The Institute of Internal Auditors Australia

Factsheet: Data Analytics Planning

What are Data Analytics?

Data analytics is essentially a scientific means used by internal auditors to analyse raw data and then make conclusions about that information. Data analytics techniques and processes are automated into mechanical processes and algorithms are used to translate the raw data into something meaningful for users. While data analytics has been used to interrogate financial systems for many years, more powerful tools and the availability of more non-financial data has seen its use expanded into all areas of risk where data is held.

Data analytics differs from 'continuous audit' and 'continuous control monitoring' which are generally implemented where an organisation has established a foundation of significant data analytics that are repeatable either in the internal audit plan or within a business function. Where the internal audit function collects evidence and other indicators, the nature of data analytics is called 'continuous audit'. Where the repeatable analytics occur as a feedback mechanism as part of management responsibilities (Line 2 assurance) the nature of the data analytics is called 'continuous control monitoring'.

For internal auditors, data analytics are used to test controls and validate that business risks are managed. This generally occurs at a point-in-time when an audit or assurance activity is scheduled. Rather than test a number of transactions, the entire population of transactions can be reviewed for greater coverage. Data analytics includes automated tools such as generalised audit software, test data generators, computerised audit programs, specialised audit utilities, and computer-assisted audit techniques (CAATs).

Why use Data Analytics?

Data analytics provides significant benefit for Internal Auditors and business unit management. It allows historical, real-time or predictive insight into business and control issues. The different skillsets, outcomes and investment needed largely determine the value an organisation will achieve from use of data analytics.

Internal audit should embrace the concept of technology to improve the audit process by interrogating large amounts of data through use of technology. This may include:

- Data analytics for internal audit engagements.
- Financial statements data analytics.
- Fraud audit data analytics.
- Continuous auditing.

Data analytics has the benefit of being able to quickly identify and assess a particular business or control issue. This allows for timely reporting to line management, executive management and those charged with oversight. A problem or business issue can be articulated, with the relevant data sources analysed and compared to produce a data analytics outcome. Data analytics benefits include:

- Interrogate 100% of data.
- Detect data anomalies and fraud.
- Can access and analyse data from many disparate sources.
- Scripted routines allow data analysis independent of the systems and people being audited.
- Sampling is redundant, with 100% transaction coverage possible with unlimited file sizes.
- Data integrity is maintained through logical control ensuring read-only data access.
- Where purpose designed software is used, automated audit trails document the steps taken.
- Test logic is captured with scripting and batching techniques.
- Results are achieved in a short period of time.
- Allows for quantification of control weaknesses.
- Encourage root cause analysis to drive correction and improvement.
- Provide insights to management to aid informed decision-making.

Data analytic techniques should be considered for every internal audit service where the data population warrants it.

While not every internal audit engagement will require the use of computerised audit techniques, the 'International Standards for the Professional Practice of Internal Auditing' issued by the Institute of internal Auditors indicate that due professional care requires the use of such techniques wherever appropriate.

Data Analytics Checklist

Internal auditors should be in a defensible position whether to use data analytics for testing in each audit they perform.

To achieve this, there should be a formal process in place. For an internal auditor to say they 'applied their professional judgement' is not enough and is not a defensible explanation.

To ensure there is proper consideration of data analytics for every internal audit service, a formal assessment tool should be used such as a data analytics checklist. An example is shown below.

Acknowledgement

The content of this Factsheet has been informed by the Sydney Trains Internal Audit function where we first observed use of a 'data analytics checklist'.

Helpful References

Factsheet 'Data Analytics and Continuous Control Monitoring', IIA-Australia

Factsheet 'Sampling and Testing', IIA-Australia

White Paper 'Internal Audit Sampling', IIA-Australia

'Internal Audit in Australia – second edition', IIA-Australia

'International Professional Practices Framework'; IIA-Global

'Team Leader's Guide to Internal Audit Leadership', Internal Audit Foundation

Data Analytics Planning Checklist					
No.	**Question**	**Response**			
1	Audit name				
2	Audit scope				
3	BaU analytics?				
4	ICT system				
5	Data population				
6	Transaction volume				
7	System owner				
8	Data access facilitator				
9	Audit data requirements				
10	Data access method				
11	Best available analytics				
12	Analytics feasibility				
13	Analytics suitability	Yes		No	
14	Summary rationale				