

Financial Crime & AML

A Fraud Monitoring & Detection Platform – powered by data science & visualizations

Transaction lookbacks and monitoring via network modeling and statistical algorithms.
Diminishing false positives and identifying anomalies and false negatives.



The "FALSE-VE" PROBLEM

Financial exposure

What is the financial exposure of AML?

3-5% of global GDP is laundered through global systems. Penalties, alone, was \$1.2 trillion and expected to increase by \$500 billion in 2021.

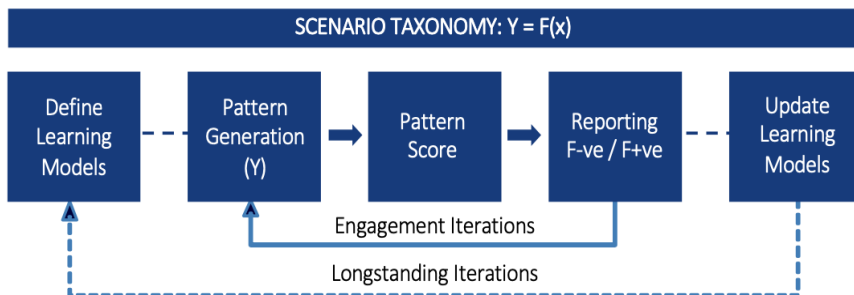
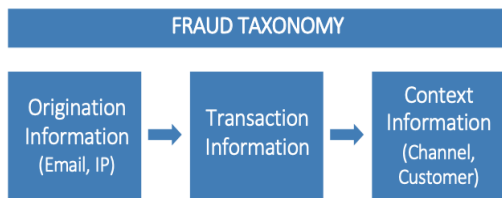


The "FALSE+VE" PROBLEM

"We can't stop fraud unless we can see it"

Overcoming costly "false positives."

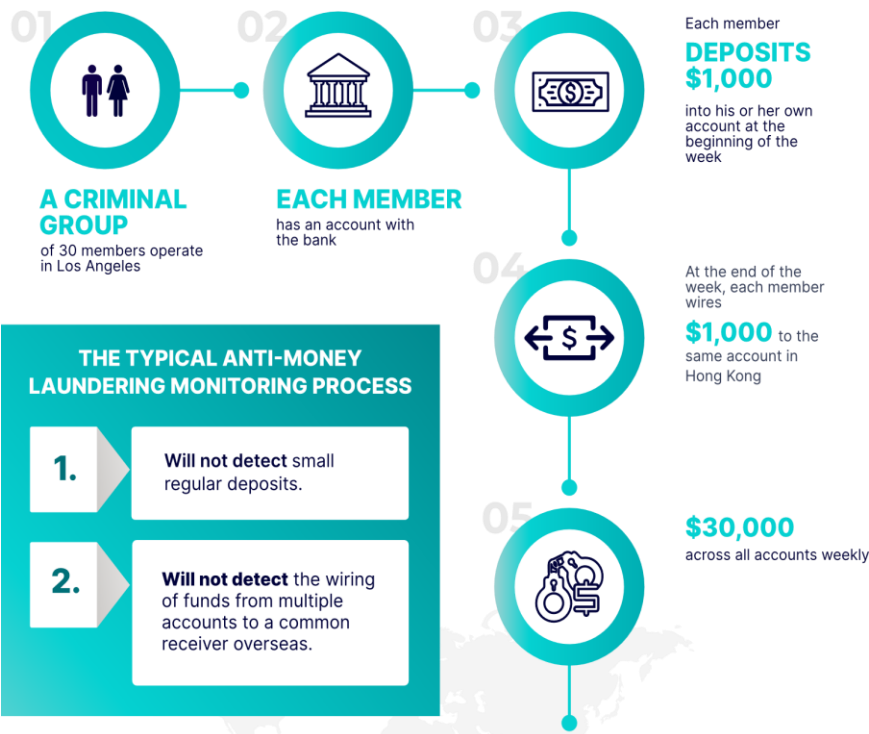
95% of system generated alerts are "false positives" due to the sophistication of contra-parties. False positives cost billions of dollars in wasted investigation time each year and expose institutions to steep fines and reputational damage for failing to identify bad actors.



Minerva Financial Crime & AML BRINGS INSIGHT – ALGORITHMICALLY - TO:

- Business working with a foreign supplier
- Business receiving or initiating a wire transfer request
- Business contacts receiving fraudulent correspondence
- Executive & attorney impersonation
- Data theft
- Smurfing, Mule, Triage & Micro-segmentation, Nested Accounts & Others

Insights in hours rather than weeks, including real-time monitoring with financial implications of exposures and what to do about them.

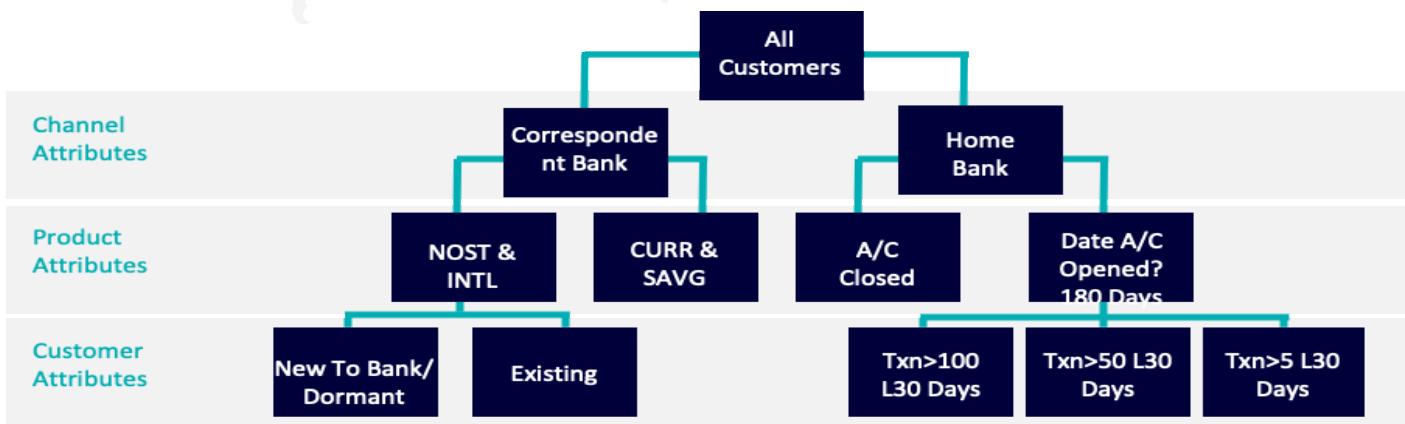


Existing challenges contained in many of the current AML solutions:

- 1 They are linear rule-based, namely using business rules, regulatory rules and data science aggregation techniques – resulting in more false positives.

Over time, these rules become brittle (due to inability to dynamically adjust to non-linear patterns) or are hampered by complexity of data privacy regulations
- 2 Others integrate additional and needed information for increasingly sophisticated rules – increasing linear rule complexity.

They integrated directorship and associated accounts, connecting transactional data with risk and 3rd-party information (e.g., corporate registries)
- 3 May not address false negatives.



The MINERVA-AML Difference

A different type of Machine Learning

AI models often lack learning corpus which makes implementation difficult. MINERVA-AML solves this challenge using SME defined taxonomies.

We solve also brittleness by forcing **Taxonomy** led segmentation using CART methods, defining segments for decision trees to make models more flexible without loss of accuracy.

Non-Linear Regression Models with Synthetic Data

Effectiveness of graph and regression models are enhanced through generating synthetic data, seeding pattern generations using various techniques.

Synthetic data represents banks' historical behavior coupled with industry intelligence enabling more bank relevant patterns

Reporting Views

- Because patterns can run into the thousands, understanding anomalies (F+ve) and conforming transactions (F+ve) is aided with various visualizing techniques to help defend the final reports with regulators.
- Extensive logs to help audit the findings, including excel based outputs to help customize and integrate reports with existing regulatory SARs reporting infrastructure.

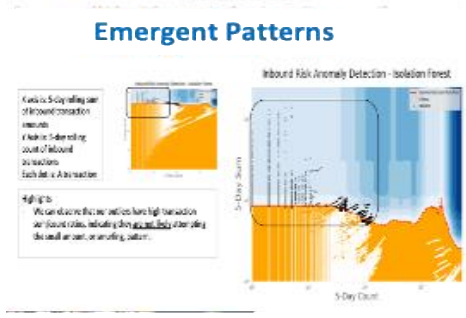
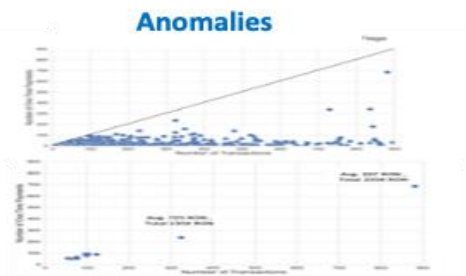
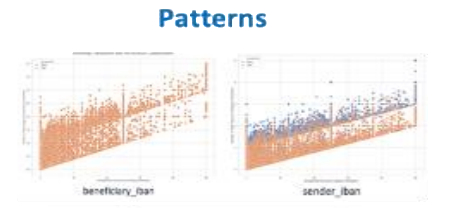
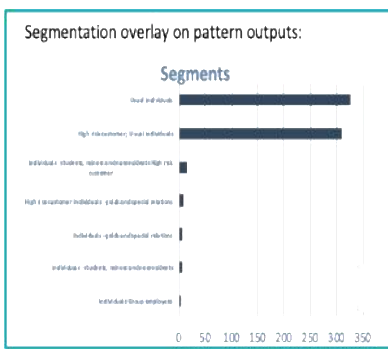
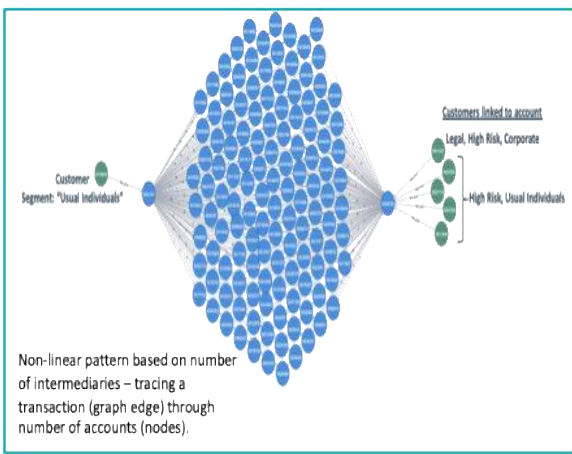
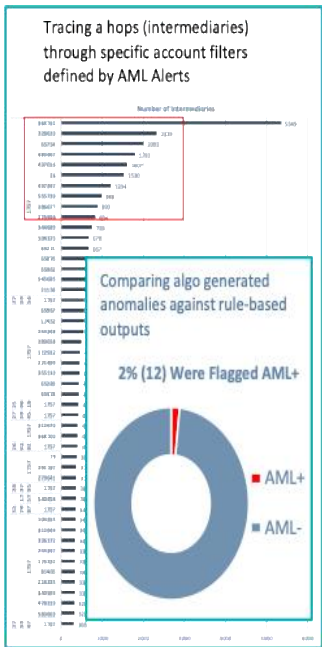
Audit Log View: RAW transaction correlation of a pattern

snldr	rx	tot	ln_txn
00000014	00001757	1	395892548E7143705
00000015	00001757	1	9213703.2135888
00001757	00000021	63	20196.82117998
00001757	00280483	158	4403.19116577
00001757	00000016	31	06734.3416854
00001757	00184411	73	83979.9216484
00001757	00073367	1	018016449E716280
00000018	00001757	1	4009940.216055
00066117	00266282	1	6111825.1714696
00540458	00065771	1	1288932.1514441

Account pairs with a lot of intermediaries (one: number of different middlemen)

"In_Acct_ID"	"Out_Acct_ID"	"Count"
"00001757"	"00349751"	5348
"00001757"	"00329610"	2329
"00001757"	"00069754"	2003
"00001757"	"00483467"	1793
"00001757"	"00437016"	1607
"00001757"	"00000026"	1530
"00001757"	"00437347"	1304
"00001757"	"00557339"	986
"00001757"	"00286677"	893
"00001757"	"00275959"	834
"00001757"	"00344669"	755
"00001757"	"00304373"	670
"00001757"	"00069223"	667
"00001757"	"00065076"	664
"00001757"	"00069962"	649
"00001757"	"00549685"	619
"00001757"	"00021138"	612
"00275956"	"00001757"	562
"00001757"	"00069967"	560
"00001757"	"00011452"	553

Account 00001757, which appears multiple times in the table above, is likely involved in something, probably in a bigger fraud network.



**Explore the Minerva Financial Crimes / AML insights today.
Contact us for a consultation & demonstration.**