ABSTRACT

The advancement of information technology has driven local financial institusis to increasingly rely on IT infrastructure to support their operations and services. Consequently, these institutions face cybersecurity challenges that may threaten system stability and continuity, especially given their limited resources to conduct internal audits. This study aims to develop an external risk profiling model based on Open-Source Intelligence (OSINT) that enables risk estimation without accessing institusi's internal systems. In this research, a passive preliminary surveillance approach was applied to 15 official domains of local financial institusis to gather data on vulnerabilities and potential threats using OSINT tools. The collected data were then processed using a risk estimation model adapted from the CRAMM methodology, which was formulated quantitatively as $R = V \times T \times A$ based on several key assumptions. The Asset value (A) was estimated using the total financial assets as aggregate data representing IT asset value. Vulnerabilities (V) refer to scores derived from identified vulnerability indicators obtained through experiments, such as revealing infrastructure-level weaknesses (such as open sensitive ports), which then serve as the basis for mapping relevant hypothetical Threats (T) for each discovered vulnerability, such as Man-in-the-Middle (MitM) attacks. The relationship between V and T is based on the principle that each vulnerability exposes the system to one or more threat scenarios. The results of this model identified, among others, Local Institusi A as having the highest risk score ($R = 125$) and Local Institusi M with the lowest risk score ($R = 6$). The findings indicate that institutions with high IT asset scores and multiple identified vulnerabilities tend to have higher estimated risk levels. This study demonstrates that OSINT methods can be used for an initial, measurable, and structured risk assessment.

Keywords— *Open-Source Intelligence (*OSINT*), Local Financial Institusi, Threat Modeling, IT Security, Risk Estimation*