Future Looking Audit Techniques Employed Today

A glimpse into modern audit technologies

As was alluded to in the above article, there has been and continues to be a geometric increase in the speed, capacity and pervasiveness of technology, accompanied by a corresponding reduction in complexity for the user. Mobility has been a force and benefactor in these trends, while security sophistication races to keep up. Most areas of our lives are impacted by these developments, and the audit profession is no exception. Since the assurance function is the one CPA-exclusive franchise, forward-looking diligence is a must in order for the profession to preserve the relevance of that distinction.

The multi-national accounting firms, with their wide array of resources, have been proactive in incorporating the new technologies into the audit process as they emerge. To gain insights into these innovative developments, let's take a look at some of the applications Deloitte and KPMG have added to their set of auditing tools of the trade.

KPMG is implementing a global cloud-based smart audit platform, which it calls KPMG Clara. Clara is built on the Microsoft Azure product that is designed to provide a flexible structure where various sophisticated tools can be employed. For example, Azure Machine Learning and BI (Business Intelligence) analytics apply cognitive technology, KPMG's term for artificial intelligence. The smart audit features will operate alongside the Global Digital Solution Hub set up by KPMG and Microsoft to assist all areas of a business in advancing the processes digitally.

For Deloitte, two promotional pieces, **Aspire with assurance,** *Illuminating the audit of the future,* and **Delivering smarter audits,** *Insights through innovation,* offer a snapshot of Deloitte's wide-ranging audit approach, which brings together talent and technology through their Audit Delivery Centers. The overall technology is a platform built on machine learning and artificial intelligence called Auvenir, which "is designed to accelerate and automate the audit process and deepen intelligence for higher quality and greater efficiency." From here an advanced global audit delivery platform, Deloitte Magnia, delivers "a comprehensive, focused and streamlined audit across the globe." Magnia provides the auditors Deloitte Cognia, "a single collaborative global repository of innovative auditing tools and leading practices," and Deloitte Illumia, an in depth data analytics platform.

Deloitte Illumia utilizes several applications to probe deeply into huge quantities of data. **Delivering smarter audits** describes these applications as follows:

Cortex, a leading-edge analytics application, extracts and prepares data, and then works seamlessly with a suite of advanced technologies to harness the power of data;

Signal examines a wide range of publicly available financial information to identify potential risks using trend and regression analysis to help better identify potential risk factors, resulting in a more comprehensive risk assessment;

Optix performs real-time analysis of large journal entry datasets to identify patterns that can lead to   accounting, operational, and control insights; and

Reveal applies a sophisticated regression analysis to illuminate account balance relationships and provide predictive modeling that helps the auditors identify areas of audit interest for further scrutiny.

These descriptions from KPMG and Deloitte provide just a glimpse of the robust audit constructs that the large accounting firms are in the process of implementing. But they also show that the advanced technologies that the above surveys call for are at hand. For example, the larger audit samples desired are readily produced by KPMG Clara and Deloitte Magnia, all the way to 100% in many cases.

Clara and Magnia are well positioned for audits of the large multi-national companies, but their descriptions emphasize scalability which makes them adaptable for smaller companies as well. Fortunately for the small accounting firms whose audit clientele do not require costly and complex platforms like Clara and Magnia, more practical offerings are available or in development to serve their

needs. Audit software vendors are focusing on data analytics, collaboration and research platforms using the advanced capabilities now accessible.

The AICPA and CPA Canada have teamed with the Rutgers Business School to form RADAR, the Rutgers AICPA Data Analytics Research Initiative, to facilitate the integration of advanced technologies into the audit process. Current projects include:

- Multidimensional Audit Data Selection (MADS) – a framework to analyze large populations for unusual items, and prioritize these items from up to 100% samples into a workable sub-sample of most likely problematic exceptions;
- Process Mining – a methodology for assessing effectiveness of internal controls by applying analytical procedures to company processes, as recorded in computer event logs, in order to describe the processes as well as trends and patterns; and
- Visualization – to determine how to use visual means as audit evidence. The AICPA material notes that "Visualization, when used together with analytical reasoning techniques, is called visual analytics, which can be used to enhance the recognition of patterns (exploratory data analysis) and support the easy perceptual inference of relationships that are otherwise more difficult to induce (confirmatory data analysis)."

Also under the auspices of RADAR, the new AICPA Audit Data analytics Guide is in development, and Rutgers University with support from EY has established an Audit Analytics Certificate Program.

Further details can be found at Rugters AICPA Data Analytics Reserach Initiative (RADAR), KPMG Clara, and Deloitte Delivering smarter audits

(http://www.aicpa.org/InterestAreas/FRC/AssuranceAdvisoryServices/Pages/RADAR.aspx), (https://home.kpmg.com/xx/en/home/services/audit/kpmg-clara.html), and (https://www2.deloitte.com/us/en/pages/audit/solutions/smarter-audits.html#)