The use of fraud data analytics in Internal Audit

IIA Fraud Conference Breakout Session
March 27, 2019

The better the question. The better the answer. The better the world works.
Connect with me on LinkedIn!

https://www.linkedin.com/in/sarah-dalton-124769a/

If you would like to receive a copy of the most recent EY Global Forensic Data Analytics Survey, or have any other questions/requests please email me at:

sarah.dalton@ey.com
Contents

1. EY Forensic Data Analytics Survey
2. Analytics maturity model
3. Applications for Internal Audit
4. Case Study 1: Overbilling customers
5. Case Study 2: Integrity analytics
6. Case Study 3: Loss prevention
Professional background
Sarah is a Senior Manager in EY’s Fraud Investigation & Dispute Services practice where she manages the forensics practice for the Pacific Northwest assisting clients with forensic accounting, auditing, compliance, and due diligence matters.

She has advised companies and external counsel on fraud and regulatory investigations, accounting expert witness reports and testimony including forensic findings/damages and M&A working capital disputes, anti-bribery/anti-corruption (“ABAC”)/FCPA assessments and due diligence, monitoring of compliance activities, fraud data analytics, risk assessments, and eDiscovery.

She works with clients across industries to enhance and optimize their compliance, legal, risk and internal audit functions by utilizing resources in EY’s global forensic practice spanning 154 worldwide locations with 4,500+ forensics personnel.

Industry expertise
Sarah has experience working with many industries such as:
- Consumer Products / Retail
- Manufacturing / Industrials
- Healthcare / Lifesciences
- Construction & Engineering
- Aerospace & Defense
- Technology
- Oil & Gas
- Power & Utilities

Professional experience
Sarah has ten years of experience with performing fraud investigations involving alleged financial misstatements, asset misappropriation, bribery and corruption, conflicts and collusion, management failures, and whistleblower allegations.

She has been involved in a number of large and complex dispute matters whereby EY acted as either the expert accountant or neutral arbiter. She is well-versed in expert protocol for both arbitration and trial matters.

She also has extensive experience with a wide range of ABAC/FCPA matters, including risk assessments, compliance program implementations and gap assessments, compliance audits, transaction due diligence, and third party risk management.

She works with her clients to develop a comprehensive approach to managing and monitoring their risk profile and providing continued oversight of compliance risks.

Professional qualifications and memberships
Sarah holds a Bachelor of Arts degree in Accounting from Loyola University, New Orleans, magna cum laude, and a Masters in Business Administration with a focus in forensic accounting from Loyola University, New Orleans, summa cum laude.

- Certified Public Accountant, Oregon
- Member, American Institute of Certified Public Accountants
- Member, Oregon Society of CPAs
- Member, Women’s White Collar Defense Association, Seattle chapter
- Member, Association for Corporate Growth
Arpit Bothra  
Senior Manager  
Forensic & Integrity Services  
Tel: +1 415 984 7068  
Mobile: +1 510 516 9171  
Email: arpit.bothra@ey.com

Professional background
► Arpit is a senior manager within Ernst & Young’s (EY’s) Forensics & Integrity team.  
► He specializes in E-Discovery, Forensic Data Analytics and Data Governance.  
► Prior to joining EY, Mr. Bothra was the Director of Operations for Cataphora Legal where he was actively involved with both the engineering and business sides of an organization that had over $60 million in revenue in the last five years. He also managed and led the process of successfully opening up a fully functional operational arm for the company in India.

Skills
► He has extensive knowledge and experience in various industry standard ediscovery tools used for Imaging (Encase, FTK etc.), data processing (LAW, CSL, Clearwell etc.), hosting/preview (Relativity, Concordance, summation etc.), document conversion (IPRO, HCPP, LAW etc.)  
► His expertise includes engineering solutions to address complex challenges, and executing processes and methods to advance the industry’s leading Technology Assisted Review solution.  
► He has vast experience in analysis of unstructured data and early case assessment using various data mining and linguistic techniques developed in conjunction with a team of linguists.

Professional experience
► He has more than eleven years experience working with pharmaceutical, chemical, telecommunications, healthcare, insurance and consumer products companies and their counsel through the entire process of e-discovery from collections all the way through depositions and case trial exhibits.  
► He specializes in utilizing emerging technologies and big data to better detect fraud, improve compliance monitoring and realize operational efficiencies. Arpit has led investigations and proactive matters for several of EY’s largest clients, specifically within financial sciences, media, technology and energy.  
► He was a co-inventor in the Cataphora patent titled “An Improved Method and apparatus for sociological data analysis”  
► He led the effort to setup a fully functional arm for Cataphora in India which was responsible for e-discovery operations.  
► Led the effort to test and implement document conversion as a service to be offered to clients. Tested 5 industry standard tools for document conversion and implemented workflow for operations and QA of the document conversion process.

Educational background
► Arpit has a Bachelor of Science in Computer Engineering and a Bachelor of Science in Economics both from the University of Michigan Ann Arbor  
► He has vast experience in technologies such as Perl, SQL, VBA and unix tools.  
► He has working experience with technologies such as C++, Java, Python.
How can you disrupt risk in an era of digital transformation?

Global Forensic Data Analytics Survey 2018
Main benefits of forensic data analytics

- **88%** Improved risk assessments
- **87%** Ability to detect risk in large data sets
- **81%** Faster response in investigations
- **80%** More timely or relevant corrective actions or training
- **79%** Meeting regulatory expectations
- **74%** Increased business transparency
- **55%** Reduced costs of risk management programs
The number of dedicated FDA resources remains low

- 39% no dedicated personnel
- 36% dedicated personnel of 1-5
- 13% more than 10 dedicated personnel
- 9% dedicated personnel of 6-10
Human resources and skills need to catch up

Percentages of respondents who rated the following areas immature:

- Integrating multiple data sources for better risk detection and mitigation: 53%
- Moving from ad hoc or periodic testing to continuous monitoring: 50%

Very mature (%):
- Technical skills: 13%
- Domain knowledge: 28%
- Data analytics or data science expertise: 12%
Many stakeholders are involved in defining the FDA strategy

Functions identified by over 40% of respondents as being responsible for defining and executing the FDA strategy

- Internal audit
- Finance
- Corporate management
- Information technology
- Enterprise risk management
- Legal
Analytics maturity model
Analytics maturity model
Beyond traditional “rules-based queries” – consider all four quadrants

Structured Data

- “Traditional” rules-Based Queries & Analytics
  - Matching, Grouping, Ordering, Joining, Filtering

- Statistical-Based Analysis
  - Anomaly Detection, Clustering, Risk Ranking

Unstructured Data

- Traditional Keyword Searching
  - Keyword Search

- Data Visualization & Text Mining
  - Data visualization, Drill-down into data, Text Mining

Precision

- Low
- High

Detection Rate

- Low
- High

Reactive

- Proactive
A conceptual overview of where analytics can be used to support business functions

<table>
<thead>
<tr>
<th>Business objectives:</th>
<th>Improve cash flow</th>
<th>Operational effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting/compliance</td>
<td>Cost reduction</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Finance</th>
<th>Human resources</th>
<th>Contract &amp; delivery</th>
<th>Supply chain</th>
<th>Fraud analytics</th>
<th>Assets, leases</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>G/L analytics</td>
<td>Payroll analysis</td>
<td>Depreciation</td>
<td>Contract type, risk analysis</td>
<td>Vendor risk profiling</td>
<td>* FCPA analytics</td>
<td>Asset/Lease cost analysis</td>
</tr>
<tr>
<td>Ratio analysis</td>
<td>HR master data analysis</td>
<td>Policy compliance</td>
<td>Contract term analytics</td>
<td>Alliance, cost benefit analysis</td>
<td>* Anti-money laundering</td>
<td>Use/Buy decision review</td>
</tr>
<tr>
<td>Profitability analysis</td>
<td>Payroll overpayments</td>
<td>Reconciliation Analysis</td>
<td>Delivery/SLA compliance</td>
<td>Spend analytics</td>
<td>Variance analytics</td>
<td>Total cost of assets review</td>
</tr>
<tr>
<td>A/R, credit analysis</td>
<td>Talent mgmt</td>
<td>Intercompany Analysis</td>
<td>Invoicing trend analysis</td>
<td>Client initiated procurement</td>
<td>* Fraud investigations</td>
<td>Depreciation impact analysis</td>
</tr>
<tr>
<td>Time &amp; expense analysis</td>
<td>Compensation analysis</td>
<td>Tax policy compliance</td>
<td>Collection analysis</td>
<td>Discount terms, use analytics</td>
<td>* E-discovery analytics</td>
<td>Capitalization reviews</td>
</tr>
<tr>
<td>Cash Flow analysis</td>
<td>Overtime analysis</td>
<td>Tax rate analytics</td>
<td>Contract cash flow analysis</td>
<td>Category Management</td>
<td>* Text mining</td>
<td>Lease payment analytics</td>
</tr>
<tr>
<td>A/P analysis</td>
<td>Employee effectiveness</td>
<td>Entity structure analysis</td>
<td>Contract cost analytics</td>
<td>Acquisition strategy review</td>
<td>* Fraud analytics (POS)</td>
<td>Asset/Lease risk analytics</td>
</tr>
</tbody>
</table>

Assess risks, detect issues, predict anomalies, assess compliance...
Applications for Internal Audit
An analytics program has multiple “analytics touchpoints” across the IA lifecycle

### Key activity examples

<table>
<thead>
<tr>
<th>Risk assessment</th>
<th>Planning</th>
<th>Execution</th>
<th>Reporting</th>
<th>BU action plan</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk identification</td>
<td>Specific risk identification</td>
<td>Process analytics</td>
<td>Dashboards</td>
<td>Interpretation of results</td>
<td></td>
</tr>
<tr>
<td>Journal entries</td>
<td>Scoping</td>
<td>P2P, OTC, FSCP, inventory, fixed assets, HR/PR, T&amp;E, Royalties</td>
<td>Scorecards</td>
<td>Workflow</td>
<td></td>
</tr>
<tr>
<td>Material / high risk transactions</td>
<td>Communications</td>
<td>Contract analytics</td>
<td>Benchmarks</td>
<td>“Special projects”</td>
<td></td>
</tr>
<tr>
<td>Significant account activity analysis</td>
<td>Research current available data &amp; information</td>
<td>Analytic testing of other significant processes</td>
<td>Excel output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer churn</td>
<td>Coordinate lead time to execute</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product churn</td>
<td>Customize data requests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Segregation of Duties</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Outputs

<table>
<thead>
<tr>
<th>Risk ranking</th>
<th>Visibility into highest risks</th>
<th>Identification of audits to incorporate analytics</th>
<th>Business insight</th>
<th>Action plan recommendations</th>
<th>Repeatable analytics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of unknown risks</td>
<td>Analytics execution</td>
<td>Identification of process defects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Thresholds</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Risk appetite</td>
</tr>
</tbody>
</table>
An analytics program has multiple “analytics touchpoints” across the IA lifecycle

<table>
<thead>
<tr>
<th>Audit phase</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Data</td>
<td>11 The same bank account relates to two different vendors</td>
</tr>
<tr>
<td>Management</td>
<td>12 Bank account details are missing</td>
</tr>
<tr>
<td></td>
<td>13 Two different vendors have the same address/phone number</td>
</tr>
<tr>
<td></td>
<td>14 Two different vendors have the same Tax ID/PAN Card</td>
</tr>
<tr>
<td></td>
<td>15 Two different vendors have the same/similar names</td>
</tr>
<tr>
<td>Field testing</td>
<td>21 Vendor is missing from the purchase order</td>
</tr>
<tr>
<td></td>
<td>22 PO was issued to a vendor whose bank accounts details are missing or contains invalid information</td>
</tr>
<tr>
<td></td>
<td>23 PO was issued to a vendor site who’s details are missing or contains invalid information</td>
</tr>
<tr>
<td></td>
<td>24 Purchase Order was issued to an Inactive Vendor</td>
</tr>
<tr>
<td></td>
<td>31 Both POs have the same Vendor, Buyer, Currency and Amount (after currency conversion) and were issued within (4) days of each other</td>
</tr>
<tr>
<td></td>
<td>32 Both POs have the same Vendor, Buyer and amount (without currency conversion), but different currencies, and were issued within four (4) days of each other</td>
</tr>
<tr>
<td>Segregation of</td>
<td>41 The same person entered and approved the PO</td>
</tr>
<tr>
<td>Duties</td>
<td>42 The remittance flag was altered and then returned to its original state</td>
</tr>
<tr>
<td></td>
<td>43 The same person entered the PO and maintained the associated vendor record</td>
</tr>
<tr>
<td></td>
<td>44 The same person entered the PO and maintained the associated vendor site record</td>
</tr>
<tr>
<td></td>
<td>45 The same person entered the PO Line maintained the associated requisition</td>
</tr>
<tr>
<td>Invalid Payment</td>
<td>51 Payment was issued without a payee or with a zero (0) amount</td>
</tr>
<tr>
<td></td>
<td>52 Payment is missing a voucher number</td>
</tr>
<tr>
<td></td>
<td>53 Payee name and address are different than the vendor name and address</td>
</tr>
<tr>
<td></td>
<td>54 Alternative name in payments different than the payee name/Vendor name</td>
</tr>
<tr>
<td>Conflict of</td>
<td>61 Vendor-Vendor matching based on TAXID/Address/Name/Phone Number and other attributes</td>
</tr>
<tr>
<td>Interest</td>
<td>62 Employee-Employee matching based on SSN Number and other attributes</td>
</tr>
<tr>
<td></td>
<td>63 Employee-Vendor matching based on TAXID/Address/Name/Phone Number and other attributes</td>
</tr>
<tr>
<td></td>
<td>64 Payee address/Bank Account No different than Address/Bank Account No in Vendor Master</td>
</tr>
</tbody>
</table>
Case study 1

Overbilling customers
Data sources for Internal Auditors

Source: Gartner Research

80% Unstructured Data

20% Structured Data

Focus of most audit tests
- Journal entry analysis
- Transactional testing
- General ledger analysis
- CAATs on structured data

OPPORTUNITY for Internal Audit

Unstructured Data

Structured Data
## Basic analytics tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Payments made to same vendor on same date and amount</td>
</tr>
<tr>
<td>2</td>
<td>Payments made to same vendor and same amount on different dates</td>
</tr>
<tr>
<td>3</td>
<td>Payments made to vendor having same amount same ID but different names on same/different dates</td>
</tr>
<tr>
<td>4</td>
<td>Payments made to vendor having same amount same name but different ID's on same/different dates</td>
</tr>
<tr>
<td>5</td>
<td>Payments made to vendors prior to vendor creation date</td>
</tr>
<tr>
<td>6</td>
<td>Round Dollar payments</td>
</tr>
<tr>
<td>7</td>
<td>Payments made on weekend/holidays</td>
</tr>
<tr>
<td>8</td>
<td>Employee hiredate after termination date</td>
</tr>
<tr>
<td>9</td>
<td>Employee hiredate on weekends/holidays</td>
</tr>
<tr>
<td>10</td>
<td>Vendors in disbursement not in vendor master</td>
</tr>
<tr>
<td>11</td>
<td>Keyword search on vendor name</td>
</tr>
<tr>
<td>12</td>
<td>Keyword search on employee name</td>
</tr>
<tr>
<td>13</td>
<td>Keyword search on name column in disbursement file</td>
</tr>
<tr>
<td>14</td>
<td>Payment made to dummy vendors</td>
</tr>
<tr>
<td>15</td>
<td>Multiple payments to one time vendors</td>
</tr>
<tr>
<td>16</td>
<td>Vendor and Employee matching with same bank account number.</td>
</tr>
<tr>
<td>17</td>
<td>Vendor and employee matching with same/similar Name.</td>
</tr>
<tr>
<td>18</td>
<td>Vendor and employee matching with same/similar address.</td>
</tr>
<tr>
<td>19</td>
<td>Vendor and employee matching with same Phone/Mobile number.</td>
</tr>
<tr>
<td>20</td>
<td>Vendor and employee matching with same TIN/SSN.</td>
</tr>
<tr>
<td>21</td>
<td>Vendors matching with same/Similar Name.</td>
</tr>
<tr>
<td>22</td>
<td>Vendors matching with Same/similar Address.</td>
</tr>
<tr>
<td>23</td>
<td>Vendors matching with Same bank account number.</td>
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<td>24</td>
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</tr>
<tr>
<td>25</td>
<td>Vendors matching with Same TIN/SSN.</td>
</tr>
</tbody>
</table>
Structured and unstructured data – sample invoice

- Address does not exist
- Invoice #1
- Vague description of services
- Round number
Relationship mapping (email analytics)

- Identify the strength of known relationships
- Identify unknown relationships
<table>
<thead>
<tr>
<th>Rationalization</th>
<th>Incentive/ Pressure</th>
<th>Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>...I deserve it</td>
<td>...make the number</td>
<td>...transfer</td>
</tr>
<tr>
<td>...nobody will find out</td>
<td>...don’t let the auditor find out</td>
<td>...client storage</td>
</tr>
<tr>
<td>...gray area</td>
<td>...don’t tell</td>
<td>...off books</td>
</tr>
<tr>
<td>...they owe it to me</td>
<td>...not comfortable</td>
<td>...kickback or kick back or kick-back</td>
</tr>
<tr>
<td>...everybody does it</td>
<td>...why are we doing this</td>
<td>...commission</td>
</tr>
<tr>
<td>...fix it later</td>
<td>...do not volunteer information</td>
<td>...backdate</td>
</tr>
<tr>
<td>...the company can afford it</td>
<td>...want no part of this</td>
<td>...do not bill</td>
</tr>
<tr>
<td>...not hurting anyone</td>
<td>...only a timing difference</td>
<td>...discount or credit</td>
</tr>
<tr>
<td>...won’t miss it</td>
<td>...not ethical</td>
<td>...smooth earnings</td>
</tr>
<tr>
<td>...don’t get paid enough</td>
<td></td>
<td>...side deal</td>
</tr>
</tbody>
</table>
From: Boris Baron  
Sent: Wednesday, November 9, 2011 10:45 AM  
To: Elva Xu  
Subject: RE: Shhhhh

Absolutely.

-----Original Message-----  
From: Elva Xu  
Sent: Wednesday, November 09, 2011 10:45 AM  
To: Boris Baron  
Subject: Shhhhh

Please don't mention our convo to anyone! Just between us… I want to be sure that everything is safe and where it should be.

To: Dorland Dan[Dan.Dorland@ENRON.com]; Dorland Chris[Chris.Dorland@ENRON.com]  
From: Jai Hawker JHawker@petersco.com@ENRON  
Sent: Wednesday, 2/6/2002 1:54:42 PM  
Subject: Flint Report 20020111.pdf

Here you go, bitches.

<<20020111.pdf>>

Jai Hawker  
Peters & Co. Limited  
(403) 261-2259

- 20020111.pdf
Case study 2

Integrity analytics
Fortune 500 Global Conglomerate

Business challenges

► Need for streamlined analytics that increase internal audit efficiency
► Many diverse companies operating on various different systems
► Need for centralized continuous monitoring
► Desire for improved workflow
► Company wanted to find a way to use analytics to conduct in-country audits and sample selection

Solution delivered

► Design and build a suite of advance integrity analytics that can be easily replicated across diverse subsidiaries
► Internal audit and compliance analytics integrate with each other onto one platform
► Phased approach moving towards continuous monitoring by adding one subsidiary at a time to the platform
► Audit workflow, including sampling, testing and document review all hosted in one location
► Future state will result in overall increased transparency to vastly different businesses
► Analytical tests have ability to identify potential issues quicker than a standard internal audit or compliance audit normally would
Case study 3

Loss prevention
EY’s Integrity Monitor platform

1. Connect data sources

2. Optimize, automate and monitor
   - Business rules
     - Master and transaction data
     - Configure controls
     - Aggregation of duties

3. Receive / validate exceptions
   - Notifications
     - Routing
     - Workflow
   - Email
   - Rationalize exceptions

4. Report and refine
   - Exception Plan
   - Issue tracking
   - Reporting
   - Open
   - Closed
   - Pending
   - Reason for action
   - Further trending and data analytics

5. Refine rules and tailor business processes
   - Process optimization
   - Configuration management
   - User profiling
Retail analytics – Loss prevention

Data Sources
- Store Master
- Cashier Tracking
- Till Assignment
- Tender
- Refund
- Detail
- End Of Day
- Markup Tracking
- Register Master
- Discount

POS Platform

Test Analytics
1. Cancelled transactions before Shift End Time.
2. PV transactions before shift end time.
3. RNR transaction before shift end time.
4. RC transactions before shift end time.
5. DAO transaction before shift end time.
6. DPO transaction before shift end time.
7. DSRC transactions before shift end time.
8. Cash Refund transactions before shift end time.
9. MOD SLTM transactions before shift end time.
10. Refill transaction before shift end time.
11. Top 100 Employees with highest % of PB count.

Transaction Risk Score
1. Cancelled transactions before end of day.
2. PV transactions before end of day.
3. RNR transactions before end of day.
4. RC transactions before end of day.
5. DAO transactions before end of day.
6. DPO transactions before end of day.
7. DSRC transactions before end of day.
8. Cash Refund transactions before end of day.
9. MOD SLTM transactions before end of day.
10. Refill transactions before end of day.
11. Employees selling beverages to other non-local Employees.

Investigation Platform
- Reporting
- Alerts Triage
- Case Manager
- Case Report
Retail analytics – One platform multiple usecases
Case study 4

Continuous monitoring for anti-bribery and anti-corruption
Our ABAC FDA module was developed with key bribery and corruption risks in mind.

- Sales to Government using an intermediary
- High risk discounts
- Use of marketing funds and incentives
- Payments to sales agents

- Local government interactions for permits
- High risk geographic locations
- Use of consultants

- Shipment locations
- Interactions with customs
- High risk charges – vague or related to disputes

- Travel entertainment and gifts

- Sales to Government using an intermediary
- High risk discounts
- Use of marketing funds and incentives
- Payments to sales agents
Rates and scores partners, customers, deals and transactions using the following tests:

- **Customer type** – government, industry or other high risk category
- **Route-to-market** – sales intermediary involvement
- **Geographic analysis** – where is the transaction happening
- **Discounts and incentives** – identifies large discounts or other incentives
- **Transaction anomalies** – transactions trends with specific customers, including purchase volume, purchase price, product types etc.

- Helps to identify high risk partners, customers, deals and the underlying transactions.
- Allows pre-emptive review of sales transactions with red flags
- Prevents potential fraud, bribery or corruption by allowing further review of these transactions
- Compliance with policies and procedures
- Sales with better integrity
High risk vendors

What will the analytics show me?

▶ Geographic analysis – where are payments going
▶ Filters – round dollar, government facing, compliance sensitive GL accounts
▶ Statistical analysis – high and low values within population
▶ Rule based analytics – one time vendor, duplicate payments, sequential invoices, bank accounts outside home country
▶ Text analytics – keyword searches based on high risk terms
▶ Concept search – grouping of common terms contained in the free text

What does it do?

▶ Helps quickly identify potentially fraudulent or corrupt payments
▶ Identifies vendors that are potentially higher risk
▶ Navigate massive volumes of payment and vendor data

What are the benefits?

▶ Navigate massive volumes of payment and vendor data
▶ Allows detailed review of transactions
▶ Stop use of high risk vendors
▶ Prevents loss attributable to fraud, bribery or corruption before it happens
Travel, entertainment and gifts

**What does it do?**
- Helps quickly identify high risk travel, gifts and entertainment
- Identifies employees that are potentially higher risk
- Answers the who, what, when, where and why for travel and entertainment
- Transparency into potential problematic employees
- Reduced risk for policy circumvention
- More targeted training initiatives

**What will the analytics show me?**
- **Employee analysis** – which employees spend the most, who do they entertain and where do they travel
- **Geographic Analysis** – identifies higher risk locations
- **Policy circumvention** – identifies gifts or entertainment outside of ABAC policies
- **Filters** – round dollar, government facing, compliance sensitive GL accounts
- **Text analytics** – keyword searches based on high risk terms

**What are the benefits?**
- Employee analysis
- Geographic Analysis
- Policy circumvention
- Filters
- Text analytics

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**What does it do?**
- Helps quickly identify high risk travel, gifts and entertainment
- Identifies employees that are potentially higher risk
- Answers the who, what, when, where and why for travel and entertainment
- Transparency into potential problematic employees
- Reduced risk for policy circumvention
- More targeted training initiatives

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**What will the analytics show me?**
- Employee analysis – which employees spend the most, who do they entertain and where do they travel
- Geographic Analysis – identifies higher risk locations
- Policy circumvention – identifies gifts or entertainment outside of ABAC policies
- Filters – round dollar, government facing, compliance sensitive GL accounts
- Text analytics – keyword searches based on high risk terms

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**What are the benefits?**
- Employee analysis
- Geographic Analysis
- Policy circumvention
- Filters
- Text analytics
Fraud Investigation & Dispute Services (FIDS)

Forensic Accounting
- Investigative interviewing
- Data analytics: hypothesis generation and analytics interpretation
- Financial modelling and asset tracing

Transaction Forensics
- M&A risk services
  - Assistance with contractual language
  - Forensic due diligence to evaluate FCPA and other regulatory risks
  - Identification of environmental liabilities as part of acquisition due diligence
  - Preparation of post closing accounting mechanisms.
- Cybersecurity due diligence
- Anti-bribery/anti-corruption (ABAC) due diligence
- Insurance claims services

Corporate Compliance
- Compliance review, SEC examination, regulatory disclosure, ABAC and fraud investigations
- Performance assessment
- Risk evaluation, prioritization and opportunity identification
- Design, deploy and implement improvements to compliance programs, infrastructure, processes, and/or controls

Dispute Services
- Damage analysis
- Alternative dispute resolution
- Audit malpractice defense
- Bankruptcy solvency analysis

Integrity Diligence
- Dedicated Business Intelligence team with global expertise and language capabilities
- Global library of over 30,000 data sources of company information, economic and trade sanctions, regulatory blacklists and watch lists, and Politically Exposed Persons
- Background investigations using open-source data (EY Integrity Diligence)
- Post acquisition ABAC data analytics
- For funds/strategic acquirers: fund-level anti-corruption compliance program analysis, pre-IPO compliance, diagnostic review of the fund (pre-acquisition and within existing portfolio)

Forensic Technology & eDiscovery
- Global operations with over 700 specialized professionals
- Cross-border eDiscovery & Investigations
- Forensic data analytics
- Cybercrime investigation
- Information governance and eDiscovery consulting

Global Investigations
- International, cross-border FCPA experience
- Corporate Fraud
- Occupational Fraud
- Shadow investigations
- Global Project Management Office team

Anti-Fraud
- Assess and identify improvement opportunities within elements of anti-fraud programs, including:
  - Code of ethics
  - Prevention policies
  - Communications and trainings
- Risk assessments
- Controls monitoring
- Response plan
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