AML Industry Trends & Issues

- **KYC**
  - FI’s don’t have a firm grasp on who their customers are, as well as their relationships

- **AML Transaction Monitoring costs**, in particular, continue to soar as satisfaction declines
  - Rules based systems inherently generate false positive. Data issues exacerbate the problem as does an inadequate KYC process leading to poor customer segmentation
  - High alert volumes with a 95% false positive across the industry not allowing staff to focus on true positives and forcing FI’s to increase staffing to handle the volumes. Offshoring of AML Operations has helped in decreasing some of the costs but it hasn’t solved the false positive problem.
  - Case Management process is cumbersome and inefficient
Reduction in False Positives & Increased Efficiency without Increasing Compliance Risk

Why Banks have high False Positives

- **Customer risk classification:** Skewed risk classifications
- **Customer segmentation:** Misclassified Customer segmentation rules / processes
- **Scenario selection:** High number of scenarios choices unjustifiably increases the false positives
- **Parametric tuning:** Mistuned scenario parameters for the customer segments
- **Quality of data:** Bad Data Quality has high Impact

Our Approach to reducing False Positives, Improving Operational Efficiencies & Reducing Costs

- **Alert 360:** Consist of alerts, related parties and their accounts and transactions associated to those accounts and reference data
- **Alert Profiling:** Understand the accuracy and recency of KYC data, Screening Processes
- **Enrichment:** Use 3rd party data sets to enrich the information (may increase compliance)
- **Advanced Analytics:** Our common nexus analysis reveals the relationships between entities and relationships.
- **Increase case management efficiency** through ML
- **Apply 5 Step Approach** to enhance TMS to reduce false positives

Typical Recommendations

- **Effective Screening** processes
- **Multi-scenario models:** Building an adequate multi-scenario model to handle current gaps
- **Whitelist management:** Balanced recommendations around efficiently utilizing the white lists
- **Scenarios management:** Frequency and process around continuous scenario management
- **Increasing compliance** through New Insights
- **Architectural and Analytics** Roadmap
5 Stage Approach for Reduction of False Positives

1. Risk Strategy and Execution
   - Risk Qualification
   - Profiling of existing alerts
   - Key drivers assessment
   - Alerts to industry scenarios mapping
   - Profiling by existing Segmentation

2. Tactical Scenario Development
   - Data preparation
   - Develop homogeneous Clusters from population
   - Identify most significant variable from each cluster
   - Draw Samples based on most significant variable
   - Build Model based on Tuning Elements

3. Tuning & Optimization
   - Step 1 – Testing prior to Sampling
     - New Scenario Testing
     - Existing Scenario below the line Testing
   - Step 2 – Sampling
     - Sample Design Finalization
     - Sample Size Calculation
     - Identification of Sampling methodology

4. Scenario/Model Review and Governance
   - Model Review methodology
   - Model estimation analysis
   - Benchmarking
   - Periodic back testing
   - Issue Resolution & change management
   - Model Inventory management
   - Model error discovery

5. Tactical Scenario/Model Implementation
   - Provision of development data
   - Data design for production and quality control
   - Scenario accuracy and optimizing code descriptions
   - Process flow, scheduling and code development
   - Pre-production UAT validation
   - Production implementation
   - Post-production validation and model/scenario accuracy tracking
Financial Crime Architecture

...Focus Areas to reduce False Positives and increase compliance

1. ML – Increase Compliance
   - Data Scientists
   - Community Data Scientists

2. Alert 360

3. RPA – to increase operational efficiencies
Focus Areas for Improving the AML Process

1. **ML – increase compliance & Reduce false positives**
   - Use of unsupervised machine learning algorithms to lower false positives
   - Generate rules based on ML models that reduce false positives
   - Use ML for better segmentation of clients
   - Rules can then be integrated into FI’s AML processes that will help reduce the negatives

2. **Alerts 360 – reduce false positives**
   - Provides both Network Analytics, which helps classify normal and non-normal behavior, and Network Visualization, which provides ability to view the transactions connecting entities in the networks
   - Builds Alert 360 view and utilizes Graph based Single Entity Views
   - Identify common parties associated with false positives to understand focus areas for reducing false positives

3. **RPA – to increase operational efficiencies**
   - A fast and easy way to profile, identify, and unify all of the information needed for a thorough transaction review.
   - Present the relevant information, in context, directly into a format that fits FI’s processes
   - Enables AML case review professionals so that they spend less time retrieving information and generating written summaries

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AML and Big Data Overview | March 2017 | Financial Services
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With more than 180,000 people in over 40 countries, Capgemini is one of the world’s foremost providers of consulting, technology and outsourcing services. The Group reported 2015 global revenues of EUR 11.9 billion. Together with its clients, Capgemini creates and delivers business, technology and digital solutions that fit their needs, enabling them to achieve innovation and competitiveness. A deeply multicultural organization, Capgemini has developed its own way of working, the Collaborative Business Experience™, and draws on Rightshore®, its worldwide delivery model. Learn more about us at www.capgemini.com.

www.capgemini.com
HOLISTIC RISK AND COMPLIANCE
POWERED BY BIG DATA ARCHITECTURE

Will Johnson – Founder + CTO
ATTIVIO IS THE LEADING COGNITIVE SEARCH AND INSIGHT PLATFORM COMPANY.

OUR MISSION IS TO INCREASE THE INTELLIGENCE OF EVERY ENTERPRISE THROUGH COGNITIVE SEARCH AND INSIGHT SOLUTIONS.
FIN-TECH CUSTOMERS, PARTNERS, AND RECOGNITION

LEADER 2016
Forrester Wave for Big Data Text Analytics Platforms

ONE OF 6 PROVIDERS THAT MATTER MOST 2016
Forrester Wave for Native Hadoop BI Platforms

LEADER 2015
Magic Quadrant for Enterprise Search

9 PATENTS TO DATE
Query-time Join, Composite Join, Text Analytics

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How many emails, chats, voice calls go in/out/through a bank every day?

A lot!
CAN YOUR COMPLIANCE KEEP UP WITH GROWTH?

FRAGMENTED EVIDENCE
Multiple silos, solutions, and sources create expensive friction

SO MUCH INFORMATION
Must make sense of an explosion in unstructured information

GLOBAL INCONSISTENCY
Absence of uniformity across jurisdictions raises scrutiny
HOLISTIC GRC PROVIDES BENEFITS ACROSS SOLUTIONS

UNIFY INFORMATION
Integration across multiple silos, solutions, and sources

ENRICH ALL DATA
Discover the structure inherent in unstructured information

CONSISTENT RESULTS
Delivers a single-view of the transaction across jurisdictions
HOW ATTIVIO DELIVERS HOLISTIC GRC

Answer: A Big Data Platform Approach
HOLISTIC BIG DATA ARCHITECTURE

Source Systems

Processing Workflow

Universal Scalable Secure Index

User Experience

Email
Chat
Voice
Transactions
Database
Web/External

Real Time Content From Any Source From Any Location In Any Format

Advanced Rules, Policies, Complex Patterns, Entity Extraction, Machine Learning Classification, Sentiment, Outlier Detection

Scale Out Repository for Structured and Unstructured Content and Queries

Data Driven Applications i.e. AML, KYC, ECS, etc.

BI and Analytics

Industry standard ANSI SQL Supports Best of Breed / OTS Tools, Best in Class Search API

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Hortonworks Data Platform (HDP) Certified

Industry Certified - Financial
• Proven solutions at big data scale

YARN Ready
• Attivio operates directly in Hadoop without going through external tools
• Improves both resource management and facilitates cost management.

Security Ready
• Certified to work with Kerberos, Apache Knox, and Apache Ranger

Governance Ready
• Certified on Apache Atlas
• Enables metadata exchange with tools inside and outside of the Hadoop stack

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## ATTIVIO SOLUTIONS FOR BIG DATA PROBLEMS

<table>
<thead>
<tr>
<th>Challenge: The “V”</th>
<th>The R&amp;C question it creates</th>
<th>What Hadoop + Attivio Does</th>
<th>Outcome: The “E”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Volume</strong></td>
<td>How can I efficiently integrate and leverage all of my data while managing OpEx?</td>
<td>Scalable, HDFS-ready platform for strategic applications</td>
<td>Efficiency</td>
</tr>
<tr>
<td><strong>Variety</strong></td>
<td>How can I correlate all structured &amp; unstructured data for holistic analysis and prioritization</td>
<td>Content-agnostic ingestion &amp; schema-on-read index allows for unlimited interoperability</td>
<td>Extensibility</td>
</tr>
<tr>
<td><strong>Veracity</strong></td>
<td>How can I sift real risk from noise? How do I eliminate false positives &amp; prevent missed positives?</td>
<td>A new standard for risk, situational &amp; behavioral monitoring &amp; prioritization.</td>
<td>Efficacy</td>
</tr>
<tr>
<td><strong>Velocity</strong></td>
<td>How can I cost-control the business and generate revenue in the face of more data and more requirements?</td>
<td>Lower OpEx, 10x ROI, Expanded Risk Assessment</td>
<td>Earnings</td>
</tr>
</tbody>
</table>
HOLISTIC SOLUTIONS AND RESULTS
ATTIVIO AML INVESTIGATOR SOLUTION

• **Unify**
  – Identify, centralize, and correlate case evidence from every relevant internal and external source.

• **Analyze**
  – Calculate case similarity, complexity, and completeness scores for all cases – facilitating faster and better focused case assignment

• **Automate**
  – Automatically generate formatted case summaries and narratives from gathered case evidence, highlighting missing information and next steps

• **Optimize**
  – Process every case summary, including added evidence and case disposition – in audit-ready, discoverable format
AML SOLUTION CASE STUDY

Details
- Top 10 Worldwide Bank
- Headcount
  - ~1000 worldwide
- Document Count
  - Pilot: 10M
  - Prod: >1B
  - Rolling retention by jurisdiction
- Sample Sources
  - Transaction Monitoring & Case Management
  - HDFS
  - D&B, KYC, ICX4, AVOX
  - Reuters
  - 20+ Additional Sources

Results
- Single intuitive UI for all investigation
- 140 facts automatically generated
- Auto generated checklist + narrative in compliance ready / human readable form

Shift L1/L2/L3 Resource Allocations

Case Investigation Time Reduced by 80%
ATTIVIO COMMUNICATION SURVEILLANCE SOLUTION

- **Normalize**
  - Ingest all sources, enrich & break apart conversations and dialog according to specific business needs

- **Analyze**
  - Apply rules engine – conditionals, complex queries, sentiment, statistical classification & apply labels, scores & policies.

- **Prioritize**
  - Queue the riskiest comms and route by user, group, & team

- **Contextualize**
  - Plot the communication network, cluster areas of risk & connect the dots during forensic investigation: faceted analysis, risk profiling, network profiling, and social network diagrams

Demo
COMMUNICATION SURVEILLANCE SOLUTION IN DEPTH

Details
- Top 10 Worldwide Bank
- Headcount
  - >1000 worldwide
- Document count
  - Pilot: 1M+
  - Prod: >4B
  - Rolling retention by jurisdiction
- Sample Sources
  - Transaction Monitoring & Case Management
  - Bloomberg
  - Reuters
  - Transcribed Voice
  - Internal personnel data
  - Internal organizational data e.g. hierarchy

With 1 Engineer in 2 weeks

- Found Additional True Positives
- 60% Fewer Rules Than Legacy System
- Reduced False Positives by 87%