KPMG

Data and analytics in the audit

Driving up trust in the capital markets

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Introduction

There's no doubt that trust is a key component in the effective working of the capital markets. Financial information must be seen as reliable and accurate for the markets to function effectively. The key to this is the work of auditors. Investors, audit committees, regulators and companies themselves all need to have trust in our work — it's implicit in what auditors do and embedded in the service that we provide.

At the same time, advances in technology and a huge proliferation in available data means that the financial reporting landscape is changing. Investors and other stakeholders now have access to an almost unlimited depth and breadth of information. There's a heightened need for the audit to keep pace with the times and provide deeper insights for investors and other stakeholders into a company's financial status and performance. Otherwise, the capital markets' trust in the robustness and relevance of an audit may be undermined. The notion of relevance is something that has already been highlighted by the 'expectation gap' among some stakeholders around what the audit delivers and what those constituencies think it does.

We know that as we work to maintain and drive audit quality up, we as a profession must at the same time continually work to find ways of providing audit committees with more meaningful insights.

Roger O'Donnell
Global Head of D&A, Audit
KPMG International

Bill O'Mara
Global Head of Audit
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"D&A powered interrogation of a client's data reveals richer insights than ever before. This helps increase audit quality and can be a linchpin to building trust in the capital markets. The insights gained can help clients to strengthen their governance and controls too. It's the way of the future for the audit — and it's happening now."

Bill O'Mara
Global Head of Audit
KPMG International

Improving audit quality through data and analytics

So how do KPMG member firms go about this? A simple dedication to standards, processes and training is fundamental. But beyond this, there is another fast-evolving strand of what we do and how we work that is taking the profession to exciting places.

Like so much in today's business world, this new strand — data and analytics (D&A) — revolves around the indispensable use of technology, but just as important is the ability to connect and effectively use data.

D&A enables auditors to harness the power of technology to arrive at greater rigor and precision and thus enhancing audit quality.

The increased automation that D&A allows means that data can be processed much more quickly and across whole datasets. A company's transactions, for example, can be analyzed virtually in their entirety, and scrutinized at a more detailed level.

How is D&A used in the audit?

How is D&A actually applied in practice to an audit?

It helps to think of a company's financial information as being organized in layers. The first, or top layer, is what we call the 'general ledger', which is the primary bookkeeping system of a company. Beneath the general ledger are more specific layers or sub-ledgers, such as around sales, purchases, inventory, etc.

Using D&A tools, we can start by analyzing the general ledger, running all the journal entries in the general ledger against accounting and audit rules and principles to assess the extent to which the contents of the ledger are in line with expectations or not.

This analysis is important, because it enables us to be more precise in our initial risk assessment about the possibility of a material misstatement in the financial statements.

From here — the top-line 'quantitative' analysis — we can proceed to an in-depth 'qualitative' analysis of the books, examining specific and relevant sub-ledgers. The analytics derived from the system almost 'talk' to the auditor, taking them through a series of qualitative risk-related data points throughout the sub-ledgers — enabling them to form their bespoke audit plan.

D&A enables an auditor to work at greater levels of detail, which could result in better

"D&A enables auditors to harness the power of technology to arrive at greater rigor and precision. Data can be processed much more quickly and at a very detailed level. The sheer volume of data that can now be analyzed is unparalleled historically."

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audit evidence. For example, with a company's revenue or sales, the auditor can analyze not just the postings in their financial management system, but the underlying documentation itself, such as actual invoices and bank feeds. And rather than just sampling, say, a couple of hundred invoices, literally millions can be analyzed: an analysis of all transactions.

These procedures provide unprecedented transparency around core processes, allowing groups of transactions with a higher risk of misstatement to be identified. At the same time, the technology enables auditors to assess with greater detail the extent to which a company's own automated controls and processes have been followed — or where there have been manual interventions. More time and resources can then be applied to looking at these interventions or 'non-routine' transactions — from which the risk of a misstatement arising is higher.

Forward-looking risk assessments

As well as analyzing a company's financial information, predictive analytics can play a significant role in assessing the forward-looking assumptions that are also involved in arriving at some of the numbers. For example, whether a company's projections about future revenue are reasonable estimates.

To many observers, disruptive events have called into question the reliability of assumptions in traditional forecasting and valuation models. Thus, while the examination of historical information is foundational, the ability to identify and assess future trends is becoming increasingly critical.

This is important because if a company is overestimating future prospects, it could lead to an impairment or write-down further down the line — something that could hit its share price, cut the value of investors' holdings and damage market confidence.

In the near future, KPMG auditors will use leading technology applications to systematically analyze structured and unstructured data using text mining, semantic analysis and similar techniques. Looking a little further ahead, they are also likely to use 'cognitive technology' (or artificial intelligence) to fine-tune assumptions and give a better sense of what the future may bring.

An impairment modeling tool using simulation and advanced modeling techniques has already been developed in an alliance between KPMG in the UK and McLaren. This is likely to be used by KPMG members firms in other countries too.

Our innovation efforts are also focusing on the development of new algorithms and the use of technology to allow our specialists, in the near future, to help auditors perform dynamic risk assessments. For example, analyzing interconnected business risks in big data sets to determine likely levers and influences that when combined could help us assess how risks may accelerate at companies, increasing their magnitude or both which would then enable us to better focus our audit based on a deeper understanding and quantification of the risks.

Advanced analytics technology is developing rapidly and already there is a remarkable difference between what can be done now and just a few years ago. The use of cognitive technologies and machine learning, the development of process robotics — all of these are exciting areas that could have far-reaching potential for the audit. For example, KPMG in the US recently announced an agreement with IBM to apply IBM's Watson cognitive computing technology to KPMG's professional services offerings including a focus on audit services.

Of course, it is still early days. KPMG member firms are developing use cases and defining what the technology can or should do. It is vital not to lose the place of human judgment in an audit. But these innovations stand to add more evidence to inform judgment while at the same time freeing up human time to focus on critical areas. There are issues to be debated and resolved here, around trust in artificial intelligence and the likely impact on accounting and auditing standards, the regulatory stance, and more.

Where from here?

As we have seen, D&A has enormous potential for the audit. It's already here, today, and is being used in increasing numbers of audits, particularly the largest and most complex ones.

As the technology develops and becomes integrated into ever more audits around the world, there is no doubt that, individually and as a profession, the audit firms need to help our stakeholders understand what we are doing and the huge benefits the use of D&A tools can bring.

There is an education process to be conducted, as with the growth of any new technology or application of it. We are committed to promoting discussion and awareness through as many means as possible — our audit opinions, discussions with clients and audit committees, investor forums and through dialogue with regulators.

We want stakeholders to know the potential D&A holds — driving up audit quality, sophistication and depth and, therefore, driving up trust and transparency in the capital markets.

Adding value to audit and confidence in assurance

KPMG's audit — powered by D&A — is raising the bar on audit quality by enabling us to test complete data populations and understand the business reasons behind outliers and anomalies. Automated audit capabilities let our people focus on the higher risk areas of the audit. And the enhanced business insights our audit teams bring to the audit help you see your business from a new perspective.

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