

# Ready for the revolution

Technology is poised to transform the audit



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New tools are poised to radically transform how auditors work

Of the accounting profession's three core services, tax and accounting have taken up the lion's share of technology for the past couple of decades, with audit a distant third. That has begun to change over the past few years, however, with new developments and new capabilities in artificial intelligence and automation already leading to major changes in the tools available to auditors, and the promise of more to come.

To assess the state of the field, *Accounting Today* convened a virtual roundtable of experts and practitioners to share their thoughts on where things stand — and where they're headed.

**We're in a disruptive moment, where technology seems to be prompting a revolution in audit. What do you think led to this?**

**Mike Yates (Partner-in-charge, Auditing Competency Center, Crowe):** I would call this an exciting time, rather than a disruptive moment. Auditors are embracing technology to build more effective and efficient audits, and technology will enhance audit quality in the long term.

**Karen Larsen (Partner, professional practice group, Baker Tilly):** For the first time in decades, there is a renewed sense of energy and a desire to transform auditing into a more modernized solution for the benefit of our clients and the public. New technology, the availability of data, and innovative automation are providing the impetus for these advances. The evolution of a profession as established as public accounting requires investment, commitment, and a desire to change for the better. Standard-setters, major firms and the American Institute of CPAs are catalyzing these innovations to move the profession forward. Technology vendors are providing the tools to facilitate a new transformation. New service offerings are burgeoning, consulting opportunities are expanding and our capabilities to provide enhanced insights to our clients are growing.

**Susan Coffey (Executive vice president — public practice, AICPA):** For context, the audit has never been static. We've seen changes, big and small, since the independent audit era emerged through the reforms that followed the 1929 stock market crash. But it is true that new technologies and analytical capabilities have brought us to an inflection point, creating tremendous opportunity to evolve not just audit but the broader practice of assurance. That is what has been driving our development of criteria and guidance around assurance on non-financial subject matters, like cybersecurity and

sustainability. And it's what has prompted us to launch the Dynamic Audit Solution initiative. Some larger firms and technology solutions companies have anticipated this transformation as well and are pursuing similar efforts.

**Alan Anderson (President and founder, AccountabilityPlus):** First, I believe it is just natural that as technology has evolved, it would impact the audit. I don't believe the audit profession should be immune to this when one considers how technology has been impacting and reshaping industries for several years now. That said, I believe it's about time. Auditors have needed a wakeup call to rethink the audit. The way audits have been accomplished for the past 25-plus years needs to change. Technology at the entities being audited has evolved significantly, while auditor approaches haven't kept pace. Until recently, firms have "embraced" technology primarily in form only. Many firms today still only use technology to replicate their former paper workpapers and processes.

**Cathy Rowe (Director of accounting and audit product management, Wolters Kluwer Tax and Accounting North America):** There are three main drivers for incorporating these types of technologies into audits today. Firms must find efficiencies to keep up with larger firms that have been able to incorporate them already. Artificial intelligence will allow an auditor to have a data-driven audit by automating all of the manual and time-intensive tasks and by allowing the auditor to leverage data to have a stronger understanding of the client and identify key risks earlier. Second, there has been a call to action from the regulatory environment to improve the quality of audits, specifically in the areas of incorporating data in the audit to move from sampling a small population to reviewing all of the data. Finally, clients of audit firms have started incorporating more advanced technology into their organizations and now they expect their auditor to do the same so they can provide more value.

**Peter Scavuzzo (Chief information & digital officer, Marcum):** Under most circumstances, I believe technology inserts itself into a situation to solve a pressing problem or need. The question really is: What is the problem and need within audit? In this case, it ties directly to the economy we live in, where everyone wants results easier, better and faster. Sprinkle in some competitive drive for accounting firms to avoid obsolescence and compound it with an industry that is one of the most averse to change, and you have a ripe opportunity for disruption. Of course, underneath all of this, and reflecting the events of the

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**Erik Asgeirsson**  
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**What are the biggest ways technology is changing the audit?**

Automation and artificial intelligence will make it easier to zero in on potential risk and anomalies, and eventually permit analysis of entire data sets, not just samples. As AI data-driven audits transform our capabilities, powerful technology will automate the routine and allow more time for analysis and insight.

**How are you helping auditors leverage the new opportunities created by technology?**

CPA.com and the American Institute of CPAs are working with CaseWare International and leading CPA firms on the Dynamic Audit Solution (DAS) initiative, which is developing a transformative audit methodology and a state-of-the-art technology platform to modernize the audit. This collaborative effort is designed to create a defined path to the audit of the future for the entire profession.

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"Great Recession," the world has a focused eye on heightened fiscal responsibility. As the accounting industry has a key duty in this area, and having a real sense of ownership in the audit work product, the accounting industry was yearning for tools that could elevate the quality and efficiency of auditors' everyday jobs. With the attention on RPA, AI, machine learning, blockchain and data analytics, the convergence of these technologies and timing of need and want could not be more perfect.

## **What are the most important ways in which technology is changing the audit?**

**Coffey:** At the most basic level, automating routine tasks. But the power of technology is allowing us to analyze entire data sets to identify relationships, patterns, risk and anomalies that are not intuitive to humans, using intelligent systems that will be able to progressively learn and deliver insights as they process these large pools of data. This doesn't eliminate the role of the auditor; rather it changes our role in a way that allows us to provide more value through access to greater knowledge.

**Anderson:** Using technology, auditors can look at all the data faster and more accurately. Using technology to analyze 100 percent of the data moves the audit from a balance sheet "top-down" sampling orientation to a data-driven, transaction-based orientation. Doing so will reshape the audit mindset from sampling items or amounts to interpreting the results of 100 percent data analysis. I believe this will make the audit process more enticing for young audit staff as they will be putting on their thinking caps and turning off the mundane manual tasks of "ticking and tying."

**Scavuzzo:** If you review the core technologies that are available and being marketed today, they all focus on augmenting the professional worker, among them auditors and the internal accounting professionals at the companies being audited. "Augmented professionals" are workers that, with the use of technology, are able to perform their duties better and faster with increased quality and efficiency. Therefore, when we consider how audit is changing, we are really looking at the ability of technology to step in and be as effective and objective in this role as humans. As an industry, we will need to get to a place where we trust it to do the same job with equivalent quality, consistency and objectivity. The technologies that are creating the impact — including RPA, AI, machine learning, blockchain and data analytics — can and should create more financial transparency, higher-quality audits, and more readily available insight on organizational risk and performance. If handled correctly, it should result in many professionals elevating their contribution to the audit by way of deeper and more insightful critical thinking.

**Yates:** Technology is allowing auditors to enhance their risk assessment process, which in turn will allow the

auditors to focus their time in more pin-pointed risk areas versus casting broad nets. This is a positive for the profession and for the clients we serve.

## **Which technologies are currently having the biggest impact on the audit?**

**Scavuzzo:** When discussing the technologies that can impact an audit, you cannot have the conversation without including each of the following: RPA, AI, machine learning, blockchain and data analytics. When it comes to which will have the biggest impact, the question is about timing and tech cohesion. In the short term, the tried and true bellwether technology — data analytics — will be extremely impactful. The concepts have been there for a while, but the tools have become stronger and more consumable. The difference today is infusing machine learning and very basic AI into these tools, and from a regulatory perspective, allowing them to contribute to the audit. Once these tools take on an acceptable and cost-effective role in testing, there will be almost an immediate impact. On the corporate side, over time, as these tools become core to an organization's internal operations and financial systems management, then auditing these systems will become much more interesting. This, I believe, will have an even more profound impact on how we audit.

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That is still some time away, but I believe the role of AI, machine learning, RPA and blockchain for the clients we audit will ultimately make the biggest impact because it will reshape the future of how we conduct the audit entirely.

**Coffey:** Robotic process automation and foundational artificial intelligence that allows for greater data analysis are already being leveraged in many financial statement audits. They're necessary steps to some of the significant advancements we'll see in data analytics once higher-order artificial intelligence, such as machine learning, becomes more prevalent.

**Larsen:** Data analytics, visualization and data ingestion are technologies that are currently having an impact. The availability of data has increased the auditor's ability to use these technologies in an effective and efficient manner. We are able to leverage technologies to help us see things differently and provide more insights to our

clients. Automation is important in that we can begin to offload routine tasks and administrative efforts, and challenge our professionals with a higher-value cognitive engagement.

**Anderson:** Any technology that allows for ease in data ingestion for analysis and that uses data analytic algorithms to facilitate identification of errors or unusual transactions. Many of those technologies also adjust or refine those algorithms through machine learning capabilities. This allows for the continuous improvement of those algorithms.

## **Do you foresee other technologies having a bigger impact further down the line? If so, which ones?**

**Anderson:** The most immediate one that comes to mind is the growth of blockchain. A fully enabled blockchain world could call into question the need for an audit of an annual historical financial statement.

**Larsen:** Artificial intelligence and machine learning will play important roles as those technologies continue to find a place within our audit methodologies; however, there will be a need to balance these newer technologies with a careful assessment of how they fit in within our evolving standards. Our profession has been successful, in large part, due to the confidence we instill in the public in the quality of our work product. As such, we do not have the luxury of getting it wrong. Today, the role of technology is increasing in many aspects of our accounting and auditing engagements. The journey to the audit of the future has only just begun.

**Scavuzzo:** In the future, the portfolio of tools including RPA, AI, machine learning, blockchain and data analytics will absolutely have a larger impact. RPA and traditional data analytics are here and adding immediate value in the present, while ML, AI and blockchain are in a continual evolutionary state. AI and ML depend on algorithms and models that enhance the accuracy and confidence rating of the results these technologies present. The effort it takes to build these models or to successfully mature AI to the level that will really change the world, in my opinion, is many years away. That said, the journey there will show continued and marked progress and start incrementally changing the way professionals operate, processes get automated, and businesses run. We are just touching the surface of the potential impact this will have in the future.

**Coffey:** In situations where blockchain, or distributed ledger technology, is utilized by clients, there is potential for a dramatic impact on the process for, and frequency of, gathering evidence and reporting. We are also exploring the accounting and auditing implications of clients holding, transacting or investing in digital assets. We recently held our annual blockchain symposium with the Wall Street Blockchain Alliance, and the implications and potential use cases for blockchain are pretty breathtaking. **AT**