INTERNATIONAL FORUM OF INDEPENDENT AUDIT REGULATORS

Use of technology in audits – observations, risks and further evolution

2025

This report, released on March 27, 2025, presents information and perspectives on the use of technology in audits.

IFIAR Report: Use of technology in the audit – observations, risks and further evolution

Established in 2006, the International Forum of Independent Audit Regulators (IFIAR) comprises independent audit regulators from 56 jurisdictions representing Africa, North America, South America, Asia, Oceania, and Europe. Dedicated to serving the public interest and enhancing investor protection, IFIAR provides a platform for dialogue and information sharing regarding audit quality matters and regulatory practices around the world, with the shared goal of enhancing audit oversight globally by encouraging collaboration and consistent regulatory activity that promote high-quality audits.

Background:

The use of technology in the audit is important as it can impact audit quality. Improvements to audit quality will help provide better protection to investors and other users of financial information. IFIAR has undertaken several activities to explore the application and use of technology in audits, including:

- Regular dialogue with the six large global audit firm networks on the Global Public Policy Committee ("GPPC networks") to understand their current and future technology in audits and how this is integrated into the firms' system of quality management.
- Accumulating insights on technology-related inspection findings and inspection approaches from its Members through IFIAR's Annual Inspections Findings Survey (the "annual survey").
- Sharing inspection approaches and other relevant information among IFIAR Members for audits of public interest entities using technology.

Through these activities, IFIAR has identified several observations that we believe to be of interest to audit firms, standard setters, investors, those charged with governance and other regulators. This report highlights observations on progress made since our last publication, including the use of automated tools and techniques (ATTs) observed in IFIAR Member inspections and includes key messages arising from discussions with the GPPC networks. IFIAR's goal in sharing these observations is to foster discussions about enhancing audit quality through technology while managing the related risks.

Overview and Key Messages

The use of technology in the audit continues to be a focus of IFIAR given the significant global advancements in technology. Many IFIAR Members have observed developments in both the technology platforms used by audit firms and the ATTs used in the audit. IFIAR is interested in understanding how these advancements impact audit quality.

In 2024, our activities focused on understanding technological advancements and exploring how audit firms plan to leverage artificial intelligence (AI), including generative AI (GenAI), in the performance of their audits. IFIAR Members support the evolution of the audit and integration of technology into future audit processes that can contribute to audit quality. As audit firms develop, deploy, and utilize advanced technological resources, it is important to prioritize those that enhance audit quality. Audit firms should integrate advancements with modern, secure and resilient infrastructure. This may require modernizing existing infrastructure and platforms. As such, IFIAR Members encourage audit firms to:

1) Evolve and, where necessary, reengineer processes (at all levels, where appropriate, including at the global network, local member firm and audit engagement team) to better understand and monitor the utilization and impact that technological resources have on audit quality.
2) Prioritize wider deployment and adoption of ATTs that will have the biggest impact on improving audit quality.
3) Build appropriate governance and oversight mechanisms into the acquisition, development, implementation, and use of technologies that leverage either AI or GenAI, including steps to ensure the input, function and output of the technology is transparent, appropriately explainable, and interpretable and performing as expected.
4) Take the necessary steps to ensure that the audit firm and audit teams are in control of the technology being used and are properly trained and encouraged to retain responsibility for the judgements made on an audit, including those made to customize the technology and those informed by the outputs of technology.

IFIAR encourages all relevant stakeholders within the financial reporting ecosystem to understand the impact that technological advancements will have on financial reporting. In this context, IFIAR encourages all relevant stakeholders to continue to seek understanding of how financial information is being compiled, reported and audited.

Increased use of ATTs and observations related to audit firms' commitment to developing technological resources

The use of technology can enable auditors to perform more thorough analysis of financial and non-financial data, enhance detection of patterns/anomalies and may help audit firms to establish efficiencies and consistencies within the audit workflow. Audit firms can also leverage technological resources to stay current with advancements leveraged by audited entities. Many IFIAR Members have observed a growing trend in the development of tools that can leverage advanced data analytics, robotic process automation (RPAs), advanced data visualization tools and many other tools that can support the work of auditors. IFIAR Members have noted that the audit firms have made a continuous and ongoing commitment to expand and enhance their technological resources. Audit firms should continually assess, adapt and revise their methodologies to support the development of ATTs that will enhance audit quality.

Understanding the technology used by auditors

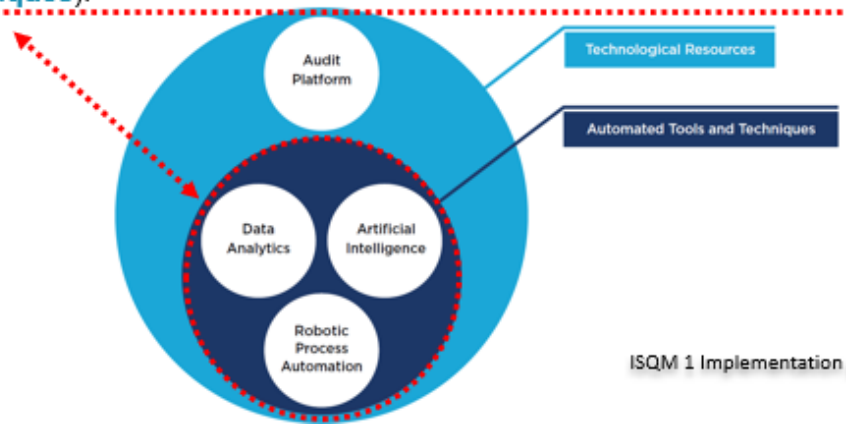
Audit firms use various technological resources, including audit platforms, intellectual resources, and ATTs. This report mainly focuses on ATTs and other technologies used to perform risk assessment procedures and other audit procedures. The following graphic illustrates the technological resources used by auditors.

Technological resources include IT applications used to perform engagements including

a. To prepare and compile engagement documentation (i.e., the **audit platform**).

b. To store the firm's **intellectual resources** (e.g., methodologies, etc.).

c. To perform risk assessment procedures and/or other audit procedures (**automated tools and techniques**).



ISQM 1 Implementation guide (p.49)

Insights from IFIAR Members

IFIAR Members are seeing an increased use of technology in the audit

The table below presents information provided by IFIAR Members as part of the annual survey, indicating how often IFIAR Members have observed the use of ATTs in different audit areas. The data shows a trend of more frequent ATT adoption in audits. For instance, in 2024, 55% of IFIAR Members reported frequent observation of the use of ATTs in risk assessment (49% in 2023) and 55% in substantive audit procedures when testing accounts such as revenues or inventory (51% in 2023).

	2023			
Areas where ATTs are used in audit files	**Number of members providing a response**	**Never observed**	**Infrequently observed**	**Frequently observed**
Journal entry testing	49	4%	10%	86%
Risk assessment	45	18%	33%	49%
Internal controls testing	45	16%	51%	33%
Substantive audit procedures	47	13%	36%	51%
IT applications / security configurations	42	31%	36%	33%

	2024			
Areas where ATTs are used in audit files	**Number of members providing a response**	**Never observed**	**Infrequently observed**	**Frequently observed**
Journal entry testing	48	6%	6%	88%
Risk assessment	47	13%	32%	55%
Internal controls testing	46	14%	43%	43%
Substantive audit procedures	47	13%	32%	55%
IT applications / security configurations	44	22%	39%	39%

Inspection findings related to technology

As the use and prevalence of technology continue to advance, it is important for audit firms, standard setters, investors, those charged with governance and other regulators to understand trends relating to common inspection findings identified by IFIAR Members. The 2024 IFIAR Inspection survey shows there continue to be findings around the appropriate use of technology, with 31% of IFIAR Members reporting findings that the ATT was not used as intended, up from 29% in 2023. IFIAR Members' most frequently identified inspection findings in both 2024 and 2023 relating to the use of technology include misinterpreting the results from ATTs and extent of testing

of outliers. In addition, IFIAR Members also continue to find a trend in the insufficient testing of IT General Controls (ITGCs).

Use of technological resources – ISQM 1 perspectives

The International Standard on Quality Management (ISQM) 1 outlines a comprehensive framework for managing quality within an audit firm. The standard mandates that each audit firm must establish policies or procedures regarding the use of the firm's technological resources to ensure that all technological resources (including AI/GenAI tools) function as intended and generate reliable outputs.

As the use of technology evolves, audit firms also must continue to manage potential impacts on audit quality. This section outlines four key factors that audit firms should consider as they develop and evaluate their technological resources within their system of quality management.

1. Evaluating and monitoring the utilization of and impact that technological resources have on audit quality

The increasing adoption of technology in auditing presents both opportunities and challenges for audit firms. As firms implement new ATTs, it is important to monitor their impact on audit quality and ensure the proper and consistent use by engagement teams.

Many IFIAR Members have observed a variety of approaches in the development of ATTs. Some audit firms focus on developing their technological resources primarily at the global level, while others adopt a combined approach involving global networks and local member firms. Additionally, some networks utilize ATTs developed by third parties.

IFIAR Members have noted varied maturity of processes and systems to effectively monitor the usage and audit quality impact of ATTs. Tracking of deployment or consideration of the audit quality impact may include manual processes that are not consistently performed. IFIAR members have observed that it is sometimes unclear whether monitoring responsibilities belong to the global network that developed the tool or the individual member firms deploying it. This unclear division of responsibilities highlights the opportunity for a more coordinated approach.

IFIAR Members encourage audit networks to establish clear global policies and guidelines within their system of quality management for monitoring globally developed ATTs to enable networks to continually assess the use and impact of these tools on audit quality. For instance, networks could evaluate how ATTs contribute to audit efficiency, consistency, and effectiveness in identifying risks or anomalies. Those policies and guidelines could also define the allocation of risks and responsibilities between the global network and each individual member firm. Networks may also benefit from conducting detailed analyses of the performance and impact of ATTs, potentially through root cause analysis or thematic reviews, to ensure that the implementation of technology aligns with the networks' audit quality objectives. Early identification of deficiencies in audit quality will also be essential to remediate identified issues before they become widespread.

Where primary responsibility for monitoring is at the local firm level, appropriate processes should be established to provide coordinated and timely feedback to global teams to highlight issues that may require adjustments to ATT functionality, training or policies, all of which may be performed by the global network.

2. Prioritize deployment of ATTs that will have the biggest impact on improving audit quality.

With the rapidly evolving technological advancements, audit firms are continuously working to innovate and develop and acquire new tools. Firms are developing numerous ATTs to serve various needs across multiple jurisdictions and industries. This has led to some firms having a significant volume of tools that can be used by local member firms and audit engagement teams, though many IFIAR Members have observed that, at present, a relatively small number of ATTs are utilized on all or most audits performed by firms in any given audit network.

IFIAR encourages firms to focus on adoption of ATTs that have the greatest impact on improving audit quality. To evaluate the impact, firms may consider:

- Impact on internal or external inspection findings.
- Improvements to the consistency in the audit workflow.
- Ability to address specific industry or jurisdictional requirements.
- Other potential benefits, such as future scalability and adaptations of the tool.

3. Governance considerations relating to the use of generative artificial intelligence in the audit.

The integration of GenAI in auditing practices is evolving with varying levels of use across audit firms. To date, most IFIAR Member inspections have observed minimal use of applications leveraging AI or GenAI in public company audits. As GenAI becomes more prevalent in auditing, regulatory frameworks will need to evolve to address new challenges and ensure the maintenance of audit quality and trust in the audit profession.

IFIAR encourages audit firms to continue to share insights with IFIAR Members on how they are mitigating risks as it relates to emerging technologies, in addition to how they can be used to improve audit quality. Audit firms need to implement robust policies, training, and monitoring programs to ensure the responsible and appropriate use of AI and GenAI-enabled tools, keeping in mind several key considerations described in item # 4, below. This process should tie into the firm's system of quality of management, and where relevant, consideration of regulatory requirements.

The deployment of GenAI into ATTs that support the audit workflow creates several risks including, among others, a decline of professional skepticism, the introduction of bias through the GenAI tools, loss of data privacy and confidentiality, as well as the potentially unethical and inappropriate use of GenAI. Firms should consider through their system of quality management, the implementation of governance frameworks that include the adoption of policies, procedures and oversight mechanisms that enable the firm to mitigate these and other risks of using GenAI.

4. Ensure that the audit firm and audit teams are in control of the technology being used and are trained and encouraged to utilize and retain responsibility for the judgements made on an audit.

AI and GenAI enabled tools can process vast amounts of data quickly but may miss context or nuances that experienced auditors can detect. Audit procedures should remain fundamentally human-led, with ATTs, particularly those with AI or GenAI, assisting but not replacing auditor decision making. This approach is essential to ensure appropriate professional skepticism is applied as professional judgement is crucial in interpreting AI or GenAI outputs especially when applying them to complex, real-world scenarios. Where audit firms identify use cases that involve AI or GenAI making judgements or decisions without human involvement, we encourage careful assessment of the acceptability and early consultation with IFIAR Members before widespread use.

Firms should also implement robust training programs to ensure auditors can effectively use and interpret the outputs of these tools. This may involve helping auditors to enhance their proficiency in technology-driven auditing techniques, critically evaluate all AI/GenAI outputs, and perform a stand-back review to assess whether the tool has achieved the overall objective. Training should also focus on how auditors can effectively identify risks and other factors that are outside of pre-trained or pre-defined patterns, ensuring that the AI/GenAI tool does not overlook specific facts and circumstances.

Supervision and oversight

IFIAR encourages audit firms to prioritize human oversight and supervision of staff when using AI and GenAI. The need for this continues to be a top priority as AI or GenAI models may not fully consider all pertinent factors in intricate audit scenarios. Auditors need to apply professional judgement to leverage context-specific knowledge that AI or GenAI might miss, exercising professional skepticism to detect potential errors or biases in the AI or GenAI outputs. This is particularly important when evaluating complex issues that AI or GenAI tends to generalize, such as complex estimates, evaluating new or unprecedented events, or interpreting subtle nuances unique to a specific entity or transaction.

Firms should also prioritize supervision training programs and consider how supervision and training may need to be adjusted as firms integrate more AI or GenAI into the audit process.

Certification

Networks and member firms should evaluate whether their processes used to certify that ATTs can be used by engagement teams adequately cover AI and GenAI-related risks and are updated as needed. This is important to ensure that all tools meet quality and reliability standards. Considerations for certification specific to these applications could include an assessment of the impact of any potential biases contained within the GenAI algorithm, the robust testing of the AI or

GenAI tool against diverse datasets and scenarios, and the development of appropriate mitigating factors for any identified weaknesses.

Networks and member firms should also evaluate the frequency of certification and whether re-certification is required when tools or underlying models are updated.

Transparency

As we remain at an early stage of use of GenAI in audits, IFIAR encourages audit firms to develop policies and practices that assist in the identification of instances where GenAI has been used in critical audit areas.

The identification of uses of GenAI in individual audits (including instances where audit evidence was originally prepared by AI or GenAI) will be helpful to highlight to more senior members of engagement teams where additional attention may be warranted. Identification of the use of GenAI will also be helpful in internal monitoring processes and external inspections performed by audit regulators.

The use of AI and GenAI in the financial reporting process

Through our ongoing discussions and activities, we have noted there is considerable variation in how AI and GenAI is used in the financial reporting process of audited entities. Over time, the use cases may extend to other financial areas, such as the forecasting, budgeting and the reconciliation of transactions to underlying documents. As AI and GenAI technology advances, its use in financial reporting could impact the reliability or accuracy of information including from external information sources used by the audited entity. Specific challenges for auditors include bias, explainability, and transparency of the evidence provided to the auditors. It is important for audit firms to address these risks and maintain ongoing communication with relevant stakeholders.