KPMG Audit Technology Evolution content series: Future of Technology

Point of View article

New technologies set to power an audit

We are seeing rapid digitisation of our society and our lives, where we all seem to be creating data in unimaginable quantities. In 2020, record amounts of data were created due to the outbreak of the COVID-19 pandemic, as more people worked and learned from home. More data was produced last year than in the previous 5,000 years of humanity[1] – and over the next five years up to 2025, global data creation is projected to grow to more than 180 trillion gigabytes[2].

New and disruptive technologies are emerging at a rapid pace. Blockchain, the cloud, robotic process automation (RPA), digital labour, machine learning, deep learning, quantum computing, voice recognition, Internet of Things (IoT), virtual or augmented reality, computer visioning, natural language processing (NLP) – all of these have immense potential to change how business operates[3]. The pace of technological development will be faster than anyone can imagine.

These technologies will have implications for an audit in the future, too. The impact they will have – and are already having – can hardly be overstated. In the analogue world where accounting was done with manual tools like physical ledgers, the auditor would validate processes and transactions using statistical sampling methods or other similar techniques. In today's digital world, where data is proliferating across digital networks and systems, we are bringing new capabilities to mine the mountain of data to identify audit risk, highlight anomalies and outliers, and perform further analysis. These capabilities allow auditors to focus on key risk-driving items rather than painting entire populations with the same brush strokes, thereby giving clear value to the items being tested.

New technology is dramatically enhancing the analytical power of an audit. Using RPA, auditors can analyse 100% of populations through various lenses. This means that we can quickly identify the outliers that need further examination, enabling auditors to check the accuracy of financial statements much faster and in much greater detail than ever before. For example, recently an audit engagement team analysed a complete set of approximately 250 million transactions, isolating 50 to 60 that were identified as outliers for further investigation.[4] This also means that utilising data and analytics (D&A) can no longer be considered something only IT Audit specialists are able to perform, it is a vital skill for all auditors[5] – and must quickly become an integral part of the auditors' arsenal.

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[1] Harris, R. (2016, December 23). *More data will be created in 2017 than the previous 5,000 years of humanity.* Retrieved on 21 July 2021 from: More data will be created in 2017 than the previous 5,000 years of humanity | App Developer Magazine.

[2] Holst, A. (2021, June 7). *Volume of data/information created, captured, copied, and consumed worldwide from 2020 to 2025.* Retrieved on 21 July 2021 from: Total data volume worldwide 2010-2025 | Statista.

[3] Qureshi, M. (2020, February 28). *Auditing Emerging Technologies: Facing New-Age Challenges.* Retrieved on 21 July 2021 from: Auditing Emerging Technologies (isaca.org)

[4] Outliers being defined as exceptions based on our audit lense assessing the transactions were not consistent with an industry expectation, an accounting principle, or our expectation on how controls would have processed the information, among others.

[5] Lindsay, JB et. Al (2019, July 8). *Emerging Technologies, Risk and the Auditor's Focus*. Retrieved on 16 August 2021 from: Emerging Technologies, Risk, and the Auditor's Focus (harvard.edu)

On top of RPA processes, auditors are also applying machine-learning techniques where complex algorithms can scan information, model it against thousands of assumptions drawn from external scenarios and highlight risks and insights. Predictive analytics such as this is a step towards deep learning where, in the future, the application will be able to 'think' for itself, learn from the results and run more scenarios and tests accordingly.

One of the critical development areas in the coming years is the analysis of unstructured data. Structured data — found in spreadsheets and ledgers — can already be comprehensively analysed using D&A and automated capabilities. But more than 80%[6] of data today is in unstructured formats such as contracts, emails, PDFs and other documents. A key battleground is to develop digital assistants that can read this data and identify key information. Having a bot, for example, analyse the accuracy of those unstructured files. The development of Natural Language Processing (NLP) capabilities to read emails is another example. By using the processing power of intelligent machines, we can use correlation theory to extract data from unstructured sources and automate data transformation thus providing us with structured, readable information for further analysis.

But the future of technology is by no means only about intelligent tools to analyse data. We are seeing momentous changes in the way data is hosted and stored — in the cloud. While some organizations may prefer to keep their data in on-premise servers, there is no doubt that the move to the cloud is likely to continue to grow, offering greater flexibility, processing power and functionality thus providing an economic and environmentally sound mechanism as data grows exponentially.

One key issue, regardless of how powerful modern technology has become, is accessing the organization's data. In the future, we could see the development of technology to enable more seamless transmission of data from the organization to auditors. Enterprise resource planning (ERP) systems tend to be customized by each user company, and they may have multiple systems and legacy systems — so streamlining them to aid the ease of data extraction and transmission is likely to be in every party's interests.

Running alongside all of this is the development of an exciting modern technology system — blockchain. Creating a permanent and immutable record of transactions, blockchain could have wide applications in keeping record of and facilitating such things as trading derivatives and interfirm payments in financial services, to supply chain and logistics in businesses more widely. With access to the blockchain, auditors will be able to review all the transactions across it; it could change the work auditors do in verifying information — and create new responsibilities such as evaluating that the blockchain is reliable and accurate.

[6] Rizkallah, J. (2017, June 5). *The Big (Unstructured) Data problem*. Retrieved on 21 July 2021 from The Big (Unstructured) Data Problem (forbes.com).

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The array of modern technologies will enable us to obtain – more easily, quickly, accurately and extensively than ever before – the corroborating evidence that is needed in an audit. Digitisation of the corporate world means access to enormous volumes of data4 and adopting a much more data-driven audit approach will not only significantly enhance audit quality, but also facilitate increased trust in the auditing profession.

With so much happening on so many fronts so quickly, there has never been a more exciting time to be an auditor.

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