Knowledge Graph for Fraud Detection: Case of Fraudulent Transactions Detection in Kenyan SACCOs

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Abstract

Detecting fraudulent transactions in SACCOs is essential in preventing financial losses and maintaining customer. Many SACCOs incur massive financial losses due to fraudulent activities such as corruption, asset misappropriation and fraudulent financial statements. In response to these challenges, we propose an approach that detects and prevents transaction risk by leveraging knowledge graphs which contain connectivity patterns and relations; combined with rules that are exploited to discover the knowledge between the type of transaction and customer thereby detecting any anomalies. The effectiveness of the approach is evaluated using real-world SACCO transaction data and shows that it can detect potential fraud in real-time or near real-time thereby saving funds that would have been lost.

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