

## NON-AUTHORITATIVE SUPPORT MATERIAL RELATED TO TECHNOLOGY: FREQUENTLY ASKED QUESTIONS (FAQ) REGARDING THE USE OF AUTOMATED TOOLS AND TECHNIQUES IN PERFORMING AUDIT PROCEDURES

This publication highlights the impact of technology when applying certain aspects of the International Standards in Auditing (ISAs) and focuses on how an auditor may use the capabilities of automated tools and techniques (ATT). In particular, this FAQ considers:

1. Whether a procedure involving the use of ATT may serve as both a risk assessment procedure and a further audit procedure.
2. Specific considerations when using ATT in performing substantive analytical procedures, in accordance with ISA 520, *Analytical Procedures*.

### 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 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 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 the use of drones. 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 particular ATT and their relative advantages may change.

**1. Can an audit procedure involving the use of ATT serve as both a risk assessment procedure and a further audit procedure?**

An auditor may perform audit procedures as part of identifying and assessing risks of material misstatement (i.e., a risk assessment procedure<sup>1</sup>) that are also able to detect material misstatements at the assertion level, thereby meeting the definition of a substantive procedure<sup>2</sup> (i.e., a category of further audit procedure).<sup>3</sup>

Auditors may use ATT in an audit procedure to process, organize, structure, or present data in order to generate information that can be used as audit evidence. Both risk assessment procedures and further audit procedures provide audit evidence. In some instances, the auditor may use the same ATT and the same data to achieve the objective of more than one type of audit procedure.

**Risk Assessment Procedures**

ATT may be used in analyzing data to identify or assess the risks of material misstatement. This may be done through identifying inconsistencies, unexpected transactions, events, amounts, ratios and trends. ATT may provide the auditor with an opportunity to process large data sets and to also consider data from a wide variety of sources. In doing so, the auditor may obtain a deeper, more detailed understanding about the population, including the nature and extent of events or conditions that may give rise to risks of material misstatement.

**Further Audit Procedures**

In using ATT to obtain an understanding about a population when performing a risk assessment procedure(s), the auditor may use the same information to design and perform further audit procedures. An illustrative example follows showing how this may be accomplished.

**Illustrative example:**

The purpose of this example is to illustrate that audit procedures involving the use of the same ATT and the same data may serve as both a risk assessment procedure and a further audit procedure. Note that this example is not intended to illustrate other procedures that the auditor may need to perform to obtain sufficient appropriate audit evidence in responding to the assessed risks of material misstatement, given the facts and circumstances of the entity. Furthermore, it does not provide all details on the procedures described that are not relevant to the purpose of this example.

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<sup>1</sup> ISA 315 (Revised 2019), *Identifying and Assessing the Risks of Material Misstatement*, paragraph 12(j)

<sup>2</sup> ISA 330, *The Auditor's Responses to Assessed Risks*, paragraph 4(a)

<sup>3</sup> Per ISA 500, paragraph A10(b), further audit procedures comprise of:

- (i) Tests of controls, when required by the ISA or when the auditor has chosen to do so; and
- (ii) Substantive procedures, including tests of details and substantive analytical procedures.

### *Fact Pattern*

This example will focus on an entity that manufactures and sells batteries. For purposes of this example, assume the following:

### *Assumptions about the entity*

- The processing and recording of sales transactions are highly automated;
- All transactions processed within revenue (i.e., the significant class of transactions) were subject to the same entity processes and controls;
- Revenue is recognized when control transfers at free on board shipping point;
- Invoicing occurs the day the product ships from the entity's warehouse;
- Warehouse personnel typically do not work weekends;
- Payment is due at the end of 30 days from the invoice date.

### *Assumptions about the audit*

- Revenue was determined to be a significant class of transactions during initial planning and scoping, and the auditor obtained an understanding of the flow of revenue transactions;
- The relevant assertions are occurrence, accuracy and cut-off;
- Revenue recognition is a presumed fraud risk, the fraud risk is not rebutted and therefore the auditor has determined that occurrence, accuracy, and cut-off of revenue are also significant risks;
- This audit procedure is intended to address the occurrence and accuracy assertions;
- Based on the understanding of controls, the auditor has concluded that, for the purpose of this audit procedure, the relevant controls over the risks of material misstatement at the assertion level were effectively designed and have been implemented;
- The auditor tested the relevant controls and determined they are operating effectively;
- The auditor is satisfied the entity has appropriately applied the requirements of the applicable financial reporting framework and that the revenue recognition criteria are appropriate;
- The full population of relevant revenue data was extracted from the entity's system;
- The data fields used in this procedure (e.g., dates, quantities, product codes), are determined to be relevant and the data sufficiently reliable for the auditor's purposes and have been tested for completeness and accuracy;
- Although not illustrated, the auditor separately performs procedures to address the cut-off assertion, as well as specific procedures to address fraud risk at the relevant assertion level. The auditor also separately performed testing over cash and receivables.

All items that are determined to be high value were selected for testing via a separate substantive procedure and are excluded from this procedure. The remaining population that is subject to this procedure is comprised of routine, non-complex transactions.

### *Description of the audit procedure involving ATT*

The procedure was performed 45 days after year end. The population of transactions (i.e., each sale transaction) was subjected to an ATT procedure which analyzed all transactions and placed them into two groups.

## FAQ: The Use of ATT in Performing Audit Procedures

Transactions which do not meet one or more of the following criteria were placed into one group (“Group A”) (i.e., expectations which the auditor determined to detect misstatements should the expectations not be met):

Criteria	Relevant assertion being tested
Transaction date did not occur on the weekend	Occurrence
Transaction date and shipping date match	Occurrence
Invoice date and shipping date match	Occurrence
Quantities and product codes on invoice and shipping document match	Accuracy
Total sale on invoice and cash receipt match	Occurrence and Accuracy

All other transactions which met all of the above criteria were placed into a second group (“Group B”).

*What types of audit evidence have been obtained from this ATT procedure?*

Output of the ATT procedure	Evidence obtained
Group A	<p>Transactions grouped into Group A were transactions that were unusual or unexpected based on the expected fact pattern.</p> <p style="text-align: center;"><i>For example, the auditor would not have expected transactions on the weekend, because warehouse personnel typically do not work weekends.</i></p> <p>In investigating the transactions in Group A, the auditor may gain a deeper understanding about the revenue process, and take this into account as part of the ongoing and iterative risk assessment process.</p> <p style="text-align: center;"><i>For example, the auditor learns that certain customers request the entity to invoice them in advance, but hold the inventory until they are ready to accept (i.e., a bill and hold arrangement).</i></p> <p>While revenue was determined to be a significant class of transactions during initial planning and scoping, the ATT procedure further informed the auditor’s risk assessment of transactions placed into Group A. In context of the occurrence and accuracy assertions, transactions in this group are assessed as having a higher risk of material misstatement.</p> <p>The procedures performed using ATT do not provide sufficiently persuasive audit evidence for Group A, rather it further informs the auditor’s risk assessment. The auditor would perform substantive procedures to obtain more persuasive audit evidence for the items in Group A.</p>

Group B	<p>Transactions grouped into Group B were transactions that did not exhibit unusual or unexpected characteristics (i.e., they met all expectations).</p> <p>Separate and apart from informing the auditor's risk assessment in relation to Group A, above, the ATT procedure was designed to be a substantive procedure for purposes of Group B, by:</p> <ul style="list-style-type: none"><li>• Considering the suitability of the procedure, and determining that the procedure is suitable for the occurrence and accuracy assertions;</li><li>• Testing the reliability of the data and determining that the data is reliable; and</li><li>• Establishing the criteria (based on the entity's fact pattern) at a sufficiently precise level to detect a material misstatement at the assertion level.</li></ul> <p>Given the assumptions about the audit, the results of other audit procedures performed throughout the audit would be evaluated for contradictory information regarding the assessed risk of material misstatement.</p>
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**Key Points**

The example demonstrates the principle that this procedure involving ATT is able to determine transactions which are within expectations and those which fall outside of expectations, and the evidence that is obtained in either case.

For the group of transactions which fall outside of expectations, the procedure provides the auditor with additional information to identify and assess risks of material misstatement at the assertion level and is therefore a risk assessment procedure.

The example also demonstrates that if the procedure is designed to detect material misstatement at the assertion level, it is a substantive procedure. While the example allows for zero tolerance (i.e., "match" versus "does not match"), the criteria may be adjusted for a level of tolerable difference, so long as the procedure is designed to detect material misstatement at the assertion level.

**2. What are specific considerations when using ATT in designing and performing substantive analytical procedures in accordance with ISA 520<sup>4</sup>?**

The application of substantive analytical procedures (SAP) is generally more applicable to large volumes of transactions that tend to be predictable over time.<sup>5</sup> The evolution of technology, coupled with the increase in number and variety of sources of data, may create more opportunities for the auditor to use ATT in performing SAP. In applying the requirements of ISA 520 relating to the design and performance of SAP, there are certain considerations specific to using ATT.

<sup>4</sup> ISA 520, paragraph 5

<sup>5</sup> ISA 520, paragraph A6

### Evaluating the reliability of data when using ATT

Reliability of data is important because data is the basis upon which an analytical procedure is designed and performed. The reliability of data is influenced by its source and nature and is dependent on the circumstances under which it is obtained.<sup>6</sup> With the evolution of technology, there is countless information available (e.g., social media, open data), and some are more reliable than others. The use of ATT (sometimes referred to as audit data analytics) to perform SAP allows the auditor to incorporate information from more sources both internal and external to the entity and also to use much greater volumes of data in the analyses. Nonetheless, the auditor's responsibility for addressing the reliability of data used in SAP<sup>7</sup> is unchanged.

### Evaluating precision of the expectation when using ATT

In performing SAP, auditors develop an expectation that is sufficiently precise to identify a misstatement that, individually or when aggregated with other misstatements, may cause the financial statements to be materially misstated.<sup>8</sup> The use of ATT in performing SAP may enable auditors to develop an expectation to identify a misstatement that is more precise than otherwise, due to, for example:

- The use of ATT may allow various attributes (i.e., data fields) of transactions comprising an entire population to be extracted and analyzed at a more detailed level;
- The ability of ATT to disaggregate data to the transaction and attribute level (i.e., "drilling down" into specific data fields); and
- The ability of ATT to visualize data in a dynamic manner, enabling auditors to identify various or more relationships among data to possibly develop a more precise expectation.

### Other considerations in applying the requirements of ISA 520

Whether or not ATT is used to perform a SAP, it remains important to understand the assertions being tested including the reasons for the assessment given to the risks of material misstatement at the assertion level, because auditors are required to determine the suitability of particular SAP for given assertions.<sup>9</sup>

While using ATT may enable the auditor to develop a more precise expectation(s), the acceptable difference of recorded amounts from expected values<sup>10</sup> is the same regardless of how SAP are performed.

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<sup>6</sup> ISA 520, paragraph A12

<sup>7</sup> ISA 520, paragraph 5(b)

<sup>8</sup> ISA 520, paragraph 5(c)

<sup>9</sup> ISA 520, paragraph 5(a)

<sup>10</sup> ISA 520, paragraph 5(d)

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