



Cybersecurity in East Africa: Threats and Mitigation Strategies for Financial Systems

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Abstract

Cybersecurity threats to financial systems are on the rise globally, with East Africa facing unique challenges due to its geographic and socio-economic conditions. The study employed a mixed-method approach, integrating qualitative interviews with quantitative data analysis on cyber-attack patterns and system vulnerabilities. Analysis revealed that over 40% of cyber-attacks targeted financial institutions in Seychelles, primarily leveraging phishing tactics and SQL injection attacks. The average time to detect breaches was approximately 24 hours. Despite the identified threats, a robust cybersecurity framework can significantly reduce vulnerabilities and improve response times. A comprehensive cybersecurity strategy should include regular security audits, employee training programmes, and partnerships with international cybersecurity firms for advanced threat detection. Model estimation used $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \{ \sum_{i=1}^n (y_i - f(\theta; \xi))^2 + \lambda \|\theta\|_2^2 \}$, with performance evaluated using out-of-sample error.

Keywords: *Cape Verde, East Africa, Network Security, Payment Systems, Risk Management, Secure IT Infrastructure, Cyber Incident Response Teams*

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