



Cyber Threats and Mitigation Strategies in East African Financial Systems: A Comparative Study

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Abstract

Cyber threats to financial systems are a growing concern globally, including in East Africa where cyber vulnerabilities can lead to significant economic instability. A comparative analysis was conducted using data from financial sector reports, threat intelligence databases, and expert interviews. A mixed-method approach combining quantitative data on cyber incidents with qualitative insights from industry experts was employed. The findings indicate that East African financial systems, including those in Morocco, face a higher risk of cyber threats compared to other regions due to technological infrastructure weaknesses and insufficient cybersecurity investments. Mitigation strategies such as robust data encryption protocols and continuous employee training have proven effective but require further investment and policy support to be fully implemented. Financial regulators should mandate stronger cybersecurity measures, encourage partnerships between financial institutions and technology providers for shared intelligence, and promote public-private collaboration in threat assessment. Model estimation used $\hat{\theta} = \text{argmin}\{\theta\} \text{sumiell}(y_i, f\theta(\xi)) + \lambda I \text{Vert}\theta \text{rVert} 2^2$, with performance evaluated using out-of-sample error.

Keywords:

Methodological: RiskAssessment,

Theoretical: CyberSecurity,

Technological: DataEncryption,

Thematic: FinancialInclusion, MitigationStrategies

Geographic: African,

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SystemsArchitecture

EconomicStability

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