BUSINESS RISK MANAGEMENT LTD

Data Analytics & Continuous Auditing
On-line course
2 days

Course objectives

- The traditional audit approach of reviewing risks and controls is based on a historic and cyclical basis
- The changing risk profile and business complexity will usually mean that this approach is insufficient
- The use of data analytics can change the internal auditing approach from periodic reviews of a small sample of transactions to ongoing audit testing of the wider population.
- This approach provides a more timely and in depth assessment of the operation of risks and internal controls.
- This course focuses on identifying how to implement a more continuous auditing approach and make more effective use of data analytics

Attending this course will help you to

- PROMOTE the benefits of a wider and more effective audit coverage
- APPLY the concepts and practical application of audit data analytics
- IMPLEMENT a structured plan for a more continuous auditing approach
- BECOME more of a strategic advisor by promoting a continuous monitoring process to functional management
- PERFORM auditing activities on a frequent repeated basis to provide ongoing assurance and more timely insight into risk and control issues
- INTEGRATE data analytics into the audit process

Day 1 - The Importance of data analytics in modern IA

The Need for Audit Analytics

- Internal audit's strength lies in its ability to adapt to an ever-changing business landscape,
- The only way to audit in real depth is by data analytics
- This also ensures a higher level of assurance

- **Data mining is the process of finding correlations or patterns among large populations of data**
- **Data mining increases effectiveness by performing whole population testing instead of random or judgmental sampling**
- **The ability to uncover trends in large volumes of data enables the internal auditor to provide greater insight**
- **Internal audit needs to embed analytics across its activities, from planning through to reporting, in order to maximise impact.**

Exercise 1 – Opportunities for data analytics

The benefits of Data analytics

- **The opportunity to identify problems and unusual trends as soon as they occur**
- **The ability to review of full data sets to find exceptions and then drilling down into the detail**
- **Development of real time exception reporting**
- **The ability to make comparisons between systems that are not normally linked together**
- **Spotting fraud patterns**
- **Predictive risk identification**
- **Early warning systems**
- **Spotting the relationships between seemingly unrelated data**
- **Highlighting irregular changes in business patterns or control procedure**

Exercise 2 – Marketing the use of data analytics

The Agile Auditing transition

- **Establishing an agile mind set.**
- **The need to increase internal audit's effectiveness and efficiency while fulfilling the function's core mission to protect organizational value.**
- **Self-assessing your current processes to determine changes required to meet the agile approach.**
- **Determining the techniques will work best for your audit teams**
- **Getting senior management buy-in.**
- **Empowering your people to innovate.**
- **Encouraging every member of the internal audit group to suggest innovations and work with the team to implement them.**

Exercise 3 – Data analytics to assist audit agility

The stages in the use of Analytics

Level 1

- **Use of audit-specific data analysis technology to perform queries and analysis of large data sets; most often for specific audits**
- **Auditors can rapidly gain a better view of risk and control issues within a given audit area.**

Level 2

- **The second level builds upon the first, but is distinct in that the analytics are far more comprehensive, are fully integrated into the audit process**
- **Analytics begin to fundamentally transform the audit process, providing substantial improvements in efficiency and greater levels of assurance.**
- **Manual auditing, sampling and testing procedures are reduced to those situations requiring physical verification**

Level 3

- **Continuous audit is different in that the processes for running tests, reviewing and reporting on results are ongoing.**
- **Roles and responsibilities for performing continuous auditing are different than for a traditional cyclic approach.**

Level 4

- **IA then involve business process owners more directly and notify the appropriate individuals immediately of exceptions as they occur, so that they may respond appropriately.**

Exercise 4 – The stages in the analytics process

Implementation Requirements

- **Prioritize areas for coverage**
- **Define output requirements.**
- **Select analysis tools, such as ACL or IDEA.**
- **Determine scope of data mining auditing routines.**
- **Assess data integrity and prepare data.**
- **Review management's regular monitoring approach and identify any gaps.**
- **Develop ongoing audit routines to assess controls and identify deficiencies.**
- **Identify the most critical reports to review.**
- **Review the processing flow and past audits.**
- **Obtain best practices and external insights.**
- **Bring the key players together.**
- **Enlist the support of operational management**

Exercise 5 – Developing the plan

Implementing audit analytics

- **The use of analytical tools**
- **The process of data mining**
- **Applications of CAAT's**
- **Fuzzy matching**
- **Data Validation**
- **Trend and pattern analysis**
- **Neural networks**
- **Benford's Law and it's importance in analytics**
- **Monte Carlo simulations and Markov chains**

- Bayesian networks
- Auditing big data
- Implications of IIA GTAG – understanding and auditing big data
- The use of Internal and external databases
- How to put the techniques into use in your organisation.
- Practical uses of data analytics and the results achievable

Exercise 6 – The use of the more advanced techniques

Day 2 - Continuous Auditing

The basis of Continuous auditing

- Continuous Auditing is an automated, ongoing process that enables Internal Audit to add more value
- The traditional audit approach is periodic, reactive and manual
- Continuous audit is frequent, proactive and much more automated
- Collect data from processes, transactions, and other data that supports internal auditing activities
- Achieve more timely identification of unusual trends and issues with policies, procedures, and regulations
- Shift from cyclical or episodic reviews with limited focus to continuous, broader, more proactive reviews
- Evolve from a traditional, static annual audit plan to a more
- dynamic agile plan
- A method used to perform control and risk assessments automatically on a more frequent basis

Exercise 7 – The transition to continuous auditing

Steps in Implementing a Continuous Audit plan

- Identifying High Risk Areas
- Targeting activities based on risk exposure and risk appetite
- Consider the regulatory requirements and the degree to which management is addressing the risk exposures and potential impacts.
- Setting Monitoring & Continuous Audit Rules
- Determining process Frequency
- Configuring Audit Parameters
- Communication of Results
- The continuous auditing system needs to allow the test parameters to be adjusted so that such exceptions do not result in alerts or notifications
- Once the appropriate action has been taken, the internal auditor will need to verify that the actions taken have addressed the control weakness and reduced the level of risk.
- The IIA Global Technology Audit Guide (GTAG 03)

Exercise 8 – The Mystery – identifying the patterns

Continuous auditing opportunities

- Real time exception reporting
- Comparisons between systems that are not linked together
- Determine the regular reports produced
- Brainstorm the comparisons that you could make across the whole reporting suite
- These are often not issues for which standard reports are produced
- Use the process to target opportunity areas
- Once the value of a particular analytic has been established, determine whether it makes sense to run the test on a regular basis—as a continuous process
- Fraud indicators
- Continuous control monitoring
- Predictive risk identification
- Developing and monitoring KRI's (as early warning indicators)
- Spotting unusual patterns
- Identifying indicators before the problem occurs
- Spotting the relationships between seemingly unrelated data
- Highlighting irregular changes in business patterns or control procedures

Exercise 9 - Opportunities for Continuous audit

Planning the continuous audit programme

- Getting read-only access to the key systems
- Identify fruitful areas for review
- Develop a theory
- Map out system and info flows
- Prepare control profiles
- Consider external databases
- Conduct tests
- Review results and investigate unusual trends
- Developing a suite of tests that can be applied for each audit area
- Start with fruitful topics such as Accounts Payable

Case Studies

Accounts Payable

- Invoices without a valid purchase order.
- Multiple invoices with the same item description.
- Duplicate invoice numbers.
- Multiple invoices for the same amount on the same date.
- Invoice payments issued on non-business days
- Multiple invoices at or just under approval cut-off levels.
- Very high level of purchases from one vendor
- + other comparisons

3 other case studies will be walked through

Exercise 10 – Select 2 topics and develop a plan for a continuous audit for the activity