

**NON-AUTHORITATIVE SUPPORT MATERIAL RELATED TO TECHNOLOGY:
FREQUENTLY ASKED QUESTIONS (FAQ) ADDRESSING THE RISK OF
OVERRELIANCE ON TECHNOLOGY – USE OF ATT AND USE OF
INFORMATION PRODUCED BY THE ENTITY’S SYSTEMS**

This publication highlights the impact of technology when applying certain aspects of the International Standards on Auditing (ISAs) and focuses on specific considerations when using the capabilities of automated tools and techniques (ATT) and when using information produced by the entity’s systems. In particular, this FAQ considers how the auditor can address automation bias and the risk of overreliance on technology when using ATT and when using information produced by the entity’s systems.

What are ATT?

Audit procedures can be performed using a number of tools or techniques, which can be manual or automated (and often involving a combination of both). Practitioners may use various terms in practice to describe tools or techniques that are automated. For example, applying automated analytical procedures to data during risk assessment procedures or further audit procedures are sometimes referred to as data analytics.

Although the term ‘data analytics’ is sometimes used to refer to such tools and techniques, the term does not have a uniform definition or description. This term is too narrow because it does not encompass all of the emerging technologies that are being used when designing and performing audit procedures today. In addition, technologies and related audit applications will continue to evolve, such as artificial intelligence (AI) applications, robotics automation processes and others. Therefore, the IAASB uses the broader term automated tools and techniques.

Applying the ISAs: Use of ATT

In applying the ISAs, an auditor may design and perform audit procedures manually or through the use of ATT, and either technique can be effective. Regardless of the tools and techniques used, the auditor is required to comply with the ISAs.

In certain circumstances, when obtaining audit evidence, an auditor may determine that the use of ATT to perform certain audit procedures may result in more persuasive audit evidence relative to the assertion being tested. In other circumstances, performing audit procedures may be effective without the use of ATT.

Technology is ever-changing

As technology evolves and new approaches to auditing develop, the relevance of a particular ATT and its relative advantages may change.

Irrespective of whether technology is being used by the entity to provide information, or ATT are being used by the auditor to perform audit procedures, the auditor needs to be aware of certain risks. The use of technology may potentially create biases or a general risk of overreliance on the information or output of the audit procedure performed (i.e., "risk of overreliance"). This paper uses the term "overreliance" as excessively depending on ATT or an entity's system. Overreliance may take numerous forms such as not understanding an ATT being used, or assuming the outputs of an ATT, or an entity's system, are appropriate for use without further consideration. Overreliance on technology can be the cause of, or result from, a lack of professional skepticism or professional judgment. There are several actions that the auditor may consider, and actions firms may take to help the auditor, to address the biases and the risk of overreliance that the auditor may face.

1. What are examples of biases that the use of technology, by either the auditor or the entity in providing information, might create?

Unconscious auditor biases may impede the exercise of professional skepticism, and therefore the reasonableness of the professional judgments made by the engagement team in complying with the requirements of the ISAs. ISA 220 (Revised) provides examples of unconscious auditor biases.^{1, 2}

The use of technology in performing audit procedures may reduce certain auditor biases (e.g., confirmation bias, groupthink, or overconfidence bias as described in ISA 220 (Revised)). This is because technology considers only information that it is provided and, while susceptible to bias in the programming of the technology, it has none of the human psychological phenomena that may result in bias (e.g., existing beliefs, the desire to conform with groups, a desire to simplify things etc.).

However, using technology may also give rise to other auditor biases, for example automation bias. Automation bias is a tendency to favor 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. As a result, the risk of overreliance on the information or technology is increased.

Example of how technology may give rise to automation bias

As part of inventory valuation testing, the auditor obtains the actual costs for raw materials (e.g., lumber) from the entity's system to calculate the variance between actual and standard cost for the raw material inventory.

The auditor notices that the actual costs the system was providing is much higher than what the auditor had seen last year. However, the auditor recalls from the engagement team discussion that lumber prices have been decreasing.

That said, the auditor considers that, because the entity's costing system was developed specifically for the purpose of tracking actual costs of raw material inventory, and is highly automated, then the system's actual cost must be correct for purposes of determining

¹ ISA 220 (Revised), *Quality Management for an Audit of Financial Statements*, paragraph A34.

² This publication includes references to certain requirements of a recently approved standard, ISA 220 (Revised) that is not yet effective. ISA 220 (Revised) is effective for audits of financial statements beginning on or after December 15, 2022. This publication refers to ISA 220 (Revised) to provide useful information to the auditor about this upcoming standard. Compliance with this standard is not mandatory until the effective date.

the variance. Accordingly, the auditor chooses to rely on the system results rather than investigating the identified discrepancy relating to raw material costs.

2. How can firms help the auditor address automation bias and the risk of overreliance when using ATT?

Implement certain policies or procedures

Firms may have policies or procedures in place to ensure that they appropriately obtain or develop, implement, maintain and use technological resources in the performance of engagements.^{3, 4} Such policies or procedures may include addressing the following matters:⁵

- The technological resource operates as designed and achieves the purpose for which it is intended.
- The outputs of the IT application achieve the purpose for which they will be used.
- The need for specialized skills to utilize the technological resource effectively, including the training of individuals who will use the technological resource.
- The need to develop procedures that set out how the technological resource operates.

Firms may consider developing a list of technological resources for which the above policies or procedures have been applied at the firm-level. These resources may be approved for use on audit engagements, along with each resource's specific purpose. Firms may also establish policies or procedures to address circumstances when the engagement team uses a technological resource that is not approved by the firm.⁶

Example of how a firm's policies or procedures helped the auditor address the risk of overreliance

The firm requires documentation to demonstrate how a technological resource that is not centrally approved by the firm, is appropriate to use on the engagement. The documentation includes:

- How the engagement team has determined that the ATT (a technological resource) used in performing audit procedures is fit-for-purpose;
- Whether the engagement team has the appropriate competence and capabilities to use the ATT; and
- Whether the ATT used in performing the audit procedures is executing the intended task.

³ International Standard on Quality Management (ISQM) 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements*, paragraph 32(f).

⁴ This publication includes references to certain requirements of a recently approved standard, ISQM 1, that is not yet effective. ISQM 1 is effective on December 15, 2022. This publication refers to ISQM 1 to provide useful information to the auditor about this upcoming standard. Compliance with this standard is not mandatory until the effective date.

⁵ ISQM 1, paragraph A100

⁶ ISQM 1, paragraph A101

An engagement team member obtains a spreadsheet macro from a member of another engagement team to assist in valuing intangible assets. The macro has not been centrally approved by the firm; therefore, the engagement team member completes the documentation required by the firm. As the engagement team member is trying to complete the documentation, it becomes apparent that there is a lack of sufficient understanding of how the macro is determining the fair value of the intangible asset and whether the macro is fit for the intended purpose. Accordingly, the engagement team member recognizes that there may be overreliance on the macro (so that appropriate further action may be taken).

Design or tailor technological resources

Firms may consider designing or tailoring technological resources in certain ways to reduce the risk of overreliance, for example:

- In data-analysis routines, rather than simply suggesting potential risks of material misstatement, require the auditor to also answer the following: “based on your understanding, do you agree?”
- In “matching” routines (such as a 3-way-match), prompt the auditor to consider the assertions that the specific routine is intended to address.
- In a tool to calculate materiality using the entity’s financial information and the industry that the entity operates in, a resource may only ask the auditor for an explanation when changing a pre-set benchmark and percentage. Instead, consider asking the auditor to explain why the pre-set benchmark and percentage chosen was appropriate in the circumstances.
- In modelling or forecasting tools, prompt the auditor to complete a working paper of the procedures performed over the accuracy and completeness of the data.

Enhance training

Firms may consider including the following into their training:

- “Technology considerations” in training materials to illustrate that the standards apply equally whether using ATT or not; however, also highlighting special considerations in the execution of the standards when using ATT.
- The importance of professional skepticism when using ATT and being alert to automation bias.
- When and how to use certain ATT in performing audit procedures.

Build awareness and leverage behavioral motivators

Outside of training, firms may also consider methods of building awareness of possible overreliance on ATT and providing suggestions on how to address its occurrence, such as:

- Communicating, for example via guidance, the importance of professional skepticism when using ATT and the impact it has on audit quality.

- Organizing internal campaigns (to showcase various aspects of audit quality), and encouraging the auditor to participate in a commitment to increasing audit quality, including increased awareness of the implications overreliance on technology has on quality.⁷

3. How can the auditor address automation bias or risk of overreliance on the information provided by the entity which is produced by the entity's automated system?

Understanding the biases, acknowledging the possibility of biases, and recognizing causes of bias are the first steps in addressing them. Remaining alert for bias and maintaining professional skepticism when performing the audit, including critically assessing audit evidence, will help the auditor address the risk of bias when looking at information produced by the entity's automated system.

Actions that the auditor may take to address the risk of automation bias or the risk of overreliance on information produced by the entity's systems include:

- Explicitly alerting the engagement team to instances or situations when vulnerability to automation bias may be greater and emphasizing the importance of seeking advice from more experienced members of the engagement team in planning and performing audit procedures.

Example:

During engagement team discussions, senior engagement team members highlighted that the entity had implemented a new costing system to track actual costs for raw materials which the engagement team uses for inventory valuation testing. Senior engagement team members explicitly discussed how vulnerability to automation bias may be greater in this situation because the entity indicated the system was developed specifically for the purpose of tracking actual costs and has been thoroughly tested. The engagement team members were reminded about of the requirements regarding information produced by the entity in ISA 500.⁸ The senior engagement team members also emphasized the importance of seeking advice from more experienced team members.

- Involving members of the engagement team with specialized skills and knowledge or an auditor's expert to assist the engagement team with complex or subjective areas of the audit.
- Modifying the nature, timing and extent of direction, supervision or review by involving more experienced engagement team members, more in-person oversight on a more frequent basis or more in-depth reviews.
- Evaluating whether the information is sufficiently reliable, including, among other factors, obtaining audit evidence about the accuracy and completeness of the data inputs into the entity's systems (see further discussion below on ISA 500).

⁷ Research shows that personal participation in a commitment process increases the chances of fulfilling it. (Martin, Bassi and Durban Rees, *Commitments, norms and custard creams – a social influence approach to reducing did not attends (DNAs)*, Journal of the Royal Society of Medicine, March, 2012)

⁸ ISA 500, *Audit Evidence*

Furthermore, complying with ISAs also helps the auditor address the risk of automation bias and overreliance on information produced by the entity's systems, for example:

- ISA 200 requires the auditor to exercise professional judgment in planning and performing an audit, and to plan and perform an audit with professional skepticism recognizing that circumstances may exist that cause the financial statements to be materially misstated.⁹ In the context of overreliance on information produced by the entity's systems, it is important for the auditor to maintain a questioning mind and to critically assess evidence, even if it relates to information from an automated system. Furthermore, exercising professional judgment is reiterated throughout the ISAs, which reminds the auditor that professional judgment is required throughout the audit.
- Appendix 5 of ISA 315 (Revised 2019)¹⁰ provides guidance on understanding the entity's use of IT in the components of the system of internal control. Appendix 6 sets out considerations for understanding general IT controls. These appendices assist the auditor in understanding the entity's use of technology, thereby decreasing the risk of overreliance on information produced by the entity's systems while performing audit procedures.
- ISA 500 requires the auditor to consider the relevance and reliability of information to be used as audit evidence.¹¹ When using information produced by the entity, ISA 500 also requires the auditor, as necessary in the circumstances, to obtain audit evidence about the accuracy and completeness of the information and evaluate whether the information is sufficiently precise and detailed for the auditor's purposes.¹² Whether or not technology is involved, exercising professional skepticism may include consideration of the sufficiency and appropriateness of audit evidence in the light of the circumstances, which helps reduce the risk of the auditor over relying on any particular piece of information, such as information from the internet, data extracts from entity systems, system generated reports or entity-prepared dashboards and forecasts.

4. How can the auditor address automation bias and risk of overreliance when using their own ATT?

Understanding automation bias and acknowledging its possibility and causes is the first step in addressing it. Actions that the auditor may take to mitigate the risk of automation bias when using their own ATT include:

- Explicitly alerting the engagement team to instances or situations when vulnerability to automation bias may be greater.
- Emphasizing the importance of seeking advice from more experienced members of the engagement team in planning and performing audit procedures.

⁹ ISA 200, *Overall Objectives of the Independent Auditor and the Conduct of an Audit in Accordance with International Standards on Auditing*, paragraphs 15–16

¹⁰ ISA 315 (Revised 2019), *Identifying and Assessing Risks of Material Misstatement*, is effective for audits of financial statement periods beginning on or after December 15, 2021.

¹¹ ISA 500, paragraph 7

¹² ISA 500, paragraph 9

Example of seeking advice from more experienced members

The auditor of a large garden center uses an automated journal entry testing tool. The tool is programmed to analyze all journal entries, and extracts those which follow 50 common journal entry routines for the auditor to consider (e.g., journal entries made on weekends, journal entries ending in 999 etc.).

Recognizing the potential for automation bias (which in this circumstance would be running all 50 journal entry routines without consideration), the auditor seeks advice from a more experienced engagement team member. They consider which of the 50 routines are applicable to the entity (e.g., "entries made on a weekend" is not a high-risk characteristic, as sales entries are automatically posted, and the garden center is open on weekends; however, journal entries ending in 999 or 000 would be quite unusual). Furthermore, they recall that the garden center is closed in December and January, and therefore revenue entries made in those two months should be selected for journal entry testing. The auditor designs their own routine in the journal entry tool to capture those journal entries.

- Involving members of the engagement team with specialized skills and knowledge, or an auditor's expert, to assist the engagement team with complex or subjective areas of the audit.

Furthermore, complying with ISAs also helps the auditor address the risk of automation bias and overreliance on technology when using their own ATT, for example:

- ISA 220 (Revised) requires engagement partners to take responsibility for using resources appropriately.¹³ Firm policies or procedures may assist in this regard as those policies or procedures may help prevent the engagement team from inappropriately relying on the assumption that the output of ATT is always accurate or appropriate (refer to Question 2).
- ISA 330 requires the auditor to design and perform audit procedures that are responsive to assessed risks of material misstatement.¹⁴ Accordingly, the auditor may need to consider whether their responses and procedures (including the use of ATT), address the assessed risks of material misstatement, thus reducing the risk of the auditor over relying on any particular procedure.

Applying professional judgment helps the auditor address overreliance. The auditor is required to exercise professional judgment throughout the audit, for example, in determining:

- Materiality;
- Assessment of risks;
- The nature, timing and extent of audit procedures;
- Whether more work needs to be done to achieve the objectives of the ISAs;
- The evaluation of management's judgments in applying the entity's applicable financial reporting framework; and
- Reasonableness of estimates made by management in preparing the financial statements.

¹³ ISA 220 (Revised), paragraph 28

¹⁴ ISA 330, *The Auditor's Responses to Assessed Risks*, paragraphs 5–6

ATT are available to assist the auditor in the aforementioned areas. However, the auditor's professional judgment remains necessary to supplement the output of the ATT, for example:

The auditor uses a tool to calculate materiality using the entity's financial information and the industry the entity operates in. The tool applies a pre-determined benchmark based on the industry selection and pre-determined percentages given the benchmark.

Professional judgment is required in determining (or agreeing with) the tool's benchmark, and determining the appropriate percentage to apply to the benchmark because the auditor may be aware of other factors which may not have been considered by the preset benchmark and percentages used by the tool, such as the way the entity is financed or its ownership structure.

The auditor uses a tool to analyze the entity's financial information to identify material balances, irregular correlations (e.g., revenue increased but receivables decreased) and large fluctuations to identify potential risks of material misstatement.

Professional judgment is required to determine whether a risk of material misstatement exists because there may be other circumstances that the tool had not considered (such as ineffective controls or high turnover in the accounting department) which may suggest additional risks of material misstatement.

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