



Cybersecurity Challenges and Mitigation Strategies in East African Financial Systems

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Abstract

Cybersecurity threats have become increasingly prevalent in East African financial systems, with significant implications for economic stability and public trust. A mixed-methods approach was employed, including a survey of 150 financial sector professionals and an analysis of publically available threat intelligence reports. Analysis revealed a high prevalence (68%) of reported cybersecurity breaches in financial institutions, with intrusion detection systems failing to detect 32% of threats. Mitigation strategies focusing on employee training and the adoption of advanced analytics for anomaly detection showed promise in reducing breach incidence. Financial regulators should mandate regular security audits and encourage the implementation of robust cybersecurity policies by financial institutions. Model estimation used $\hat{\theta} = \operatorname{argmin} \{ \theta \} \operatorname{sumiell} (y_i, f\theta (\xi)) + \lambda \operatorname{Vert} \theta \operatorname{rVert}^2$, with performance evaluated using out-of-sample error.

Keywords: *East African, Financial Systems, Cyber Threats, Security Measures, Risk Analysis, Privacy Protection, Blockchain Technology*

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