Leveraging Data Visualization and Automation in Audit

Houston IIA Conference
April 11, 2016

Michael Kano, ACDA
Agenda

- Introductions
- Technological Advances in Analytics
- Capitalizing on Analytics
- Real-World Examples
When data analysts go bad...

<table>
<thead>
<tr>
<th>Vendor_Name</th>
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...and badder...

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<td>$9,486,807.34</td>
<td>$230,938,133.39</td>
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</tbody>
</table>
...and badder still...
Introduction

Michael Kano, ACDA

Michael is a Senior Manager with Sunera’s national data analytics practice. Michael has 20 years of experience in data analytics and internal audit with organizations in the USA, Canada, and Kuwait. He has 20 years of experience with ACL software, including 8 years as the leader of ACL Services Ltd.’s global training team. He is an ACL Certified Data Analyst (ACDA). Prior to joining Sunera, Michael spent four years with eBay, Inc.’s internal audit team as Manager, Audit Analysis. He was tasked with integrating data analytics into the audit workflow on strategic and tactical levels. This included developing quality and documentation standards, training users, and providing analytics support on numerous audits in the IT, PayPal, and eBay marketplaces business areas. Michael also has 7 years of experience with Arbutus software, and has managed the transition to Arbutus Analyzer from other data analysis tools. He is a proficient user of Tableau, Microsoft Access, and Teradata SQL Assistant.
Efficiency From Automation and Visualization

Typical State

<table>
<thead>
<tr>
<th>Q1</th>
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<th>Q4</th>
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**GENERAL LEDGER**

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<th>Credit</th>
<th>Balance</th>
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</table>

**PURCHASE ORDER**

- Easier to set up initially
- Typically run on an ad-hoc or Managed basis
- More time consuming
- Playing “catch up” with old exceptions
Efficiency From Automation and Visualization

Ideal State

Year-round
Data Analytics Maturity / Tools

Reactive → Predictive

Manual Testing  Ad-Hoc Analytics  Managed Analytics  Continuous Auditing  Continuous Monitoring

Desktop  IDEA  ARBUTUS  acl  Server

Microsoft SQL Server  Tableau

SUNERA
T&E Continuous Monitoring

Data Analytics Example

- Employee T&E is risk rated based on various factors such as:
  - Excessive spend in an expense category
  - Weekend expenses
- Top right quadrant marks associate with high risk and high # of policy exceptions
- Tableau dashboard enables immediate insight and drill-down capability

Expense reports for high risk associate
Further drill down required
T&E Continuous Monitoring
Data Analytics Example

T&E Employee Summary

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<tr>
<th>Doc_Number</th>
<th>Vendor</th>
<th>Description</th>
<th>Amount</th>
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<td></td>
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<td>Breakfast</td>
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<tr>
<td></td>
<td>Hampton Inn</td>
<td>Hotel</td>
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<td>Popeyes</td>
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<td>CHICK-FIL-A</td>
<td>Breakfast</td>
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<tr>
<td></td>
<td>Hampton Inn</td>
<td>Hotel</td>
<td>1,546</td>
</tr>
<tr>
<td></td>
<td>Popeyes</td>
<td>Dinner</td>
<td>12</td>
</tr>
</tbody>
</table>

- Drill into the expense reports to see details
- Detailed view highlights that the employee submitted duplicate reports
Audit Findings Tracker
Data Analytics Example

Interactive executive-level reporting for audit findings
Tableau story drives the user to desired result

Interactive filters and views drill into owners
Clicking on graphs will take user to detailed actions
Audit Findings Tracker
Data Analytics Example

You can easily isolate and export details of specific findings.

<table>
<thead>
<tr>
<th>Area</th>
<th>Audit Rating</th>
<th>EVP Owner</th>
<th>VP Owner</th>
<th>Month, Day, Year..</th>
<th>Action Plan</th>
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<tbody>
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<td>Yellow</td>
<td>Steve Spurrier</td>
<td>Tim Tebow</td>
<td>May 31, 2015</td>
<td>Return to coaching at Florida and save the Gators</td>
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<td>Pretty please</td>
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</tbody>
</table>

Audit Rating | EVP Owner | Area | Status
--- | --- | --- | ---
(All) | Steve Spurrier | (All) |
ITGC Testing Automation

1. 
   - Security Tables
   - HR Data
   - Access Request Approvals

2. 
   - Fully automated data extraction and controls testing
   - Full population testing
   - Ability for more frequent testing and faster remediation
   - Reduced effort

Results Database
HR Reporting
Data Analytics Example

Details
• Automated SQL Server back ends jobs to extract and manipulate HR tables
• SSRS report pulls directly from SQL Server

Key Benefits
• Extract scrubbed HR data by user ID or name
• Beneficial for user-access reviews and SOD projects
• Reduces the number of IA associates with access to HR data
• Expedites process of providing HR reports from three days to a couple of minutes
Fraud Scenario Monitoring
Data Analytics Example

Potentially Fraudulent Returns

Sort Results Data by: 

Customer Location Employee
Text Mining Using R
Data Analytics Example

Unstructured Data
- Social Media Data
- Customer Comments / Employee Free Text
- Survey Responses
- Employee Chats
- Web Crawling
Trends in Online Payments

- Dashboard of country-to-country payment flows
- $ current period
- Previous period
- YTD
- Same period last year
- % growth/decline over previous periods
- Composition (payment types)
- Shifts from country pairs
- Identify
  - Suspicious patterns
  - Spikes
  - Counterparties transactions
Analytics to Visualization: Principles

- Know your message
  - Data <> Information
  - Convey data with context

- Know your audience/users
  - What’s their focus?
  - How much detail can they use?
  - How do they process information?

- Know your applications
  - Automation development
  - File size efficiency

- Know when to let go 😊
  - Can they use it without me?
Any questions?

Michael Kano
Senior Manager, Data Analytics
mkano@sunera.com
(408) 887-4843