Data Analytics: Adding value to internal audit

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Agenda

• Introduction: What and Why?
• Enhancing Internal Audit Value
  – Data volumes
  – Risk assurance
  – Reporting
• Steps to Applying Data Analytics
• Let’s Take a Closer Look
Polling devices

- Everyone should have a polling device
- Your responses are anonymous – only group statistics are captured
How many auditors or examiners are in your department?

a. 1-5
b. 6-10
c. 11-20
d. 21+
What and Why?
Introduction: What and Why?

What is Data Analytics?

Simply: process of gathering and analysing data so as to **USE** those results to make better decisions.
Introduction: What and Why?

- IIA Standards
  - Attribute Standard 1220.A2 - In exercising due professional care internal auditors must consider the use of technology-based audit and other data analysis techniques.
  - Various other standards exist that imply the need to use data analysis
    - As access to technology increases, the expectation to use it follows

- More with less
  - 100% of the population

- Test what would otherwise not be possible or practical
  - Comparing/contrasting lists and tables
Four types of Data Analytics

Descriptive
- analysis of a/p shows all disbursements on Saturdays over €1,000

* From the new IIA book, “Data Analytics: Elevating Internal Audit’s Value”
What people are saying

• EY – Global IA Survey 2013
  • “The number one response of the most important skills lacking is data analytics.”

• PWC – State of the IA Profession 2015
  • “Three years ago, the bank’s internal audit function committed to investing in the use of data analytics. Today, as its use of data analytics expands, it is finding itself an agent of change that is continuously solicited by other functions for guidance…. Internal audit now partners with the business, routinely brings its analytics-based insights to the business, and foresees greater collaboration in the future. The relationship between internal audit and the business has been forever changed”
How important is data analytics?

A. Very Important
B. Important
C. Unimportant
D. Don’t waste your time
Who in your department performs data analytics?

A. Select Few Auditors
B. IT Auditors
C. Separate Analytics Function
D. All Auditors
E. None
F. I don’t know

67% 33% 0% 0% 0% 0%
When do you use data analytics? (Choose up to 4)

A. Risk Assessment & Developing the Audit Plan
B. Planning the Audit
C. Fieldwork Phase
D. Reporting Phase
E. None of the Above
What prevents you from using data analytics most? (Pick your top 2)

A. Don’t know where to begin
B. Don’t have the people resources (training)
C. Don’t have the time to develop and execute analytic procedures
D. Don’t have the tools
E. Difficulty in getting the data
F. Lack of understanding about data analytics
G. Inability to interpret results
H. Lack of management buy-in
Why is data analytics not used more widely?

- Internal Audit departments aren’t equipped
  - Don’t have any dedicated DA software
  - Don’t have the right DA software
  - Don’t have the skills to use the software

- Software too complex
  - This is a myth...
  - With the right software and the right training, Data Analytics is straightforward!
Enhancing Internal Audit Value
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Three areas where Analytics can enhance value:

- Data volumes
- Risk assurance
- Reporting
Enhancing Internal Audit Value: Data Volume

Concern: Ever-increasing volumes of data

- More data being created than ever before
- New systems coming online generating new data sources
- Pressure to increase scope of reviews
- Sampling not effective
  - Time consuming
  - Very low coverage
- Traditional audit methods no longer appropriate in a computerized world
Enhancing Internal Audit Value: Data Volume

Data Volume: How data analytics helps

• Audit huge transaction volumes as quickly as testing a single transaction

• Reduce time consuming tasks and free up resources
  • Manual testing
  • Sample checking
  • Document hunting
  • Ticking & Bashing

• New testing capabilities

• Facilitates continuous auditing/monitoring
Enhancing Internal Audit Value: Risk Assurance

Concern: Expectations around risk assurance

- Expectations from Management and Audit Committee around risk assurance ever increasing

- Audit Risk = Inherent risk x Control risk x **Detection Risk**

- Auditors have no influence of inherent risk

- Auditors can identify control weaknesses and recommend changes, but it is up to management to implement them

- Detection risk is the only area that Auditors have direct control
Enhancing Internal Audit Value: Risk Assurance

Risk Assurance: How data analytics helps

• 100% coverage in controls effectiveness tests
• Identify every anomaly, error and omission
• Eliminate sampling and sampling risk
• Where necessary use robust statistical samples
• No more manual Excel errors
• Increase effectiveness of audits, with greater coverage and comfort
Enhancing Internal Audit Value: Reporting

Concern: Reporting

• Difficult to quantify the value added by IA
  • Test results cannot put a monetary value on a recommendation
  • Estimates/extrapolations used are not hard figures
  • Difficult to provide financial impetus to make changes
  • Improvements cannot be traced to the bottom line

• Difficult to present information in an easy to digest manner

• Time taken to produce reports
Enhancing Internal Audit Value: Reporting

Reporting: How data analytics helps

• Present every anomaly, error and omission
• Summarize information into tables and charts
• Back findings up with hard numbers
• New tools facilitate new capabilities
• Improvements can be measured and tracked
• Enable cash recovery
• Demonstrate tangible value and encourage investment

“We tested 30 samples and found 1 duplicate payment of 8,260€. Extrapolated over the population, we estimate the actual duplicate payments to be significant.”

or

“We tested all 850,000 transactions and found that the control failed to operate on 1,426 occasions resulting in duplicated payments to the value of 15,068,882€. A full list of these is attached.”
Steps to Applying Data Analytics
Step’s to Applying Data Analytics

1) Define your Objective
2) Understanding your Data Source
3) Data Preparation
4) Analysing Data
5) Reporting Results
Step’s to Applying Data Analytics: Step 1

Define your Objective

• Ask the following questions:
  ✓ What are you trying to achieve?
  ✓ What could the result look like?

• The ACFE and The IIA both offer courses on data analytics theory that provide examples on the types of analytics and when to use each one.
Step’s to Applying Data Analytics: Step 2

Understanding your Data Source

• Ask the following questions:
  ✓ What information do I need?
  ✓ Can I get the data myself, or do I need to ask an IT resource?

• Depending on the data sources, you may need to combine information from multiple sources.
Step’s to Applying Data Analytics: Step 3

Data Preparation

• Ask the following questions:
  ✓ Does the data need to be cleaned?
  ✓ Does the data need to be normalized?

• Cleaning data addresses the quality of the information, while normalization eliminates redundancies (e.g. O’Brien, O_Brien, OBrien).
Step’s to Applying Data Analytics: Step 4

Analysing Data

• Ask the following questions:
  ✓ What tests can I run on the data?
  ✓ Is help available to understand results?

• Your data analytics tools will help you summarize the information, but you will probably need to work with the business to understand the results.
Step’s to Applying Data Analytics: Step 5

Reporting Results

• Ask the following questions:
  ✓ Will management understand the results?
  ✓ Can you represent the results in a visual?

• Avoid presenting management with tables full of numbers. We need to effectively communicate results without lengthy explanations. Use charts and graphs with simple notes.
Where to Begin: Quick Wins

• Fraud detection and awareness
• Opportunities to speed up test work
Where to Begin: Quick Wins

Fraud detection and awareness

• Your department’s role:
  • May have the primary responsibility for fraud investigations
  • May act as a resource for investigations
  • Could be awareness instead of specific engagements
Where to Begin: Some Examples

Opportunities to speed up test work

• Example - Importing data
• Example - Payables Transactions
  • Duplicate payments
  • Missing POs
  • Weekend and holiday transactions
  • Cut off testing
  • Approval thresholds
  • Rounded amounts
• Example – Joining/Comparing datasets
  • Vendor and Employee masterfiles
• Example – Employee Expenses
  • Benford Analysis
What data analysis tool do you currently use?

A. IDEA/ACL/Other platform-based tool
B. Excel
C. Other ERM-based tool (SAP, etc.)
D. None
Let's Take a Closer Look
Let’s take a closer look

Quick visual on a tool example: TeamMate Analytics

• We have chosen an Excel-based overlay:
  • Get the most auditors using it as possible
  • Don’t have to learn a new “language” or scripting
  • Quick to adopt and experiment with

If you have any questions, I’m happy to help:

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