Entity Centric and Social Network Analysis for an effective Financial Crime strategy

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Compliance and financial crime an increasingly competitive environment

- Compliance is not “set and forget”
- Complex financial crime rings difficult to identify
- Clients are looking for ways to reduce cost through efficiency & effectiveness improvements:
  - Detect more organised crime
  - Reduce false positives
  - Improve investigation efficiencies
  - Submission of better quality SARS
  - Re-use and share data/intelligence across business units
- Clients are looking for ways to “add value”
  - Re-use data and intelligence for risk based pricing
  - Collections optimisation
Entity-centric detection

- Entity centric profiling builds a unique behavioral “fingerprint” of each entity to detect fraud or flag suspicious activity.

- Traditional systems analyse at the account or transaction level with neural networks, scorecards, profiles and scenarios.

- Alerts are created based on event, parameter or score criteria, velocity and deviations from stored statistical profiles:
  - > $10,000 transaction and risk score > 900
  - Rapid movement of funds
  - Multiple address changes by an employee over the past week

- Entity analysis is a proven successful approach of detecting suspicious activity for customer due diligence, transaction and account monitoring.
Social Network Analysis (SNA)

- Every customer with the bank leaves a footprint in the data.
- A social network is created from this data by linking information from multiple sources based on shared entities and behavioural patterns:
  - Hard links such as same address or similar name
  - Soft links such as simultaneously using ATM cards at same machine regularly

- SNA risk-scores the clusters of entities
  - Nobody on this network pays utility bills, have salaries, etc…
  - Two people on the network share addresses with known terrorists

- SNA uncovers networks of suspicious behaviour and finds hidden relationships between people and data
Combining entity and network approaches

**Entity Centric**

**Features:** Profiling and alerting on transaction or account activity associated with an entity

**Example use:** “Alert me when a customer sends multiple wire transfers over a threshold in one day”

**Network Centric**

**Features:** Links information from multiple sources based on shared entities and behavioural patterns. Risk-scores clusters of entities, provides visualisation tools to support investigators

**Example use:** “Show me the network with the highest organised crime risk score”

Detect financial crime quickly with less noise
Social Network Analysis provides business benefits

- Compliance and Financial Crime benefits:
  - Reduced false positive rates
  - Improved financial crime detection
  - Better STR/SAR quality
  - Efficient alert triage and case investigation
  - Improved intelligence:
    - Uncover the unknown
  - External reporting
    - FATCA

- Capability for other business areas:
  - Credit risk
    - Improve customer acquisition
    - Better credit limit management
  - Collections
    - Separate first party fraudsters from other delinquent accounts
    - Optimize collections activity across all activities & use SNA to individually personalise a collectors’ account calling lists
  - Marketing and product pricing
Classic challenge with money laundering solutions

Data Feeds

AML Solution

Screening Team

100,000’s Alerts per annum

Alerts Ruled out

Case Investigation Team

1,000’s Cases worked per annum

200 SARs raised
AML business benefits case

- As part of one project we combined:
  - NetReveal AML rules
  - AML alerts from existing systems (30,000 per month)
  - Suspicious activity reports (SARs)

- The goal was for NetReveal to better prioritise the alerts by looking at the single view of the customer and their social network and to ultimately raise fewer but better quality SARs.

- Result was approximately 10% of the resulting AML networks provided to the client were suspicious (compared to 1.7% from their existing alerting systems).
Using SNA to improve AML efficiency and effectiveness

Data Feeds

AML Solution

100,000’s Alerts per annum

Improved Alert triage Efficiency

3 per hour to 10

Prioritised, Alerts 40% moved higher risk

Investigation support tools

Investigation Team

More cases worked per annum per investigator

Improved SARs raised

3x to 5x efficiency savings

Network building & scoring offers more accurate alerts

Network visualisation tools present pre-linked data to improve decision accuracy and efficiency

Tip-off’s are assessed using advance search to find their networks

3rd party data and other financial crime flags

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Detica SNA supplementing real time fraud detection

Work with existing fraud detection system to reduce card fraud losses:

1. Prevent card fraud compromise losses
   • Transaction and fraud data feed into our models to identify compromises and resulting intelligence passed back into engine for real time blocking

2. Predict and block bust out fraud
   • Feed risk indicators as a result of our 1st party fraud risk scoring to alert and block bust out fraud
Enterprise Risk, Fraud and Compliance Solutions

- Anticipate Fraud losses.
- Reduce False Positives.

- Effectively combat financial crime.
- Ensure regulatory compliance.

**Applications**

- Real Time/Batch Detection and Prevention Solutions

  - On boarding
  - First line of defense

  - Composite risk scores based on who you are + who you know + how you act: Credit, Application, Fraud, AML, Neg News

**Customer**

- Customer Products

**Products**

- 3rd party data

**Employees**

- Online data

**3rd party data**

- Entity Centric and Social Network Analysis

**Dashboards & KPIs**

- Command & Control

**Investigation**

- Alert & Case Management

  - Alert Management (Triage) for multiple typologies

  - Case Management for multiple typologies

**Analytics & Modeling**

- Disclosures
- Financials
- Auditing & Searching
- Visualization

**Feedback loop**

- Financial Crime Repository

- Transactions
- Authorizations
- Weblogs
- Non-financial transactions

- Anticipate Fraud losses.
- Reduce False Positives.

- Effectively combat financial crime.
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### Objectives

- Anticipate Fraud losses.
- Reduce False Positives.

- Effectively combat financial crime.
- Ensure regulatory compliance.

### Highlights

- Anticipate Fraud losses.
- Reduce False Positives.

- Effectively combat financial crime.
- Ensure regulatory compliance.

### Services

- On boarding
- First line of defense

- Composite risk scores based on who you are + who you know + how you act: Credit, Application, Fraud, AML, Neg News

### Key Features

- Dashboards & KPIs
- Command & Control
- Investigation
- Alert & Case Management
- Alert Management (Triage) for multiple typologies
- Case Management for multiple typologies
- Disclosures
- Financials
- Auditing & Searching
- Visualization
Depth of Defence benefits

- Better Financial Crime prevention
  - Improved KYC/CDD. Shorter on boarding time and better customer intelligence
  - Identify organised crime rings and prevent more losses. With one client we identified 17,000 compromised accounts before the 1st fraudulent transaction giving a ROI of 40:1

- Increased Financial Crime detection
  - Reduced false positive. Customers have improved their hit rates from 1 in 20, to 1 in 2
  - Improved detection rate. More financial crime is identified with one client reporting 10x the existing volume of fraud being detected with DNR.

- Improved staff efficiency
  - Less alert case investigation time. Typical figures are 3x to 5x saving via operational and investigation efficiency. With one client we enabled investigators to look at 10 cases an hour when previously it was 3
  - Improve SAR/STR reporting. Clients have been able to file 50% less with more comprehensive information and better accuracy

- Provide value to the business
  - Our solution capability also enables clients to address:
    - Credit Risk. Increase accept rates by 10% at similar bad rates
    - Collections optimisation. Customers on networks with a high number of other customers in collections are 4.5 times more likely to default
Contact details

If you have any questions regarding this document or would like to find out more about Detica NetReveal®, please contact:

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