Data & Analytics – hindsight to insight to foresight

Audits are changing significantly. The core goals remain, but audit tools, execution and results are being transformed and expanded by new capabilities in Data & Analytics (D&A). This is more than a trend. This is the way audits will be conducted by virtually all the major accounting firms, and it is critical that audit committees and auditors begin working together now so audit committees understand where the process is heading, what the broad benefits are and how to work effectively with management to enable a smooth and effective shift within their organisations.

What can a data-driven audit do?

Many organisations are keenly aware that they must make better use of the masses of data available to them. This is as true for the financial statement audit as it is in other organisational areas. While transformative change must always overcome a certain amount of inertia, companies are recognising the advantages offered by an analytics-based audit, from providing auditors with a more comprehensive understanding of the company's business, to providing the audit committee, the company and its shareholders with more granular and detailed information on which to base key decisions.

For example, auditors typically base their work on a relatively small data set, extrapolating conclusions across the full financial data. D&A tools will be able to incorporate the totality of an organisation's financial information, analysing millions of transactions to identify irregularities and key risk focus areas for auditors. The auditor still makes judgements and decisions about where to focus their efforts, but they will have a much broader set of data from which to select from.

Analytics audits will also be able to take external as well as internal data into account. They will be able to analyse and predict how weather, economic, industry and other factors might affect performance, providing enhanced perspective on risk management priorities.

Audits will also become 'smarter'. Over time, the audit database will expand, building on itself to recognise repeating patterns, enhance understanding of the company's financial character and risk profile. This makes it easier to identify both audit and business issues, and improve audit insight and quality year over year. Since these processes will occur at almost all companies, there will also be greater ability to benchmark an individual company's performance against broad, complete industry or geographical data sets, again giving auditors a far more valuable body of information that may be shared with key stakeholders.

Providing unique business insights

As well as benchmarking, auditors can look in depth at the data, discovering complex patterns, making sense of them, and identifying anomalies. Such information can be used to generate meaningful useable insights that give organisations invaluable information on which they can act to gain real advantage.

"This level of analysis means auditors can more easily identify trends and anomalies for further investigation. It allows them to give organisations greater insights into their past performance which in turn enables them to take stock of their processes and activities and adjust them to improve performance."

An organisation was concerned that standard approval processes in purchasing and material management were being circumvented, resulting in production delays and costing the company time and money.

D&A capabilities pinpointed the cause of the slowdown as the inconsistent use of Enterprise Resource Planning (ERP) approval processes vital to production efficiency, resulting in the frequent use of manual interventions.

- The recording of deliveries outside the ERP process had a direct impact on inventory and production management.

- The high volume of manual price adjustments revealed an underlying issue with the accuracy of inventory costing.

D&A allowed insights to be provided into the organisation's process that were not clearly seen before, allowing management to assess opportunities to drive efficiency and better leverage their investment in their ERP systems, which enabled them to address specific challenge areas and ultimately to streamline production.

Challenges and benefits

Audit firms are going through an unprecedented period of development as they get to grips with data-driven audits and this itself creates a risk in a world that is already complex and moving fast.

Audit committees and the companies they serve have natural concerns around issues such as independence, data security and transparency, and dialogue will be necessary between audit committees, auditors, regulators and management to address these concerns and assess the degree to which the potential benefits outweigh the risks. In order for auditors to effectively leverage their D&A capabilities, companies will need to be prepared to share information on a broader scale and in more detail than in the past.

A fast moving IT landscape

Blurring the line between audit and advisor

Varied stakeholder expectations

Cost of IT to the auditor

Possible risk of non compliance with audit standards

Skill set of current auditors

Maturity of client IT environment

The opportunity is exponential

Data security

Client expectations

The results of D&A testing?

Risk of black box centralisation

The good news is that auditors have always been focused on confidentiality and the preservation of secure data, with numerous safeguards already in place and required by regulation. Ultimately, there is no real downside to the D&A audit. Auditors will simply get a much better view into the information they already use to arrive at their opinions. This can't help but enhance audit quality and increase the value of an audit to all stakeholders.

| Value	
Quality	• Deeper understanding of processes. • Identification of possible control gaps. • Analysis of 100% population to identify outliers/exceptions. • Quantify value/volume of outliers/control failures. • Determine the root cause of exceptions. • Increased focus on key judgements. • Tailor approach to fraud risks. • Enhanced risk assessment.
Efficiency	• Use D&A at every stage of the audit life cycle and report more regularly to audit committee. • Less disruptive impact on the business as the audit is focussed on risk rather than random samples. • Audit effort can be spread more evenly across the year meaning any issues can be fixed earlier. • Potential efficiencies through centralisation of procedures across a group or through centralisation of work in low cost locations.

Insight	• Quantify manual intervention in financial processes.
	 • Assess extent of application of policies.
	 • Measure consistency of controls/ tolerances/KPIs.
	 • Process improvements identified:
	   – More automated controls/less manual controls.
	   – Flex control tolerances to reduce manual intervention.
	 • More meaningful benchmarking.
	 • Advanced visualisation – interactive dashboards and transactional-level detail for management.
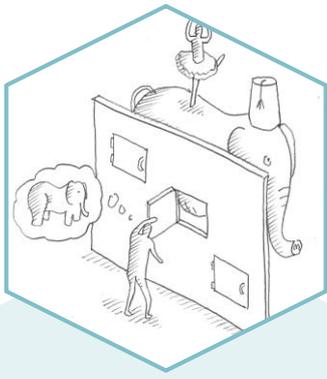
Until now, the agreed way to audit has been to sample, make deductions... building bigger pictures through smaller glimpses...
Market by market, business by business.
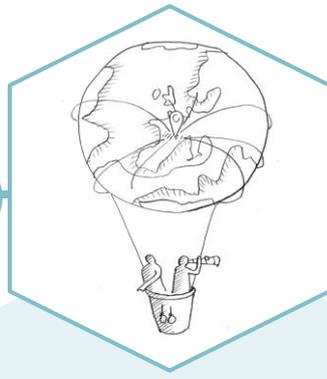
But this is changing.
Technology allows all your data to be examined... Making audit far more valuable.
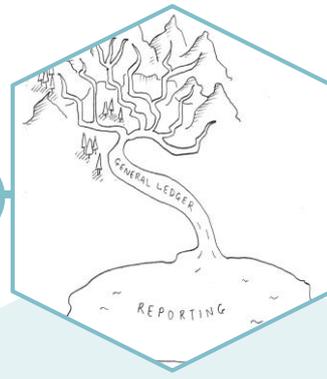

The accounts are formed from distinct information flows or 'streams'.
They flow into the General Ledger, and are brought together to create the financial statements.
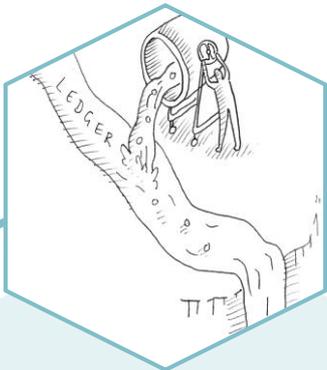
Also there are manual entries made to the General Ledger.
Which by definition are not subject to system controls.
This population can now be identified in its entirety.

The 'happy flow' is the norm, but there will be populations that deviate.
For example, where controls haven't been switched on, invoices input directly into the system or where parameters have been set differently.
These merit further analysis to confirm rock solid reporting and to identify commercial opportunity.
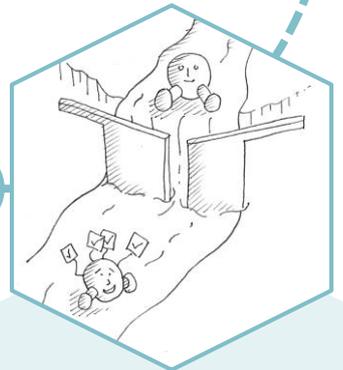

Think of each 'item' within those streams as a molecule.
As it flows through the system it passes through controls; it is tagged and ticked, showing that it conforms to each relevant control.
Molecules with all tags might be called the 'happy flow'.

Audit traditionally dips a bucket in, takes a sample, and analyses it.
This is extrapolated to form a view on the whole.
But it's not the entire stream. Imagine the picture that might be seen if auditors could look at everything?

Technology can put a giant filter in the streams that flow through the General Ledger.
This will identify, and capture the molecules that deviate from the happy flow.
That should be interesting.
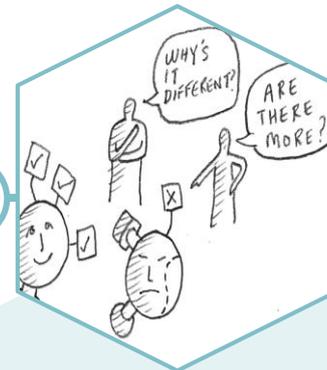
All the items that don't entirely conform will be seen. What's their history?
There may be perfectly good explanations for some of the deviations.
And some others may uncover real opportunities to improve.
For the first time the whole picture will be visible.

What do audit committees need to know?

This is an evolving process for everyone involved, so it is important for audit committees to stay on top of developments and satisfy themselves that the right questions are being asked and answered.

Key questions for audit committees to ask their auditor include:

- Where is your organisation on the analytics audit timeline?
- How do you expect to use D&A in the audit?
- What safeguards do you have in place to protect our data and preserve confidentiality?
- How will existing substantive procedures evolve through this automated approach?
- Where do you see your capabilities in three to five years?

The talent challenge for audit firms – hiring people with appropriate skillsets and training existing staff in data analytics – is matched by the challenge for organisations in ensuring their finance and internal audit functions are similarly skilled.

A new level of audit quality

The audit will be very different, very soon, in ways that deliver substantial advantages to investors, audit committees and the companies they serve. The most important thing is to remember that audit committees, investors, regulators, and companies are mutually involved and invested in this process; and all parties need to work together to enable the data-driven audit to realise the broadest range of benefits for all of audit's stakeholders.

Contact us

Timothy Copnell
Audit Committee Institute
T: +44 (0)20 7694 8082
E: tim.copnell@kpmg.co.uk

www.kpmg.co.uk