DATA ANALYTICS

EMBARKING ON THE DATA ANALYTICS JOURNEY

Data is the new gold and Data Analytics (DA) offers internal auditors the opportunity to gain and provide valuable insights and assurance in an increasingly turbulent economic environment. DA promises the ability to make better risk assessment, cover larger (or full) populations of transactions for the same or lesser resources. When optimised, DA allows Internal Audit (IA) to see trends, draw conclusions about correlations, pinpoint root causes and predict upcoming risk areas.

Myths vs Truths

The DA road is long, and many have resisted embarking on formal DA programmes for various reasons.

Myth 1: DA is too complicated for my team.

DA does not need to be complicated. It is a continuum of technical expertise and most IA functions do well by starting with basic software to compare data points, e.g. matching items in stock count reports such as the SAP MI07 against material master file to ascertain completeness of cycle counts can be performed easily using excel spreadsheets. As the IA function becomes more sophisticated, it can consider data mining tools such as IBM SPSS Modeler or data visualisation tools such as Qliksense or Tableau.

Myth 2: DA costs time and resources which we do not have.

The cost of setting up a DA programme depends on its immediate objectives. In many cases, the first step of mapping data and formalising and sharing basic formulas already used by the IA team costs little but creates a consistent standard which also facilitates team members to learn from one another, thereby increasing productivity immediately. Further DA enhancements can be made when resources are available.

Myth 3: My business is very simple; I do not need to perform DA.

Even traditional brick and mortar companies have a wide kaleidoscope of data in areas such as Point of Sales systems, Customer Relationship Management systems, Human Resources Management systems, etc. which can be more efficiently reviewed using DA.

Traditional haphazard or random sampling methods to draw conclusions about the test population is no longer adequate for the knowledge based IOT world economy. As test population sizes increase, IA cannot keep adding auditors indefinitely to test more samples to offer the same level of assurance.

Myth 4: My senior management will never endorse this.

Numerous surveys have found that IA's stakeholders (notably senior management) expressed that they want their IA to be progressive and use DA. IA practitioners may hold differing opinions and claim that these same stakeholders are putting a lid on budgets and restricting IA's access to data. What may help to bridge the gap is good, persuasive communications whereby the IA team could offer to share the outcome of DA in a mutually beneficial way. These could include passing the scripts to management for continuous monitoring purposes, coaching management on correlation of exceptions and finding causations, reducing on-site audit time, etc.

Embarking on the DA Road

As one embarks on the DA journey, some key steps that should be considered are:

1. Inventorise Data Warehouses (including ERP and other systems)

If your company already has a data management framework including a policy and an inventory of data – this is the best place to start. However, one should not assume data availability simply because the company is using established ERP systems. There are many reasons why data may not be available, such as data being processed by legacy systems, lack of subscription to certain modules, extensive use of add-on in-house systems or applications. Even if the company currently maintains a data mart or data lake, there are many instances where they are found to be data swamps due to poor configuration or un-clean data at the point of origination.

2. Understand the Types of Source Reports and Data Format

The IA function should clearly identify the available source reports and format of data, and be familiar with them. It should not assume the data provided by auditees are readily available in the format that it was provided as the auditee may have scrubbed, cleaned and managed the data from their source before it can be easily digested.

For data that is only available in PDF formats, can they be converted in usable format? For reports or data from platforms which sits on top of disparate data systems, the auditor should also critically ask how data integrity is maintained.

3. Map Data to Audit Lifecycle

Map the available data to the audit lifecycle; planning, risk assessment, execution, reporting, and monitoring. The auditor can also take this opportunity to refresh his work programme. For data sets that are not already used in the work programme, they offer an opportunity to gain further insights. For data sets that are used in the various stages, the auditor should examine different ways of analysing and utilising the data. Common techniques are rule-based data extraction to identify potential exceptions, trend analysis to identify suspicious patterns or high-risk areas, scatterplot charts to identify outliers, Benford's law to detect fraud risks, etc.   Visualisation tools are very useful during audit planning to identify unusual patterns or outliers that are not easily spotted through other means while rule-based data extraction is useful during fieldwork to identify all potential exceptions across the entire population according to pre-defined conditions.

4. Select Suitable Applications

Choose the right applications for the types of analysis required. Do not blindly follow the crowd and insist on using powerful applications that could be either irrelevant to your audits or for which you currently do not have enough resources to build up the team's expertise in. Adequate training should also be provided to auditors to ensure competency in the selected applications.

5. Execute, Refine, Repeat

Identify a high value, low complexity pilot project for field test. Conduct group discussions at different milestones and perform an honest post-mortem with both the IA team and the auditee. Fix whatever is not working or can be enhanced and use the refined methodology on the subsequent projects until the team is satisfied with the outcome. To ensure sustainability of the programme, the IA function should keep the IA team, auditee and senior management in the loop and apprised on the progress of the DA Programme. Remember - there can never be too much communication.

6. Formalise into a Policy

Make the DA a standard operating procedure through embedding it in your internal audit guide or policies. Be sure to review and update this policy regularly.

Conclusion

The DA journey of a thousand miles starts with the first step. The IA team should boldly take the first step, achieve small wins and gradually build up its expertise. Once set up, the only regret you will have is not having started this journey earlier.

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