



Digital Forensic Tools in Lagos: An Assessment of Their Effectiveness in Cybercrime Investigations Over Three Months

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Abstract

The rapid growth of digital technology has increased the risk of cybercrime in Lagos Metropolitan Area (LMA), Nigeria. However, the effectiveness of digital forensic tools used for investigating these crimes is not well understood. A mixed-method approach was employed, including quantitative analysis of tool usage logs and qualitative interviews with investigators. Data from 100 cybercrime cases were collected using a structured questionnaire. Digital forensic tools showed an average success rate in extracting digital evidence of 85%, but there was variation across different types of crime (e.g., hacking vs. phishing). While digital forensic tools are effective, they require further customization and training to enhance their efficacy. Investment should be made to tailor digital forensic tools for Nigerian contexts and provide ongoing training for investigators. digital forensics, cybercrime investigation, Lagos Metropolitan Area, mixed-methods approach Model estimation used $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \{ \theta \} \operatorname{sumiell}(y_i, f\theta(\xi)) + \lambda l \operatorname{Vert} \theta r \operatorname{Vert} 2^2$, with performance evaluated using out-of-sample error.

Keywords: Digital Forensic, Lagos, GIS, Data Mining, Network Security, Ethical Hacking, Case Study

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