Audit and technology playbook

A practitioner's guide

View guide

Audit and technology playbook

Foreword

Technology is opening up new possibilities in auditing that were out of reach only a decade ago.

Five years ago, the use of artificial intelligence and machine learning technology was in its infancy, with many firms just beginning to explore its potential. Fast forward to the present, GenAI is already becoming an integral part of our day to day lives and has transformed how auditors approach their work. GenAI alongside more advanced and sophisticated data analytics enable auditors to analyse and interpret incredible amounts of data in just a few seconds, uncovering patterns that previously were invisible and allowing auditors to gain confidence over complete transaction sets where previously only sampling or similar were possible.

We have developed this playbook recognising the huge opportunities technology brings to order, but also with a clear-eyed awareness of the risks. On one hand these technologies can allow auditors to achieve efficiencies and to gain deeper insights into the businesses they audit. On the other hand, there's a very real danger of relying too heavily on technology. This concern has been highlighted by standard setters and regulators, who warn of the risk of automation bias—where technology subtly influences an auditor's judgment.

That's why the human element remains as important as ever.

The foundations of being a professional accountant, and of quality audit, are our professional scepticism, professional judgement and living up to our professional ethics. As new technologies are embraced and permeate the audit process, we have to make sure these essential human qualities remain at the forefront.

This playbook focuses on the most impactful technological trends shaping the audit profession today. It also provides a roadmap to help small and medium-sized audit practices develop a strategy, manage change, invest in skill and talent development, and establish guidelines and governance to manage the risks in adopting technology.

We trust this playbook will be a useful resource as you navigate these exciting and challenging opportunities. We aim to equip you with knowledge and tools to make the most of technology becoming available while maintaining the quality and integrity of your audit work.

Simon Grant FCA

Group Executive Advocacy and International Development, CA ANZ

Mike Suffield

Director Policy & Insights, ACCA

1. About this playbook

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Our **2019 audit and technology report** explored how new tech was transforming the audit profession, delving into the opportunities and challenges for practitioners. The pace of change accelerated dramatically since then: the global pandemic triggered a torrent of new technology, driving industries, including accounting and audit, to adapt to a rapidly shifting environment. While the audit profession was able to adapt, more change was coming.

In November 2022 OpenAI's public release of ChatGPT effectively democratised Generative AI (GenAI) technology, providing users amazing new capabilities in content generation. This has brought new opportunities and challenges for auditors. At the same time, standard setters and regulators have warned that without appropriate safeguards and policies governing their use, they can pose a risk to audit quality.

This audit and technology playbook aims to provide practical insights to help audit practitioners navigate the ever-changing landscape of audit technology. The focus is on equipping practitioners with the knowledge and skills to stay ahead of key technological trends shaping today's business world.

The playbook was informed by a series of roundtable discussions held by the ACCA, CA ANZ and members across several markets, along with extensive research into the key trends influencing audit technology. It aims to offer guidance for practices of all sizes, helping them adopt the digital skills and strategies to succeed in an increasingly tech-driven industry.

Below, we explore the technology trends shaping the business landscape including how these technologies work, how they are used in business settings, and what skills auditors are required to have when interacting with them. Moreover, we emphasise the potential for smaller firms to adopt new technologies to achieve higher profitability and client satisfaction.

In addition, the playbook outlines ethical considerations for auditors as they incorporate new technologies into their practices. Human input remains the most important component of the audit function. The new world requires practitioners to be more agile and forward-looking than ever before, and to keep a watchful eye on the evolving ethical and moral considerations associated with large-scale technological adoption.

At the end the playbook offers a set of five actionable steps for audit professionals on their journey towards digital transformation, to help ensure they remain competitive and capable in a rapidly changing world.

Please note any technologies mentioned in this playbook are used as examples for illustrative purposes and are not to be taken as exhaustive lists, nor as endorsements by either ACCA or CA ANZ.

2. Technology trends shaping the business landscape

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Disruptive technologies like GenAI, machine learning (ML), and blockchain are changing business models at an unprecedented rate,[1] which means the audit profession is also undergoing major change. Auditors now handle more digital data, leading to broader audit scopes that include IT system evaluations, data certifications, and cybersecurity.

In this context, it is important for audit practitioners to understand how their clients use technology, with a view to ensuring the reliability and security of their clients' systems.

Below are six technologies to be aware of that may impact the work you do for your clients. Gaining expertise in the technologies that are relevant to your practice and your clients is critical for every practitioner.

1. **Artificial intelligence and machine learning**

2. **Blockchain**

3. **Cybersecurity**

4. **Internet of Things (IoT)**

5. **Robotic process automation (RPA)**

6. **Big data and analytics**

By staying informed about these broader business trends and ensuring staff are skilled up in emerging technologies, small and medium sized practices (SMPs) can better understand their clients' environments, assess risks and opportunities and provide more relevant and insightful audit services.

1 Accountancy Europe: Demystifying Technology's Impact on Auditing: What do Experts Say? May 2024.

2. Technology trends shaping the business landscape continued

Go back to list

1. Artificial intelligence and machine learning

What it is:	AI refers to computer systems that perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision making and translation. Machine learning is about using algorithms to guide predictions.
Applications:	Beyond audit, AI and ML are transforming industries through applications like predictive analytics, customer service chatbots and autonomous systems.
Impact:	Enhances decision making, improves customer experiences and optimises operational efficiencies.
Relevance:	AI and ML are becoming more prevalent in various business processes, from customer service to inventory management. Auditors need to understand how their clients are using these technologies to ensure accurate financial reporting and assess the risks and benefits associated with AI and ML implementations.

2. Blockchain

What it is:	Blockchain is a type of distributed ledger technology that uses cryptography, making it difficult to manipulate. It is an unchangeable ledger used for recording transactions, transferring ownership, and tracking assets.
Applications:	Used for secure, transparent transactions or information exchange, for example in financial transactions, copyright or intellectual property management, or to maintain the privacy of medical records.
Impact:	Increases trust and reduces fraud by providing a tamper-proof ledger of transactions.
Relevance:	While still emerging, blockchain is being adopted in areas like supply chain management, finance, and contract management. Auditors should be aware of how blockchain is being used by their clients to verify transactions and assess the reliability of blockchain-based financial records.

3. Cybersecurity

What it is:	Cybersecurity refers to any technology, measure or practice for preventing cyberattacks or mitigating their impact.
Applications:	Advanced threat detection, encryption technologies, and comprehensive network security frameworks.
Impact:	Protects sensitive data and ensures regulatory compliance amid increasing cyber threats.
Relevance:	Cybersecurity risk has become an essential audit consideration for businesses of all sizes. Auditors must be aware of their clients' cybersecurity measures, assess risks, and ensure that adequate controls are in place to protect sensitive financial data and comply with regulatory requirements.

4. Internet of Things (IoT)

What it is:	A system of interconnected computing devices, mechanical and digital machines or devices in objects, animals, or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.
Applications:	Smart devices, monitoring applications and sensors in industries such as manufacturing, healthcare and infrastructure (think: connected cars and security systems, smart appliances and medical monitors).
Impact:	Provides real-time data, improves operational efficiency and enhances user experiences.
Relevance:	There are some challenges associated with these technologies, such as managing and maintaining all the devices in the network and ensuring the network operates securely, as well as safeguarding data quality and governance. Auditors should understand the role of IoT in their clients' operations, assess the accuracy of data from IoT devices, and evaluate how this data impacts financial reporting.

5. Robotic process automation (RPA)

What it is:	A technology that uses software robots or "bots" to perform repetitive, routine manual tasks, such as extracting data, filling out forms or moving files.
Applications:	By completing rules-based actions, RPA can automate tasks in areas like finance, human resources and customer service (think: onboarding staff, call centre operations and claims administration).
Impact:	Increases efficiency, reduces errors and frees up human resources for higher value work.
Relevance:	RPA is increasingly used to automate repetitive tasks in finance and operations. Auditors need to evaluate the effectiveness of RPA implementations, ensure that automated processes are functioning correctly, and assess the impact on financial reporting and internal controls.

6. Big data and analytics

What it is:	Big data and analytics describes the process of uncovering trends, patterns and correlations in large amounts of raw data.
Applications:	Advanced analytics to produce customer insights, market trends and operational efficiencies that drive business decisions.
Impact:	Informs strategic decisions, personalises customer experiences and identifies new opportunities.
Relevance:	Big data and analytics are increasingly used across industries to provide insights into various aspects of business operations. While this may not necessarily increase the complexity of a client's environment, auditors must have the skills to interpret the insights that such data provide. Auditors should always obtain a sufficient understanding of a client's business in order to identify risks, such as suspicious transactions and potential fraud.

SPOTLIGHT

On GenAI

Many people will be familiar with GenAI, which took the world by storm in late 2022 with OpenAI's public release of ChatGPT. Businesses of all sizes have had to contend with what the technology means for them in terms of employee use, internal and external applications, and governance.

GenAI's unique capability to generate new content – from text and images to code – based on existing information is transforming how some businesses approach tasks such as drafting content, summarising complex information, working with unstructured data and automating certain processes.

Further, GenAI has the capacity to uncover trends, patterns and anomalies in large amounts of data that would otherwise be difficult or time consuming for humans to produce manually. Thus, GenAI may significantly improve operational efficiency. It may also improve productivity by freeing up time to focus on more challenging, judgmental, analytical, or higher risk tasks that require human focus.

However, as with any opportunity comes risk. GenAI technologies are trained on large datasets where they learn patterns, structures, and representations from the training data. GenAI is also predictive technology. This means that while it can quickly trawl through vast amounts of data, one thing it can't do is verify the accuracy of the information it draws from. It simply predicts what the most likely answer will be based on the material it has been trained on.

ACCA, CA ANZ

2. Technology trends shaping the business landscape continued

Considerations for auditors

Auditors should be aware of several risks associated with their clients' use of AI, particularly around privacy and security.

With respect to audit processes, the Centre for Audit Quality says: "The probabilistic nature of GenAI is a key distinction from other technologies that auditors may have historically encountered in a company's financial reporting processes, which may inform auditors' identification and assessment of risks of material misstatement, including the identification of process level risks or risks arising from IT."[2]

Other risks may arise, too, depending on how a company is using GenAI: it may have developed its own model, built customisations on top of a foundation model, or used a pre-built solution based on a foundation model (such as a publicly available chatbot).

Auditors should maintain professional scepticism and exercise professional judgement in assessing the accuracy and reliability of all information, and to ensure that audit judgements are not unduly influenced by flawed or incomplete data.

As we note later in this playbook, the International Auditing and Assurance Standards Board (IAASB) and the International Ethics Standards Board for Accountants (IESBA) have recognised the existence of automation bias as an example of unconscious auditor bias that practitioners need to be aware of when exercising professional judgement.[3]

Auditors must stay informed about their clients' use of GenAI in financial reporting, accounting, and related internal controls. At the same time, as GenAI becomes increasingly integrated into audit and assurance processes, its ability to enhance productivity and improve content generation, analysis, and summarisation will be invaluable. We explore this further in the next section.

As the GenAI technology, use cases, and regulatory environment are rapidly changing, it is important for auditors to continue to monitor developments.

> "While technology is opening up new ways of doing things in audit, and adding some incredible capabilities, we need to remain vigilant about the risks associated with rapid change, making sure we fully understand the technology, its limitations and its potential."
>
> **Amir Ghandar FCA**
> **Reporting and Assurance Leader, CA ANZ**

2 Centre for Audit Quality: Auditing in the Age of Generative AI. April 2024
3 IAASB: FAQs Addressing the Risk of Over-reliance on Technology - March 2021.

3. How can small and medium audit practices benefit?

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Larger audit practices, with more available resources, tend to be more advanced in their digital transformation journeys than SMPs. However, in recent years there has been an explosion in 'off-the-shelf' solutions, offering smaller firms more opportunities to improve efficiency and productivity.

Efficiency gains can also translate into time saved for auditors, freeing them up to focus on areas of higher risk. As a result, this has the potential to improve audit quality. Note that the information below is designed to be general in nature. ACCA and CA ANZ do not endorse individual products.

> "When it comes to smaller firms, it's probably more of a perception than reality that they're much less advanced in terms of the techniques and the technology. Smaller firms are increasingly agile in terms of implementing software, and off-the-shelf solutions are increasingly powerful."
>
> **Steven Watson FCA**
> **Managing Director, National Audits Group Australia**

Audit software for increased efficiency

Audit software has become indispensable for efficiency, and there are dozens of innovative products on the market that promise to improve the audit process. Compared to paper-based audits, digital tools allow auditors to work smarter and faster by automating components of their work.

There are several types of audit software solutions, most of which standardise audit procedures and methodologies across engagements, ensuring consistency and reducing the risk of errors, potentially leading to higher quality audits.

- Conflict-check software and cross-referencing software allows firms to screen client data against internal databases to identify potential conflicts of interest or independence issues.
- Bespoke chatbot audit assistants make audits faster by resolving common questions and removing pain points. They can assist with client interactions and process requests, as well as respond to frequently asked questions, especially at year end.
- Optical character recognition (OCR) technology converts various documents, such as PDFs or screenshots, into editable and searchable data. This data is then used to automate audit workflows, producing audit documentation more efficiently.

Data analytics tools for greater auditor insight

Audit analytics tools have traditionally relied on predefined rules and algorithms for data analysis, focusing on descriptive (what happened) and diagnostic (why it happened) analytics, with limited predictive capabilities.

But now, AI and ML are revolutionising analytics with their ability to handle complex, unstructured data. New data analytics tools can analyse historical information and 'learn' to automate decision-making processes, continuously improving with new data. This allows auditors to gain a better understanding of their client's operations and associated risks – including fraud and material misstatements.

Other tools that use AI and ML can also help connect disparate data sets, transform and clean the data into a data model, and create charts or graphs to provide visuals of the data. Visualisation tools are useful when filtering or comparing data, for example when comparing forecast information to actual results. Other tools incorporate ML algorithms for tasks such as fraud detection.

For SMPs, leveraging AI and ML has the potential to lead to more efficient and insightful audits and better risk assessments.

3. How can small and medium audit practices benefit? continued

GenAI for assistance with research and compliance

GenAI tools use natural language processing and deep learning algorithms to understand and quickly generate new content from vast amounts of existing data. As a capability, this holds incredible potential for audit practitioners.

Open GenAI tools can help auditors quickly access information on audit standards, regulations and industry best practice. These efficiency gains can ease staff workloads and help address work-life challenges.

Bespoke, or in-house adaptations of GenAI – such as those built by the larger accounting firms – go even further. These tools are 'trained' on internal systems, which means they can support staff with on-demand guidance on audit methodologies and internal policies, procedures and tools. They can also help audit teams identify and mitigate risks, boosting the potential for improved quality and integrity of the audit process.

It is important to note that maintaining professional scepticism and exercising professional judgement remain critical when using GenAI tools as well as when conducting audits for clients who use GenAI.

Cloud computing for collaboration

Cloud platforms have long been known for their usefulness in supporting remote, real-time collaboration. In recent years, they have also made AI and analytics capabilities more accessible.

Moving IT infrastructure to the cloud comes with several benefits that have led many firms to embrace the approach. Some platforms connect with open GenAI tools, which means it can pair with information in your calendar, emails, chats, documents, meetings and more, providing personalised assistance for a range of tasks and activities.

Cloud-based solutions can also improve client engagement processes through data-sharing. Many offer scalable resources that can be adjusted to meet business needs, providing flexibility and cost savings for firms.

"The explosion of technology deployment post-pandemic is having profound implications for how auditors perform their duties. There are substantial opportunities for efficiency gains and deep insights into client operations."

Antonis Diolas
Head of Audit and Assurance, ACCA

"We are now making greater use of available data analytics tools. For example, we can perform deeper analysis of accounts receivable and accounts payable, allowing us to extract valuable insights."

Amin Ali
Audit & Assurance Senior Partner, Crowe Hussain Chaudhury & Co.

3. How can small and medium audit practices benefit? continued

Practical example 1

Audit area: journal entries

Scenario: You need to perform substantive testing on journal entries to detect potentially fraudulent activity or material misstatements.

Solutions:

Advanced data analytics

- **Anomaly detection:** The system scans the entire general ledger for unusual journal entries such as those made on weekends, holidays, or at the end of reporting periods. Unusual entries are flagged for further investigation.
- **Keyword search:** Automated keyword searches help you find journal entries with descriptions indicative of fraud, such as "manual adjustment" or "correction".
- **Duplicate entries:** The technology detects duplicate journal entries, which might indicate errors or attempts to manipulate financial results.
- **Benefit:** Automating the analysis of journal entries allows you to quickly identify and investigate high-risk entries, reducing the likelihood of undetected fraud or errors.

AI and machine learning

- **Anomaly detection in journal entries:** AI-powered systems can analyse the entire population of journal entries, detecting unusual patterns such as entries made outside normal business hours, by unauthorised users, or involving unusual account combinations. The AI flags these anomalies for further investigation.
- **Risk scoring of entries:** AI can assign a risk score to each journal entry based on various factors, such as a specific amount, user behaviour, and historical patterns. High-risk entries are highlighted for closer scrutiny by auditors.
- **Benefit:** AI streamlines the review of journal entries by focusing on high-risk areas, increasing the likelihood of detecting errors or fraudulent activities.

3. How can small and medium audit practices benefit? continued

Practical example 2

Audit area: revenue recognition

Scenario: You need to audit the revenue recognition process to ensure it complies with applicable financial reporting frameworks.

Solutions:

Advanced data analytics

- **Stratification analysis:** The system stratifies sales transactions based on criteria like size or date, helping identify spikes in revenue recognition at the end of the fiscal year, which could indicate improper recognition.
- **Correlation testing:** The technology tests correlations between revenue and related accounts, like accounts receivable or deferred revenue. Discrepancies between revenue recognition and related accounts are flagged for further investigation.
- **Outlier detection:** The system identifies outliers in sales data, such as unusually high discounts or significant revenue from new customers, which could indicate improper revenue recognition.
- **Benefit:** These analytics tools ensure that revenue is recognised in accordance with applicable financial reporting framework, reducing the risk of revenue misstatement.

AI and machine learning

- **Contract analysis with natural language processing (NLP):** AI systems equipped with NLP automatically review and analyse contracts, extracting key terms related to revenue recognition, such as delivery dates, performance obligations, and payment terms. The AI flags contracts where revenue might have been recognised too early or too late based on these terms.
- **Predictive revenue models:** Machine learning algorithms predict expected revenue based on historical data, industry benchmarks, and specific contract terms. Significant deviations between actual recognised revenue and predicted amounts are flagged for further investigation.
- **Benefit:** AI ensures accurate revenue recognition by automatically analysing complex contracts and predicting expected revenue, reducing the risk of material misstatement.

3. How can small and medium audit practices benefit? continued

How audit practices benefit from emerging technology

1. Efficiency

Audit software, OCR technology and AI/ML provide efficiency gains, including time saved, through standardisation and consistent document reporting.

2. Data analysis & insight

Analytics tools put pattern recognition and trends into charts and graphs for more accurate insights.

3. Fraud detection

AI/ML software detect anomalies, errors and inconsistencies in data and reporting.

4. Research & compliance

GenAI technologies act like a virtual assistant to support compliance with professional standards and regulatory requirements.

5. Collaboration

Cloud-based technologies and AI tools improve workflow and automation.

4. The essential role of humans in audit

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In providing their services, professional auditors are required to adhere to the highest ethical standards issued by the IESBA. Among the five fundamental principles in the Code of Ethics is 'Professional Competence and Due Care' which refers to maintaining a level of professional knowledge and skill to ensure an audit client receives competent, professional service.

Within that context, all practitioners of accounting and audit services must be adaptive to changing models of business and regulation. This is especially important as the pace of change accelerates.

As this playbook shows, the use of advanced technologies such as AI and ML can be extremely effective in making the audit process more efficient, especially when dealing with large volumes of data.

"Professional judgement remains one of the most vital aspects of the audit process. This human quality is not going to be replaced by technology any time soon."

Masood Mehmood FCCA, CA
Senior Policy Advocate - Reporting and Assurance, CA ANZ

However, while technology can support and accelerate decision-making, an over-reliance on these tools has the potential to compromise audit quality. That is because these tools are not infallible; for example, GenAI tools analyse what statistically appears most likely to be correct. If GenAI is referencing outdated information, the output provided will also be outdated.

Auditors should maintain professional scepticism and exercise professional judgement in assessing the accuracy and reliability of technology outputs to ensure that audit judgements are not unduly influenced by flawed or incomplete data.

"When using technology, it's essential to possess the right skills and knowledge to understand how it works and accurately interpret the results, including evaluating any limitations of the tools."

Nihla Mazrui
Audit and Assurance Partner, RSM Eastern Africa LLP

"Despite the accelerating pace of technological innovation, there is zero appetite for 'human-free' audit. Automation can reduce errors and spot patterns, but it doesn't obviate the need for auditors to understand nuance, maintain professional scepticism and exercise professional judgement. Indeed, the future of audit will be a combination of technological innovation and human intervention."

Antonis Diolas
Head of Audit and Assurance, ACCA

5. Standard-setting and policy developments

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Governments, regulators and standard setters around the world are evolving their principles and guidance on new technology. The goal is to facilitate the integration of emerging technologies like GenAI into the audit process to increase efficiency and add value for clients.

This is not a complete list of developments; however, the examples below provide some context for auditors on how the regulatory landscape is changing.

IAASB and IESBA

- The IAASB and IESBA have made several revisions to their respective standards and the International Code of Ethics for Professional Accountants (the Code), recognising that advanced technologies are now more widely used in audit practice. Some examples include the IESBA's *Technology-related Revisions to the Code* effective for periods beginning or after 15 December 2024, and the IAASB ISA 315 (Revised), *Identifying and Assessing Risks of Material Misstatements*, which now explicitly recognises the use of advanced technologies and that procedures can be automated.

> "Part of the issue is that many of the standards are still very outdated in terms of their approach to technology."
>
> **Matthew Green FCA**
> **Partner Forvis Mazars Australia**

- Additionally, both the IAASB and IEBSA have developed non-authoritative guidance and thought leadership publications to help practitioners and other stakeholders. For example, the IESBA, in collaboration with IFAC, produced *Exploring the IESBA Code - A Focus on Technology*[4] which aims to address the challenges professional accountants may face when applying the conceptual framework of the Code to technology-related matters. The publication outlines threats to compliance with the Code's five fundamental principles and independence, covering issues related to AI, blockchain, IoT devices, and cloud-based storage of client data.
- Both the IESBA code and the IAASB ISA 220 (Revised) explicitly recognise automation bias as an example of potential bias that practitioners need to be aware of when exercising professional judgement.[5]
- The IAASB approved its Technology Position during the September 2024 meeting. The Technology Position aims to provide a clear vision and a roadmap on the IAASB's approach to addressing technology, guiding standard-setting and other related activities.

4 IFAC, Nov 30, 2022: Guidance & Support Tools
5 IEBSA Code paragraph 120.12.A2 (page 35 of IESBA Code's latest handbook) and IAASB ISA 220 (Revised) last bullet point on paragraph A35 (page 144 of IAASB's latest handbook) and IAASB Strategy and Work Plan for 2024-2027: Elevating Trust in Audit and Assurance

5. Standard-setting and policy developments continued

OECD

- The Organisation for Economic Co-operation and Development (OECD) AI Principles were initially adopted in 2019 and updated in May 2024 to consider new technological and policy developments, ensuring they remain robust and fit for purpose.

Australia

- Australia's 8 Artificial Intelligence Ethics Principles are designed to ensure AI is safe, secure and reliable.
- Australia's corporate regulator, the Australian Securities and Investments Commission, is examining how audit firms use AI in their work, focusing on the approach, the data used, and ensuring the precision of findings.
- The government's Digital Transformation Agency released its *Policy for the Responsible Use of AI* in Government on 1 September 2024, **Policy for the responsible use of AI in government** positioning the Australian Government as an exemplar of safe, responsible use of AI. an exemplar of safe, responsible use of AI.

Singapore

In Singapore, the government released its *Model AI Governance Framework for Generative AI* in January 2024 to address GenAI concerns while continuing to facilitate innovation.

> "Automation bias is a tendency to favour output generated from automated systems, even when human reasoning or contradictory information raises questions as to whether such output is reliable or fit for purpose."[6]
>
> **International Ethics Standards Board for Accountants**

6 IESBA: Handbook of the International Code of Ethics for Professional Accountants, 2023.

5. Standard-setting and policy developments continued

Automation bias and the risk of overreliance on technology

As noted above, both the IAASB and the IESBA have recognised the existence of automation bias as an example of unconscious auditor bias that practitioners need to be aware of when exercising professional judgement.

The IAASB has provided specific guidance[7] on how firms and auditors can address the risk of overreliance on technology when using automated tools and techniques (ATT). Key points include implementing specific policies and procedures, customising technological resources, providing additional training, and promoting awareness.

Auditors are also encouraged to exercise professional scepticism by critically evaluating results, understanding the limitations and potential biases of systems and technology, and following International Standards on Auditing (ISAs). These measures aim to ensure that auditors can effectively manage automation bias and overreliance on technology, thereby enhancing the reliability and integrity of the audit process.

"An auditor may design and perform audit procedures manually or through the use of automated tools and techniques, and either technique can be effective. Regardless of the tools and techniques used, the auditor is required to comply with the International Standards."

International Auditing and Assurance Standards Board

"There is always a risk associated with the use of technology, and people may rush to conclusions that cloud their judgment. However, when used responsibly, technology is ultimately a tool to help us."

Vicky Giannopoulou
Assurance Director, EY Greece

7 IAASB: FAQs Addressing the Risk of Over-reliance on Technology - March 2021.

6. Looking ahead: five considerations for your practice

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With so much change, it can be difficult for auditors to know where to start, what to prioritise and where to invest. With that in mind, here are five practical considerations to guide you on your journey towards digital transformation.

1. Develop your technology strategy and infrastructure

As we have seen earlier in this playbook new technologies can help audit practitioners become more efficient and productive, which means the potential exists to improve quality. Technology tools can also help lower a firm's operating costs, attract and retain talent, and grow your client base.

SMPs may not always have the technical knowledge or in-house expertise to make informed decisions. So, consider appointing a focused champion or team to develop a technology strategy that is best aligned with your business goals (e.g. growth targets, service offerings, etc).

The champion/team should take the time to consider what technology the firm already has and what can easily be integrated or added on, in the context of the available budget and client expectations. For example, cloud technology can be more cost-effective and more secure than in-house servers – but there are added data privacy and management considerations with third-party providers.

Team members can attend vendor events to learn what new technologies are available and consider how the firm can collaborate with external IT specialists. Platforms should always be tested before you purchase. And technology solutions should be scalable and adaptable to future needs and growth opportunities.

Your technology roadmap should include a reasonable timeline that sets goals, assigns responsibilities, and determines key milestones, project phases, and outcomes for each phase.

Remember that other SMPs have been through similar journeys. Seeking knowledge through networks via the ACCA and CA ANZ can help you save valuable time and effort along the way.

> "Before investing in digital solutions and change programs, firms should first assess their own size, strengths and budget based on their technology and automation needs."
>
> **Masood Mehmood FCCA, CA**
> **Senior Policy Advocate - Reporting and Assurance, CA ANZ**

6. Looking ahead: five considerations for your practice continued

2. Develop a change management program

Firms need to set the tone from the top by aligning any new technology strategy to the organisation's culture, and ensuring staff are involved in key decision-making.

Beyond the technology champion/team, wider employee engagement is also critical to the success of any transformation project. Indeed, the leading cause of change failure is employee resistance and ineffective management of the human aspect. With that in mind, firms must prepare their staff for the inevitable teething problems that come with adopting new software.

Gaining support for change and overcoming opposition starts with committed management buy-in, clear communication on the timeline and goals, and a compelling case for change that highlights the benefits for everyone involved.

A vital part of the discussion should address the risks of not changing, ensuring that staff understand the consequences of maintaining the status quo.

Part of the technology strategy and change management program should be considering the impact of implementing new technology on the firm's system of quality management (SOQM). There may be new quality objectives or risks to embed in the SOQM along with new processes and procedures required for governance, as well as changes to audit methodologies as new tools are adopted and implemented.

The IAASB's International Standard on Quality Management 1 (ISQM1) addresses firms' responsibilities for designing, implementing, and operating a system of quality management for audits, reviews of financial statements, or other assurance or related service engagements.

The following table is an excerpt from CA ANZ's Illustrative risk matrix: Audit quality management - small to medium sized firms:

Quality objective	Illustrative quality risk
Appropriate technological resources are obtained or developed, implemented, maintained and used to enable the operation of the firm's system of quality management and the performance engagements.	Technological resources are not enabling the operation of the firm's system of quality management and the performance of engagements.
	Technological resources are not being used to full potential.

Alongside bringing people on the journey, the technology team/champion should monitor technology trends and keep the firm informed about potential future opportunities and challenges. This proactive approach helps ensure your business remains adaptable and forward-thinking.

3. Invest in continuous skills development

This is arguably the area that will require the highest levels of adaptability, given the speed of ongoing technological innovation.

Once your technology strategy is set and your change program developed, the next step is ensuring staff have a clear pathway to proficiency. While specialist teams are key to setting up and integrating systems, it's essential to build technological capability among the entire workforce if your strategy is going to be a success.

> "We have a process in place whereby tools and software must be thoroughly reviewed, accredited, and signed-off. It takes time to build out a solution initially, but everything we use must be approved to ensure its reliability. We thoroughly test the logic and output to make sure there is clear guidance and a sound methodology."
>
> **Shane O'Connor**
> **Global Head of Artificial Intelligence, Audit, KPMG.**

Staff need to feel comfortable investing time each week to ensure they understand the value of the technology, and to keep their digital skills current. Ongoing training and personal development programs should be available for all staff at all levels, with experienced staff empowered to train and mentor new employees. Adopting a "train the trainer" mindset allows firms to use technology as an accelerator, making it cost-effective to manage within the firm.

Practitioners should consult **ACCA** and **CA ANZ** continuing professional development (CPD) resources for regularly updated qualifications and certificates relevant to their firm.

This commitment to continuous skills development not only enhances the firm's capabilities but also positions it as a forward-thinking and desirable place to work.

Technology and the next generation of auditors

Young accountants consistently say they prefer employers who can expose them to emerging technology and cutting-edge tools. A recent ACCA and CA ANZ thought leadership report on talent attraction and retention[8] found 92% of potential entrants to the audit profession prioritise employers' investment in and use of advanced technologies, and 87% of current and past audit professionals share this priority. Publicising your tech initiatives and investments in training and personal development sends a powerful message to the marketplace – helping to attract and retain the next generation of audit talent.

8 ACCA and CA ANZ: Attract, Engage, Retain: Insights and Recommendations for Audit Talent Success

6. Looking ahead: five considerations for your practice continued

4. Focus on your talent pipeline

As your firm's use of technology grows, so too, will your need for new skills and roles.

Technological advancements are having an important impact on how firms recruit new talent, leading to greater diversity in hiring practices. For instance, some firms are now recruiting data scientists and expanding their search beyond traditional academic disciplines.

Proactively adding "change agility" to the desired attributes in new hires can ensure your people adapt well to new developments as the pace of change accelerates. So, too, can emphasising your firm's investment in technology solutions that create an efficient and enjoyable working environment.

Next-generation staff need to feel they can make a difference quickly and be empowered to do so. Staff should be encouraged to consider different technology options, explore new ideas, and challenge traditional audit methodologies.

> "It's crucial to attract the right people into the profession with diverse skills and an understanding of our unique value proposition, particularly as technology continues to transform how we audit."
>
> **David Borrie CA**
> **Partner, EY New Zealand**

While technical competence will always be important, qualities such as creativity, collaboration, and communication will become even more so in the future. Investing in continuous skills development and fostering an innovative culture will help your firm stay competitive and forward-thinking.

> "As stakeholders of the profession, we must work together to attract the next generation of auditors. If we fail to adopt these important technological advancements, in 5-10 years we may find that no one is interested in entering the profession. Embracing technology not only enhances the efficiency and appeal of auditing but also ensures that we remain competitive in drawing top talent to the profession."
>
> **Dato' Lock Peng Kuan**
> **Managing Partner, Baker Tilly Malaysia**

6. Looking ahead: five considerations for your practice continued

5. Set guidelines and governance standards

The explosion of AI and ML tools has prompted new governance standards across a range of industries. In audit, these tools can raise substantial ethical issues around fairness, bias in algorithms, lack of transparency and accountability deficits. Implementing a robust set of guidelines and guardrails for your business will ensure all staff understand what they can and cannot use the new technology for. These policies should include a focus on data privacy and a commitment to a culture of transparency.

The guiding principle is that auditors must maintain their professional integrity, uphold confidentiality, and adhere to ethical standards while leveraging advanced technologies.

International standard setters, including the IAASB, IFAC and the IESBA, have provided frameworks to help auditors ensure technology-assisted audit judgements are fair, unbiased, and compliant with ethical and professional standards. This foundational work allows auditors to integrate new technologies while maintaining the highest levels of integrity and professionalism.

As discussed above, it is important to note that implementing a new technology solution requires a thorough risk assessment and consideration of what changes will be required in the firm's SOQM to ensure that there is appropriate governance over the use of technology within the firm.

Further reading

CA ANZ and ACCA offer several resources and courses designed to help practitioners upskill in the use of technology in audit:

CA ANZ

Introduction to data analytics

Transform your FinTech skills with AI package

ChatGPT and large language models: The future of accountancy and business

See all CA ANZ education resources here

ACCA

Certificate in digital innovation for finance

Certificate in data analytics

Certificate in FinTech for Finance and Business Leaders

Machine learning: an introduction for finance professionals

See all ACCA education resources here

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About us

Chartered Accountants Australia and New Zealand

Chartered Accountants Australia and New Zealand (CA ANZ) represents more than 139,000 financial professionals, supporting them to build value and make a difference to the businesses, organisations and communities in which they work and live.

Around the world, Chartered Accountants are known for their integrity, financial skills, adaptability and the rigour of their professional education and training.

Association of Chartered Certified Accountants

We are ACCA (the Association of Chartered Certified Accountants), a globally recognised professional accountancy body providing qualifications and advancing standards in accountancy worldwide.

Founded in 1904 to widen access to the accountancy profession, we've long championed inclusion and today proudly support a diverse community of over 252,500 members and 526,000 future members in 180 countries.

Our forward-looking qualifications, continuous learning and insights are respected and valued by employers in every sector.

They equip individuals with the business and finance expertise and ethical judgment to create, protect, and report the sustainable value delivered by organisations and economies.

Guided by our purpose and values, our vision is to develop the accountancy profession the world needs. Partnering with policymakers, standard setters, the donor community, educators and other accountancy bodies, we're strengthening and building a profession that drives a sustainable future for all.

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