

Project 1: Transaction Monitoring & Suspicious Activity Detection

Methodology

Anti-Money Laundering (AML) rules were applied to a generated financial transaction dataset to detect suspicious activities. Key rules included:

- **Threshold Violations:** Transactions over \$10,000, as required by FINTRAC's Proceeds of Crime Act, must be reported.
- **Structuring:** Multiple transactions just below \$10,000 within 24 hours were flagged as potential structuring (smurfing).
- **High-Risk Jurisdictions:** Transfers to high-risk countries (e.g., Syria, Iran) were flagged due to money laundering risks.
- **Round-Number Clustering:** Transactions with round amounts (\$5,000, \$10,000) were flagged for possible evasion of detection.

These rules align with FINTRAC's regulations for reporting suspicious activities.

Key Red Flags

- **Threshold Violations:** A \$12,000 transfer to Syria exceeded the \$10,000 threshold. Figure 1 shows flagged vs. normal transactions.
- **Structuring:** Several \$9,800 transactions in 24 hours were flagged for potential structuring.
- **High-Risk Jurisdictions:** Transactions to countries like Iran and Myanmar raised concerns. Figure 2 shows these high-risk connections.
- **Round-Number Clustering:** Several \$10,000 transactions by the same customer were flagged. Figure 3 shows transaction patterns.

FINTRAC Guidelines

FINTRAC mandates that financial institutions report transactions exceeding \$10,000, file Suspicious Transaction Reports (STRs) for any suspicious activities, and actively monitor for structuring activities and transactions involving high-risk jurisdictions.

Conclusion

The analysis uncovered several concerns that include threshold violations, structuring, high-risk jurisdictions, and the clustering of rounded numbers. All these transactions need to be reported to FINTRAC for further investigation.

References

Proportion of Flagged vs. Normal Transactions

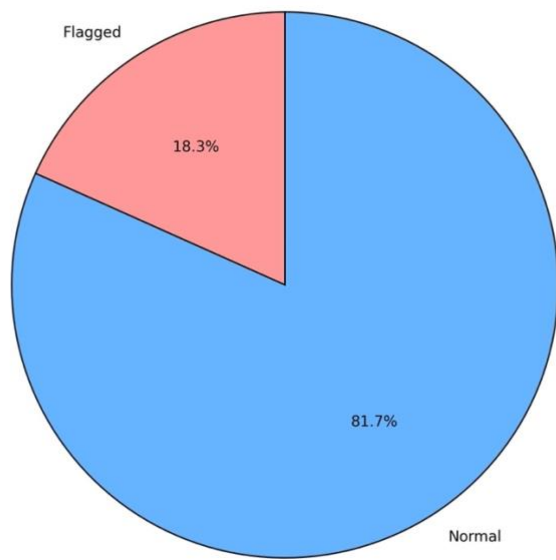


FIGURE 1: PROPORTION OF FLAGGED VS. NORMAL TRANSACTIONS

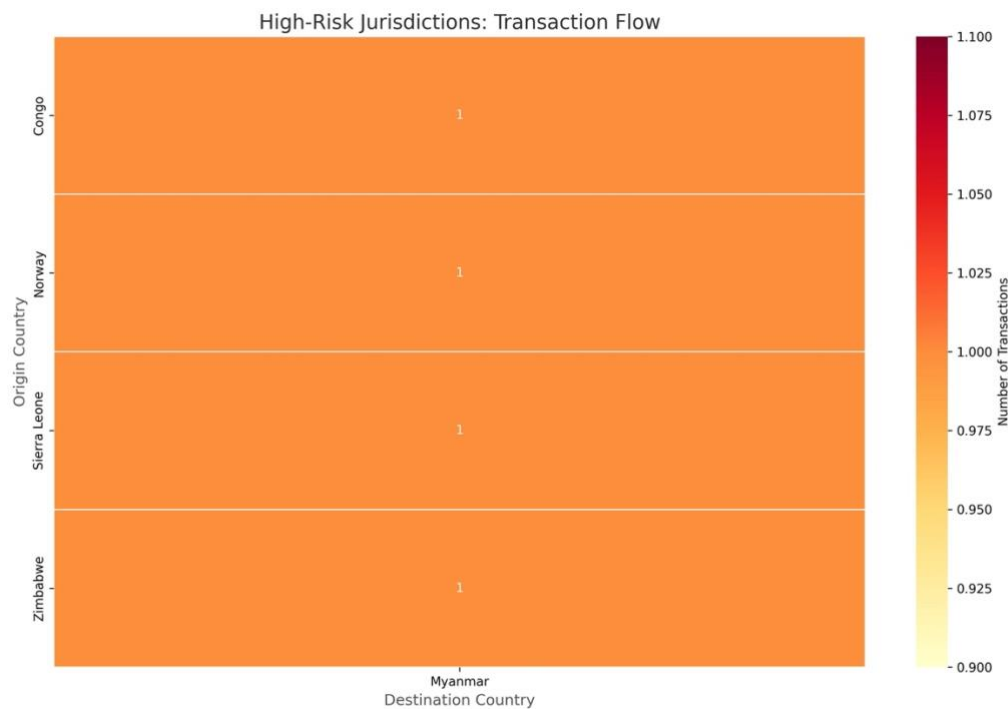


FIGURE 2: HIGH-RISK JURISDICTIONS: TRANSACTION FLOW

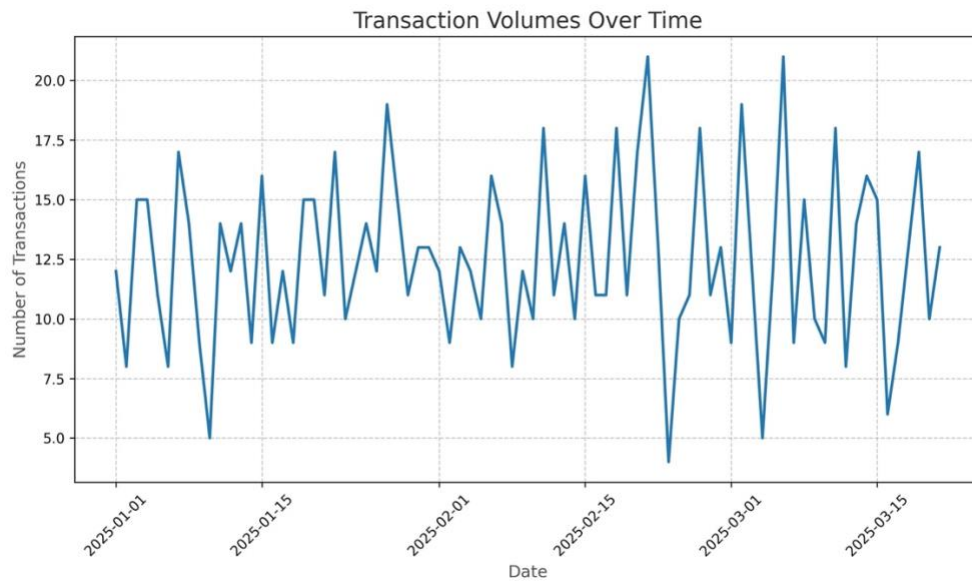


FIGURE 3: TRANSACTION VOLUMES OVER TIME