



Cybersecurity Frameworks for Mitigating Financial System Risks in East African Nations: A Comparative Analysis

Cybersecurity
Frameworks for Mitigating
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Abstract

Cybersecurity threats have escalated in East Africa, particularly affecting financial systems in countries such as Madagascar. Understanding and mitigating these risks is crucial for ensuring economic stability. The methodology involves a systematic review of existing literature on financial system vulnerabilities and cybersecurity practices. A mixed-methods approach combining quantitative data analysis and qualitative case studies is employed. A comparative analysis reveals that the proportion of financial institutions adopting advanced encryption technologies in Madagascar is significantly higher than in neighboring countries, indicating an emerging trend towards improved security standards. The findings suggest a need for more comprehensive cybersecurity training programmes to be rolled out across East African nations to enhance overall system resilience. Based on the identified gaps and best practices from Madagascar's experience, specific recommendations are provided for policymakers and financial institutions in other East African countries. 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: *Geographic, Financial Systems, East Africa, Cybersecurity, Frameworks, Risk Management, Analysis*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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