Why Use Electronic Data Analysis?

- Electronic data is available
- Powerful and Innovative
- Accurate and efficient
- Interactive and easy to use
- Supports financial monitoring

The Department of Redundancy Department has 35,000 employees.

*How long would it take you to manually search payroll records to find duplicate payments and to identify the control weaknesses?*
Data analytics provide internal auditors with the potential to deliver oversight, insight, and foresight.

Analytics can examine the audit entity

- What is happening? - descriptive
- Why is it happening - prescriptive
- What needs to be done? - predictive
Why Data Analytics?

• The IIA’s Global Technology Audit Guide (GTAG #16, Data Analysis Technologies)

• ISACA’s white paper on data analytics
Data Analytics in Internal Auditing

CAE thoughts on use of analytics by internal audit
(from 2013 State of the Internal Audit Profession Study)

- Regular use: 31%
- Plan not well-developed: 71%
- Improve the quantification of issues: 81%
- Strengthen audit coverage: 85%
- Understand risks: 74%
Analytics Imperative

Corporate Executive Board Audit Leadership Council's 2015 Audit Department Challenges and Priorities.

“The implementation and improvement of data analytics are the most significant challenges for audit departments.”
Success Factors

The key to ensuring that data analytics has the best chance of success lies in managing:

• People,
• Processes, and
• Technology
Success Factors

People
• Team work / communication / problem-solving

Process
• Audit and risk management processes
• Audit objectives

Technology
• Data and analysis fundamentals
• Tools for the job
• Technical training
People

When it comes to people, there are two initial questions to address:

1. Should each audit team be self-sufficient?

2. Can the audit department afford to have one or more people dedicated to data analytics, particularly if it's a small internal audit function?
Should we have a separate analytics function?

- Identifying data sources
- Obtaining and verifying data integrity
- Assisting with analysis
- Performing complex analysis
- Quality Assurance
- Investigating new sources of data
People skills

Should an auditor be taught programming (data extraction and analysis) or should a programmer be taught to audit?

What level/experience in required?
People - skills

Skills necessary to execute analytics:

1. Business knowledge
2. Internal audit
3. Critical thinking
4. Problem-solving
5. Technical skills
People - skills

IT skills and abilities necessary to execute analytics include:

• Data concepts
• Logical and physical database structures
• Communication - with IT and related functions
• Perform ad hoc data analysis
• Design, build, and maintain analysis routines
• Consultative assistance in applying analytics
Process

A common pitfall is restricting analysis to the traditional audit box.
Process

Process requirements:

• Fully integrated analytics
• Reinforce the use of analytics
• Market analytics services,
• Challenge team leaders and members will have to employ analytics
• Establish goals
Process

• Buy-in at all levels
• Highlight successes
• Link results to analytics
• Re-use analytics to evaluate results of recommendations
• Implement continuous auditing in areas of higher risk
Process

Technology – analytics can change the objectives, focus, and results of audits.

Examples:
- A/P
- Inventory
Inventory

From

• Verifying inventory (counts)
• Three-way matching (contract – receipt – invoice)

To

• Economic order quantities
• Just-in-time Inventory
• Obsolete inventory
• Provisioning rates
• Fraud risks
  – Management override
  – Items sent to scrap
  – Turnover rates
  – Unusual pricing
  – Attractive items
Technology

Should audit software be purchased? What is the cost?
Initially it depends:
• Availability of standard report
• Existence of data warehouses and BI tools

Specialized analysis software advantages:
• Access to multiple data formats and platforms
• Logging of results
• Repeatability of tests
• Large data sets
• Complex analysis
Other factors

- Return of investment
- Clear plans for the future
- Strategic goals and leadership
- Project management
- Time
- Commitment to ongoing training
Final Thoughts

IIA six guiding principles:

1. Link goals to clear business drivers.
2. Know the data.
3. Start simple.
4. Leverage existing insights.
5. Make it actionable and measurable.
6. Test and learn.

Source: https://iaonline.theiia.org/analytics-refresher
Reference Materials

- Internal Audit: Efficiency through Automation
  - David Coderre

- Computer-Aided Fraud Prevention & Detection
  - A Step-by-Step Guide
  - David Coderre

- Fraud Analysis Techniques Using ACL
  - David Coderre
Questions?