

Bahamas AML/CFT 2018

September 18, 2018



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Regional banking trends and challenges

Regional banks, including Bahamian Financial Institutions, are facing increasingly more sophisticated Financial Crimes challenges and must evolve more sophisticated risk management and compliance programs to manage risk and meet enhanced regulatory expectations while remaining competitive in the market.

Increased Risk Profile

Regional and super-regional banks inherit increased risk profiles as a result of de-risking by larger institutions seeking to end certain lines of business, sever relationships and close accounts.

Increased Demands and Cost Pressure

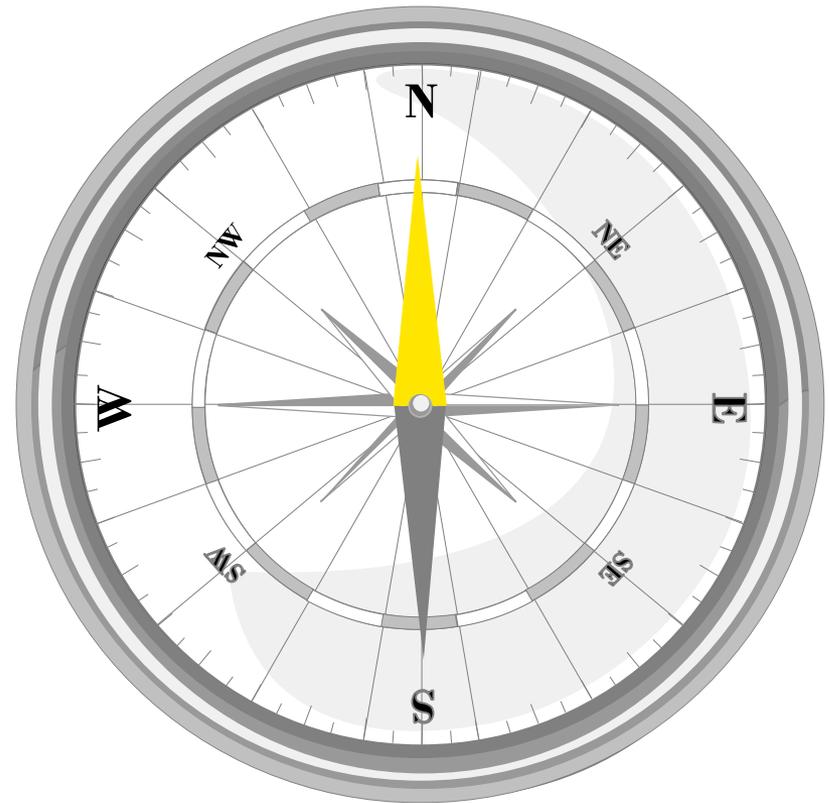
Regional and super-regional Institutions continue to face major challenges to respond to increased AML/CFT risk while simultaneously dealing with cost pressure when meeting these increased demands.

Regulatory Scrutiny

Regulators are approaching regional and super-regional banks with new heightened scrutiny that they previously reserved for the larger multinational banks and foreign banks.

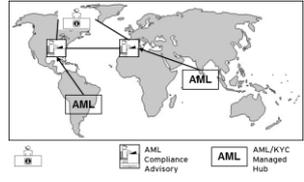
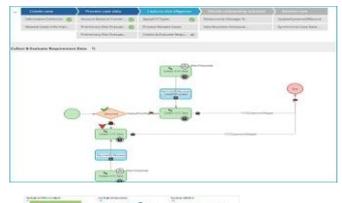
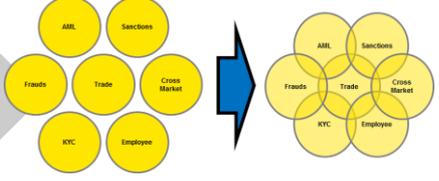
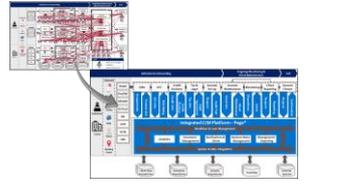
Innovation

With the increased demands and reg scrutiny there is a significant focus in Banks broadly, and regional banks in particular, on Innovation. Advanced technology, alternative delivery models, and Industry collaboration are all being utilized to increase the efficiency of AML/CFT compliance, both operationally and from a cost perspective

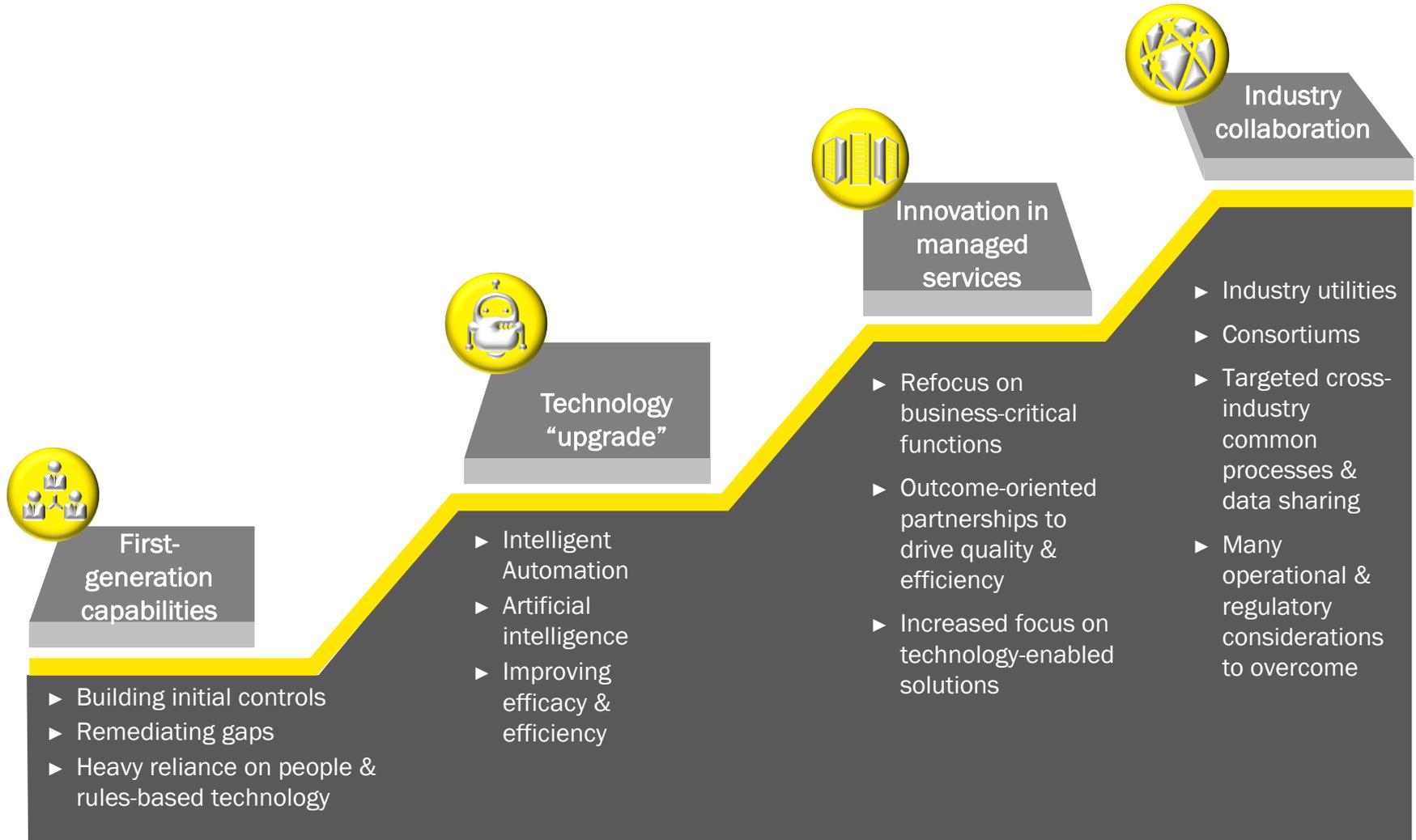


Innovations across the AML landscape

Streamlining systems and operations

<p>Advanced operating models</p>	<ul style="list-style-type: none"> ▶ Combine LOB and compliance resources using a hybrid of economical and experienced personnel to control cost while maintaining a high-quality operation. ▶ Leverage on-shore and off-shore managed services. 	
<p>Automation of workflow steps and information collection</p>	<ul style="list-style-type: none"> ▶ Use configurable workflows to better manage information collection and the investigative process. ▶ Implement client portals to support the efficient collection of information. ▶ Highlight required information to reduce redundant client contact. 	
<p>Advanced analytics and dynamic analysis</p>	<ul style="list-style-type: none"> ▶ Perform dynamic analysis with the help of interactive dashboards. ▶ Use leading technologies to standardize, curate and manage data. ▶ Use visual link analysis to establish relationships between complex timelines of events and relationships. 	
<p>Unification and integration</p>	<ul style="list-style-type: none"> ▶ Currently there are many different types of surveillance that banks undertake. The current approach is to undertake these different types of surveillance in isolation from each other with different teams, controls, processes and solutions used, but there is overlap between these types of surveillance. 	
<p>System simplification and streamlining</p>	<ul style="list-style-type: none"> ▶ Reduce the number of unique components to reduce the complexity of systems, the need for variety of skillsets, reduce maintenance cost, and reduce operational risk. ▶ Create hub-modeled interfaces between organizational and functional components. 	

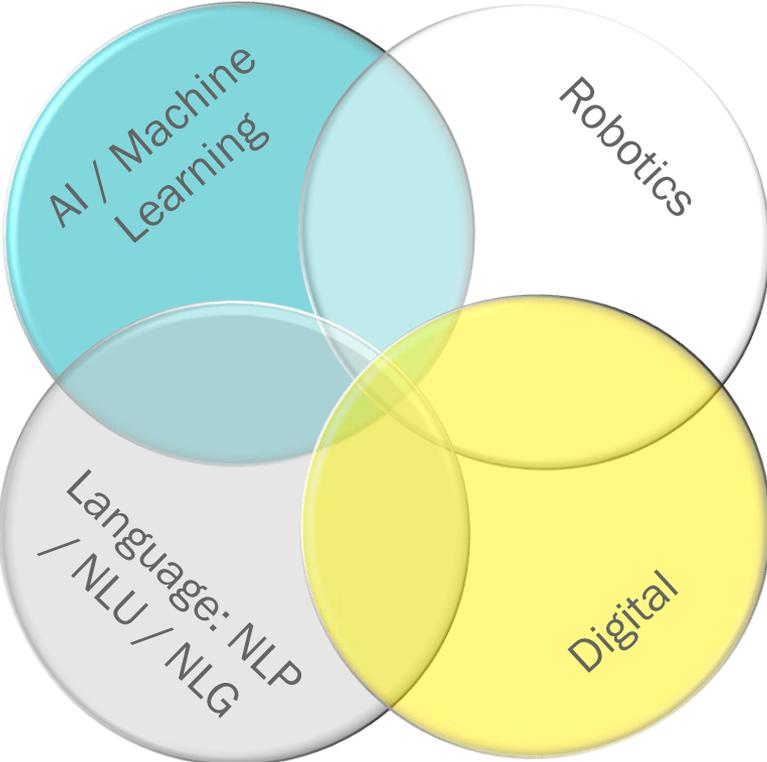
The industry is asking providers to innovate on delivery models, with a focus on outcome driven partnerships



The rapid growth of new technologies are providing new opportunities to protect against financial crime

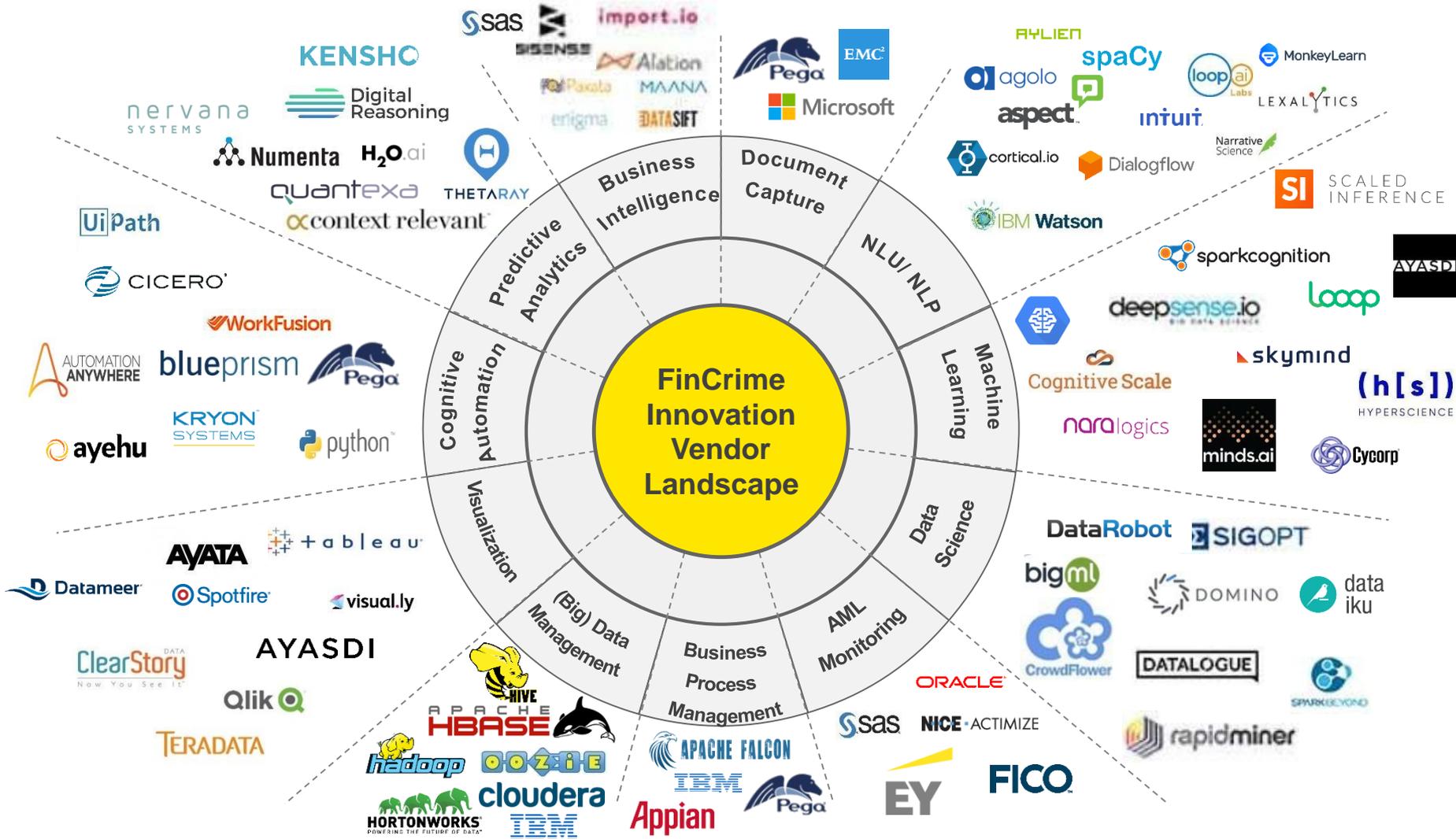
Combining new technologies drives real disruption...

creating enabling platforms to address real use cases



Visualization	Dashboards	Productivity	Trend Analysis	Visual Analytics
Execution	Robotics	API	Smart Contracts	Cognitive RPA
Analytics	Big Data	Link Analysis	AI	Machine Learning
Platform	DLT	Cloud	Data Stores	Security

Financial Crime Innovation Vendor Landscape



AML Investigations



AML Investigation



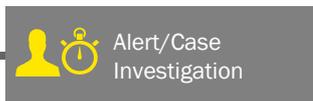
The investigation lifecycle is an integral part of a BSA/AML program. However, investigations are time-consuming and often require laborious tasks that help support the ultimate decision(s) that will be made. The investigative function is a prime example of a process that can leverage automation through robotics and analytics to create a more efficient and effective output.

Current process pain points

- ▶ Simple and unintuitive workflow resulting in operational inefficiencies
- ▶ No way of assigning, prioritizing, and tracking work



- ▶ Review of all generated alerts, with minimal distinction of risk
- ▶ Investigators spend considerable time reviewing large number of unproductive alerts



- ▶ Manual, repetitive tasks related to sourcing, aggregating, analyzing and storing internal and external data, and writing the alert narration



- ▶ Manual QA of disposition results based on a sample
- ▶ Periodic back testing of closed cases to measure efficiency



Technology enablement potential

- ▶ Digitally enabled workflow management that manages optimal work distribution based on resource availability and historical performance

- ▶ AI-driven disposition recommendations resulting in auto-closure of unproductive alerts
- ▶ Analytics-driven insights on negative news, complex, hidden and suspicious relationships

- ▶ Automated enrichment and validation of alert and case data using internal and external sources
- ▶ AI and NLP enabled alert narration drafting

- ▶ Automated QA of the alert investigations process and generation of QA reports
- ▶ Testing and validation of the full alert population results in improved outcomes

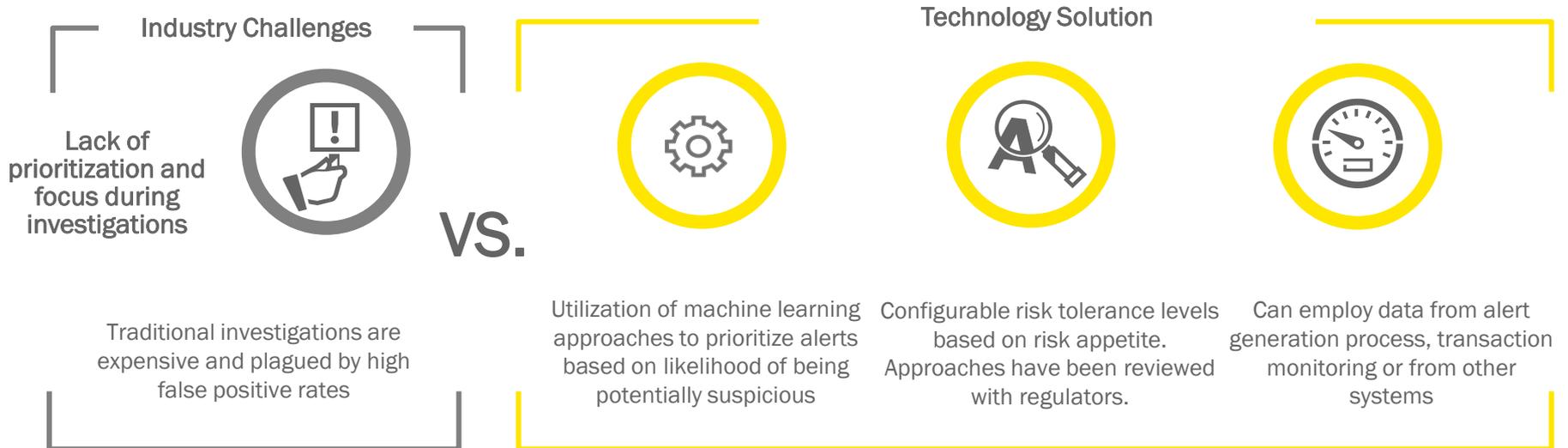
Based on multiple client implementations, the enhanced alert investigations process results in a 30%+ closure rate of unproductive alerts with minimal errors (less than 1 in 10,000) and a 40%+ efficiency gain for alerts requiring a human investigator

Use Case 1

Automated disposition recommendation

Overview

EY's automated disposition technologies and methodologies score and prioritize alerts based on a combined view of a probabilistic model trained on historical productivity data and compliance risk policy. The scoring models utilize mathematically sound methods that are defensible, measurable, and repeatable, including logistic regression, tree ensembles, and neural networks.



Client Implementation Benefits:

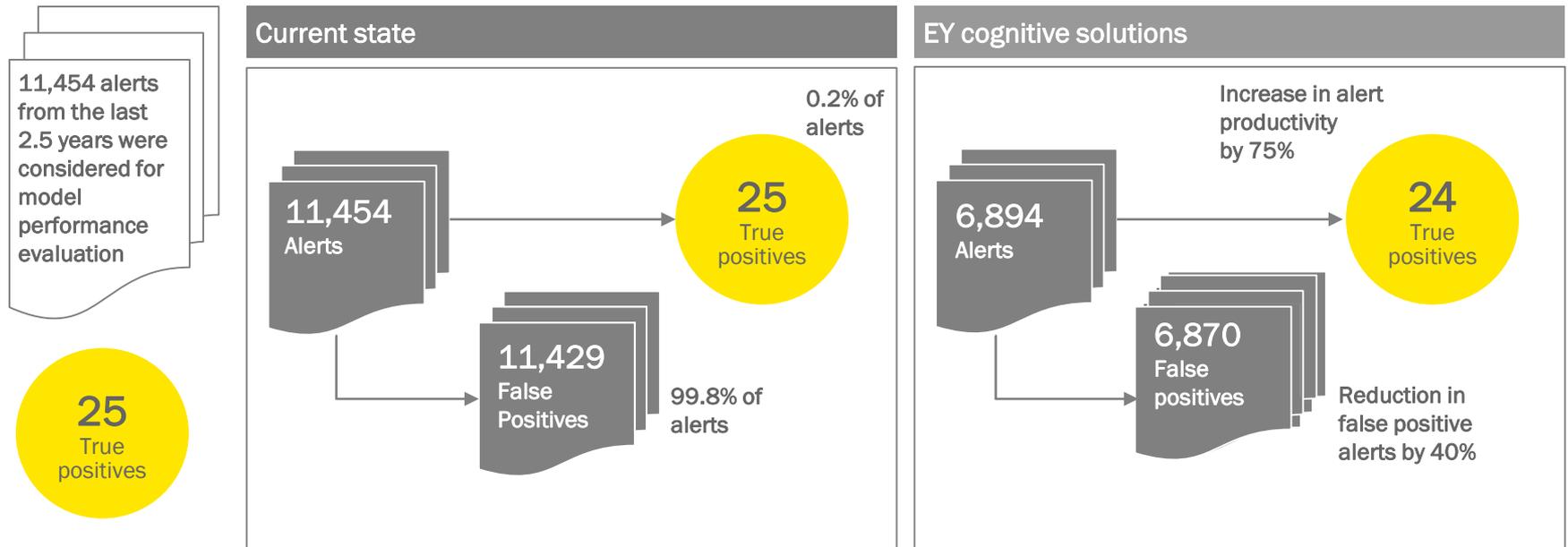
- ▶ Allows investigators to focus on alerts with a higher likelihood of being escalated/productive, resulting in efficiency gains in AML investigation process
- ▶ Quantitative approach is statistically sound and defensible
- ▶ Automated disposition techniques can be leveraged during the QC process for a targeted review

Case Study

Automated disposition recommendation

Through an AML Investigations proof of concept at a large US-based bank, EY tested an array of machine learning approaches to identify a model that not only performs at an optimal level, but demonstrates the opportunity for appreciable efficiency gains in the AML investigation process:

- ▶ Recommend 40% of alerts for closure by AML investigators
- ▶ Maintain less than a 5% false negative rate, an industry benchmark for AML risk tolerance
- ▶ Maintain errors in alert closure recommendations to below 1 in every 4,500 alerts



An initial gain of 40% in alert closures presents an opportunity to improve the program's overall effectiveness, increase efficiency and create capacity to support business growth.

Use Case 2

Automated investigative narrative generation

Overview

Narrative generation summarizes the information associated with an investigation and automates the narrative writing process. Using a standard template, and incorporating machine learning-based decisions to investigator feedback, the draft narrative is pre-populated to reduce the overall narrative burden placed on investigators.

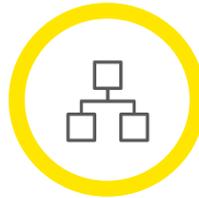
Industry Challenges



Narrative writing is time consuming and susceptible to human error

VS.

Technology Solution



Extract pertinent alert information on alerted account from client internal database, incorporate negative news search results and criminal lists, if needed



Generate narratives that follow client guidance, resulting in increased consistency



Automatically incorporate alert disposition recommendations based on machine learning generated modeling results

Client Implementation Benefits:

- ▶ Save labor cost on documenting through automated generation of alert investigative narratives
- ▶ Actionable recommendations and detailed summary of aggregated information from various sources such as client internal database and external database/web-links, allowing to take time efficient investigative decisions

Sample

Automated investigative narrative generation

Overview

Below is a sample narrative report which contains 3 sections:

- 1) Overall summary of the account;
- 2) Detail investigation results after analyzing internal and external data on the customer, account and transaction;
- and 3) Conclusion on whether or not to escalate or clear the alert.

Section 1: Overall Summary

Summary

Financial Intelligence Unit received alert #1109754 related to [REDACTED] account [REDACTED] registered to [REDACTED]. The alert generated as a result of alerted rule 'Potential Structuring (Daily)'. There was a prior SAR filed for this account. A transactional review was conducted for the period of 2011-03-01 through 2011-03-31 and revealed no suspicious activity.

Details of Investigation

Account [REDACTED] is a [REDACTED] account opened on 2017-04-01 by [Customer Name]. This account remains active status and account name is '1001362 TR NM'. The account owner [REDACTED] is the sole owner and authorized signer for the account. The account owner has been [REDACTED] customer since 2012-12-06 and currently resides at 1001362 TR ADDR1, 1001362 TR ADDR2, 08444990414, FQ2 5VK, GB. Internal bank records list email address as 'EMAIL1001362.COM' and phone number is '01 1001362'. The account owner currently employed by '1001362 TR NM' company in the country of GB. The bank do not have the owner's birthday and marital status on file.

[REDACTED] owns 32 account(s) with [REDACTED] 1 of those is alerted account during the review period. No publicly available negative news was found regarding the customer.

A transactional review was conducted of the alerted account. This alerted account do not have any credit activity during the review period.

Debit activity during the review period totaled €12781.63 consisting of 36 transactions. There are 36 outgoing transaction(s) from '+UK2_CRFP' transaction type with total amount of €12781.63. between 03/11/2011 and 03/22/2011, followed by large dollar amount transactions of €8772.53 on 03/23/2011. Frequent transfer with no apparent business reason. Further investigation is needed to understand whether such frequent transfer activity can be justified by the nature of the business.

In addition, all 32 transactions have the same transaction amount of €38.14. The investigation team agree with the alerted rule 'Potential Structuring (Daily)'.

The account was alerted for 'Potential Structuring (Daily)' during the review period. The alerted transactions totaled €4007.

Conclusion

A SAR filing/further investigation is recommended at this time, given there was a prior SAR filing and alerted activities are suspicious. The source of fund is pending review, since there is not credit activity during the review period. The account will continue to be monitored via Actimize, pending decision for account closure.

Section 2: Detail Investigation Results

This section is further divided into 3 subsections to discuss investigation results on customer, account and transaction.

Customer subsection provides the personal details of the customer. In addition, this subsection also include the negative news search results on the customer (underlined in BLUE).



Account subsection includes detail information relates to the account.

Transaction subsection summarize all the transactions being reviewed by the model. It automatically document the pattern analysis results on the transaction history (underlined in GREEN).



Section 3: Conclusion

This section gives a recommendation on whether or not to escalate or clear the alert generated on the account (underlined in BLACK).



Use Case 3

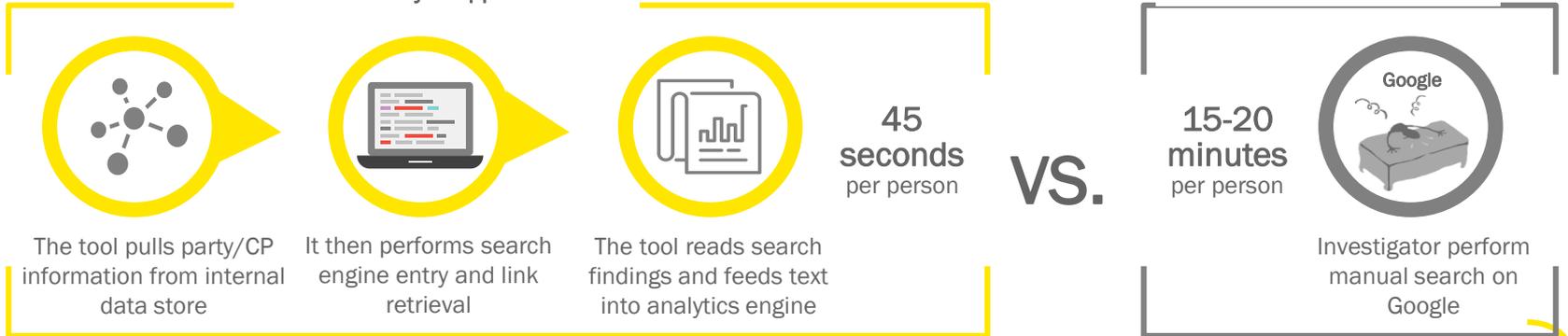
Automation of negative news and adverse media

Overview

Negative news search function generates a relevance and risk score for customers based on internet search results or in case of existing reports, it pre-processes, ranks and risk scores customers using word embedding. It helps investigators to prioritize cases based on perceived risk and search flags. In addition, it increases consistency by removing the subjectivity from decision making and reduces risk of human error in the investigation decision making process.

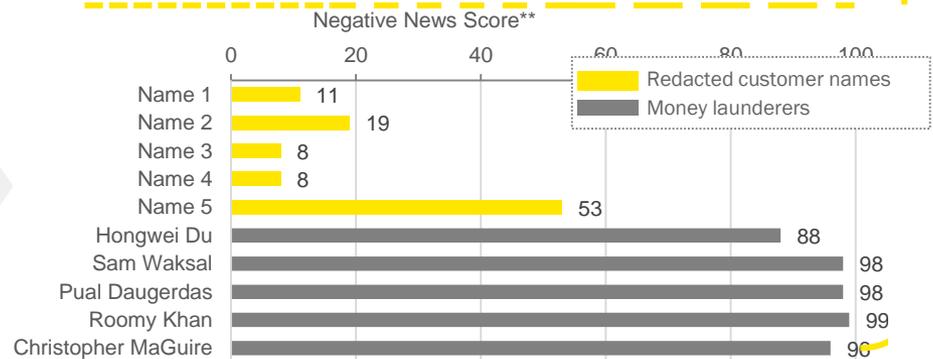
EY's Analytic Approach

Traditional Approach



Sample output on a set of **5 EY employee names*** and **5 known money launderer/criminals' names** is displayed at right as a proof of concept.

- ▶ A higher score, out of 100, represents more highly negative news. In the sample, the results show **higher scores for the known criminals**.
- ▶ A threshold can be applied on the score as a simple binary flag "(not) having significant negative news." For example, a threshold of 70 would have flagged all criminals while marking EY employees "clean."



* In compliance with GDPR, EY employees names used for this exercise are removed from the chart.

Sample

Negative news and adverse media report

Overview

Below is a sample negative news report which contains 4 sections: 1) Overall negative news score (range from 0% to 100%); 2) Negative news search results summary; 3) Relevance score; and 4) Clickable links to the negative news.

Customer Name

Total Negative News Score¹: 11%

Details on Links Searched²

Links returned (from max of 7 pages searched)	20
Remaining after filtering	12
Negative links used for risk scoring	4

Average Relevance Scores³

Name	94%
Location	62%
Employment	56%

Links

1. <https://www.juralindex.com/debby-degange.html>
Stems matched: ['unlaw']
Average Relevance Score for Identity Match: 69%
2. <https://www.juralindex.com/michelle-degange.html>
Stems matched: ['unlaw']
Average Relevance Score for Identity Match: 73%

Section 1: Overall Score

The overall negative news score is based on the # of negative results returned and their relevance. Higher score, out of 100%, represents relatively higher negative news for that person.

Section 2: Search Results Summary

This section provides a summary of negative links found in the search. Filters are applied to exclude noise such as a) links from social network websites (e.g., LinkedIn and Facebook) and b) irrelevant links included due to common names.

Section 3: Relevance Score

This section shows the weighted average of the name, location and employment scores of the 4 negative news links used for risk scoring. Relevance score is computed using word embedding (mapping of words to a vector) and calculating distances between corresponding vector representations of other words.

Section 4: Links to the negative news found

This section provides a list of rank-ordered links for the negative news found in the search. "Average Relevance Score for Identify Match" gives the confidence level of how likely this negative news links is related to the customer.

Click the PDF to view the full reports
for all customers



Negative News Report.pdf

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