THETARAY

SUCCESS STORY
ANTI-MONEY LAUNDERING

ORGANIZATION
Digital European Bank

DEPARTMENT
Retail Banking

FOCUS AREA
Anti-money laundering
Innovation
Corporate Compliance

AVAILABLE DATA
- 50,000,000 transactions
- 18 months of data
- Account, balance, socio-demographic, transfers, balances

BUSINESS CHALLENGES
- Late detection of criminal activity
- Low accuracy
- Analyst alert fatigue

PROJECT GOALS
- Detect new money laundering activity that was not identified by existing transaction monitoring system
- Increase operational efficiency by reducing the number of alerts coming from existing transaction monitoring system
- Strengthen regulatory compliance

ROI
- Identified money laundering missed by existing controls, 11 months prior to regulatory notification
- Detected suspicious activity on average 70 days prior to existing controls
- 40% reduction of legacy system alerts

THETARAY BENEFITS
- Detecting anomalies in large datasets
- Clustering anomalies for more efficient investigation
- Detecting new money laundering patterns that are not defined by the bank's existing rule-based transaction monitoring system
- Fast time to show value

Background

A European digital bank was experiencing issues with late detection of financial crime and excessive false positive rates. In some instances, the existing transaction monitoring system completely missed money laundering cases resulting in regulatory compliance issues.

> "...the existing transaction monitoring system completely missed money laundering cases resulting in regulatory compliance issues."

Challenge

The legacy transaction monitoring system deployed by the bank was designed to catch repeat patterns of behavior that had previously been associated with money laundering and terrorist financing.
The behavioral rules created three significant yet very common challenges for the bank:

1. *A rules-based system was incapable of identifying new suspicious patterns as the rules were not programmed to do this. In an effort to catch more potentially suspicious activity, rule thresholds were loosened to ensure risky behavior is not missed. This led to the second challenge.*

2. *As the thresholds are loosened, far more false positive alerts were generated with minor additional true positives. In the face of the growing false positive alert burden, the bank was then compelled to take a risk-based approach of excluding low value transactional activity. This filtering out exacerbated the third challenge.*

3. *A rule-based system was incapable of coping with a large amount of data and variables. Both were due to processing inefficiency and the costly administrative burden in maintaining rules with more than a few filtering criteria. As such, early indicators of criminal activity would be hidden due to a lack of complete data context.*

In the end, the bank was faced with false positive rates in excess of 90% reducing their focus from productive alerts; false negatives; and delays in their ability to identify and report real-suspicious activity.

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Goals and Objectives

This project was focused around two main objectives:
1. Detect potential cases that may be indicative of money laundering activity.
2. Improve operational efficiency and other capabilities of current systems

ThetaRay was evaluated against the following targets:
- Compatibility with existing and future systems and workflows
- Ability to detect previously unknown financial crime patterns
- Ability to reduce the number of false positive alerts
- Ability to detect true positives identified by existing system
- Demonstrate other added value

These KPIs were also to be used to evaluate potential extension of ThetaRay's AI solution to other departments or divisions of the banking group.

RESULT

18-month worth of data was analyzed during this project. The data included monthly and daily account activity for retail customers such as customer information, socio-demographical information, account information, balances information, current & savings account transactions, money transfers.

ThetaRay achieved set objectives and demonstrated value in a very short period of time. Results include:

Enhanced Compliance and Efficiency

- **40% fewer alerts** detected compared to benchmark legacy system
- **100% of previously known** productive cases successfully identified
- Suspicious activities identified not previously found by existing systems or regulators

Earlier Detection

- Suspect money laundering and terrorist financing activity undetected previously, found **11 months** prior to regulatory inquiry
- Detected known money laundering cases on average **70 days** prior to existing controls

Increased efficiency of 3rd party systems

- Automatically triaged over **2,000 legacy alerts into 23 distinct risk patterns** with 26 individual anomalies
- **20% of legacy alerts** determined to be of low risk and confirmed as non-productive, dramatically reducing analyst workload
- **40% of the legacy alerts** determined to be indicative of high risk behavior and worthy of escalation further increasing team efficiency
- Clustered alerts prioritized by severity improving investigation outcomes
- ThetaRay demonstrated a huge efficiency improvement for analyzing 3rd party alerts, prioritization methods, tagging and workflow improvement

CONCLUSION

ThetaRay was able to demonstrate full flexibility of the system by fusing multiple data sources into the analysis, adding new features and running custom analysis in a matter of hours.

In a short period of time, ThetaRay proved its ability to strengthen the overall AML program by dramatically improving efficiency, enhancing detection capabilities of existing systems, identifying unknown events and predicting suspicious activities earlier than existing controls.

Following the successful pilot, the bank has decided to deploy in full production and intends to expand the implementation of the ThetaRay AI and machine learning solution to more use cases to include additional lines of business and areas of risk.

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The ThetaRay Value

Strengthened compliance

- Detect suspicious cases that were not detected by current system controls

Early detection

- Money laundering and terrorist financing cases detected months earlier than the legacy system

Operational efficiency

- Reduction in the total number of alerts based on accurate detection coupled with alert clustering
- Low false positive rate
- Better resource utilization
- Ability to investigate alerts in order of priority and report suspicious activities to authorities in a timely manner

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