARI) and focuses on Computer Science research in Africa.

Chifundo Kanyale is affiliated with University of Namibia (UNAM) and focuses on Computer Science research in Africa.

Narangi Mupafeni is affiliated with University of Namibia (UNAM) and focuses on Computer Science research in Africa.

Abstract

The financial systems in East Africa are increasingly reliant on digital platforms for transactions, leading to heightened cybersecurity risks. A qualitative study was conducted through a literature review, interviews with cybersecurity experts, and an online survey targeting financial service providers across Namibia. Interviews revealed that the most frequent cyber threats identified were phishing attacks (45%) and malware infections (32%). Namibian financial institutions face significant cybersecurity challenges, necessitating a comprehensive review of existing mitigation strategies to protect against emerging threats. The implementation of advanced encryption techniques and the integration of artificial intelligence for anomaly detection are recommended as key measures to bolster security in East African financial systems. Model estimation used $\hat{\theta} = \operatorname{argmin} \{ \theta \} \sum_{i=1}^n (y_i - f(\theta; \xi))^2 + \lambda \|\theta\|_2^2$, with performance evaluated using out-of-sample error.

Keywords: East African, Financial Systems, Cybersecurity, Threat Analysis, Mitigation Strategies, Geographical Perspectives, Qualitative Research

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