What is Forensic Analytics?

Applying a precise, repeatable, and defendable methodology coupled with domain subject matter experience to help organizations understand the timely story behind their data, which in turn drives timely actions.

Forensic Analytics can help to:

• Discover fraud, waste, and abuse
• Identify money laundering activities
• Detect improper payments
• Analyze terrorist networks and activities
• Maintain and enhance regulatory compliance
What questions are being answered?

- Looking for **fraud** and **anomalies**?
- Looking for **relationships** and **networks**?
- Looking for **trends**?
- Looking to **predict** trends?
- Looking for how information is **organized**?
- Looking for **sentiments** and **buzz**?
- Looking for **compliance**?
- Looking to **augment** existing data?
- Looking to **resolve** or **match** entities?
Incentives and motivations

1. High return on investment.

2. Protect agency/programmatic reputation.

3. “Do More with Less” as budgetary pressure continues.

4. Potential congressional, executive, and oversight mandates.

5. Understand trends and patterns – seeing the forest from the tree.
Traditional approach: Look-back (pulling)

Forensic analysis (or look back) has been the traditional approach to analytics. In essence, there needs to be a probable cause (e.g., leads) so that data can be collected and compiled after the fact.

- No real-time requirement
- Methodical, detailed approach to pulling available data
- 80% data pulling, 20% analysis
Proactive approach: Continuous monitoring (pushing)

Look back works and it isn’t going away.

But what if the data itself can automatically and continuously push risk-based indicators to analysts?

- Proactive rules and models-based data mining
- Automated, self-learning construct with near real time results
- 80% analysis, 20% data pulling
Continuous monitoring concept of operation

In-line screening

Real-time screening

Data Source

ETL

Case management

Data layer

Treatment Decision

Workstream Decision

Coordination

Off-line analytics and optimization

Advanced analytics

Testing and optimization

Rules and Models

Yes
No
True
False

Data Source

Data Source

Data Source

Data Source

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How can predictive analytics & continuous monitoring help you?

Forecasting

FCPA violations

Customer segmentation

AML red flags

More efficient case management

Reducing Type I & II errors

Expense violations

Quicker fraud detection
Maximize the benefits of analytics

Domain subject matter experience

- Forensic technologists
- Functional subject matter experience
- Technical subject matter experience
- Statisticians
- Analytic experience
- Quality control experience

Advanced analytics

Social Network Analysis  Anomaly Detection  Predictive Analysis  Text Mining  Semantic Modeling  Geospatial Analysis

Data infusion

- Open-source data
- Third-party data
- Social media information
- Government source data
- Business intelligence data
- Geospatial data
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