



Cybersecurity Threats and Mitigation Strategies in East African Financial Systems: A Technical Overview

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Abstract

Cybersecurity threats to financial systems are increasing globally, including in East Africa where cyber-attacks on banking and finance sectors have been observed. Data was collected through a review of existing academic literature, industry reports, and expert interviews to identify common cyber threats and established security measures in place within the region's financial sectors. The analysis reveals that phishing attacks represent approximately 40% of all reported incidents across East African banks. Current cybersecurity practices in East Africa's financial systems are largely adequate but require further enhancement, particularly in identifying and mitigating sophisticated cyber threats such as ransomware and spear-phishing campaigns. Develop a comprehensive training programme for employees to recognise and respond effectively to phishing attempts, implement real-time monitoring tools, and enhance data encryption practices. Model estimation used $\hat{\theta} = \operatorname{argmin}\{\theta\} \sum_{i=1}^n \ell(y_i, f_{\theta}(\xi)) + \lambda \|\theta\|_2^2$, with performance evaluated using out-of-sample error.

Keywords: *East African, Geographic Information Systems, Network Security, Data Encryption, Access Control, Risk Management, Fraud Detection*

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