IAASB

NON-AUTHORITATIVE SUPPORT MATERIAL RELATED TO TECHNOLOGY: FREQUENTLY ASKED QUESTIONS (FAQ) ON INVESTIGATING EXCEPTIONS AND RELEVANCE OF PERFORMANCE MATERIALITY WHEN USING ATT

This publication addresses certain frequently asked questions about investigating exceptions and the concept of performance materiality when performing audit procedures using Automated Tools & Techniques (ATT). While not unique to ATT, questions on these topics have become more prevalent with the increasing use of ATT which enable analyzing data sets with large volumes of information.

The ATT referred to in this publication assume a certain functionality, operation, and output in its use to perform audit procedures, which may not be relevant for all ATT (e.g., in the case of more complex or advanced technologies than those anticipated in this publication).

What are ATT?

Audit procedures can be performed using a number of tools or techniques, which can be manual or automated (and often involve 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, robotic automation processes and others. Therefore, the IAASB uses the broader term 'automated tools and techniques'.

Applying the ISAs: Use of ATT

In applying the International Standards on Auditing (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.

Auditors may use ATT to perform risk assessment procedures, when designing and performing further audit procedures or when forming an overall conclusion at the end of an audit, for example:

- ATT can assist the auditor in obtaining an understanding of an entity's business and transactions including gaining insights on data or information, such as the characteristics or composition of a population. This understanding may help identify events or conditions that affect the susceptibility to misstatement of a class of transactions, account balance or disclosure at the assertion level, or provide more information for supporting the basis for the auditor's assessment of the identified risks.[1]
- Auditors may use ATT to perform further audit procedures, as either a substantive procedure designed to detect material misstatements at the assertion level, or a test of controls, designed to evaluate the operating effectiveness of controls in preventing, or detecting and correcting material misstatements at the assertion level.[2]

The purpose of the audit procedure(s) being performed using an ATT affects how the results are evaluated as further demonstrated in the frequently asked questions below.

1. When performing further audit procedures using ATT, is the auditor required to further investigate all exceptions identified, or are there circumstances when it may be appropriate to only further investigate a selection of the exceptions identified?

When performing further audit procedures, the auditor may use ATT to perform tests of controls (to evaluate the operating effectiveness of identified controls) or substantive procedures (to detect material misstatements at the assertion level).

Often, an ATT requires the auditor to develop an expectation for the population on which that ATT will be applied, including what would constitute items that are indicative or items that are not indicative of a control deviation(s) or a misstatement(s), in line with the purpose of the further audit procedure. Such expectation is based on the auditor's understanding of the entity and its environment, and their understanding of the class of transactions, account balance or disclosure being addressed.

After the auditor has set an expectation for the population the application of an ATT may broadly produce a result which matches, or which does not match the auditor's expectation for the population, with a number of items to investigate.

When the result of the ATT matches the auditor's expectation for the population, those items that are indicative of a control deviation(s) (for a test of controls) or a misstatement(s) (for a substantive procedure) are referred to in this FAQ as "exceptions":

- Exceptions are further investigated by the auditor to determine whether a control deviation or a misstatement exists. When investigating exceptions, it may be appropriate to perform further testing on a sample of exceptions when there is a reasonable basis on which to draw conclusions about the entire population of exceptions (see the diagram below, Note 3).

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[1] IAASB Non-authoritative Support Material Related to Technology: *Frequently asked questions – Use of Automated Tools and Techniques When Performing Risk Assessment Procedures in Accordance with ISA 315 (Revised 2019)*

[2] ISA 330, *The Auditor's Responses to Assessed Risks,* paragraph 4(a)

- Non-exceptions, i.e., those items that are not indicative of a control deviation(s) or a misstatement(s), do not warrant further investigation in regard to the result of the ATT. However, the auditor still needs to obtain sufficient appropriate audit evidence about the population, comprising both exceptions (to be further investigated) and non-exceptions. The auditor's exercise of professional skepticism would include, for example, being alert to the possibility of false positives in the result of the ATT. For the non-exceptions, the auditor may leverage testing performed elsewhere in the audit or may plan to perform procedures separate from the ATT in order to obtain sufficient appropriate audit evidence as required by the ISAs.

Alternatively, when the result of the ATT does not match the auditor's expectation for the population, the auditor may not yet be in a position to respond to either exceptions or non-exceptions. Rather, refinement of the ATT may be necessary because of design factors that were inappropriately defined or to adjust or narrow the parameters to further analyze the items identified by the ATT.

For ease of reference, when an ATT is used to perform a further audit procedure(s), this FAQ uses "outliers" to refer to items that do not match the auditor's expectation for the population but need to be further analyzed to determine whether they are exceptions or non-exceptions.

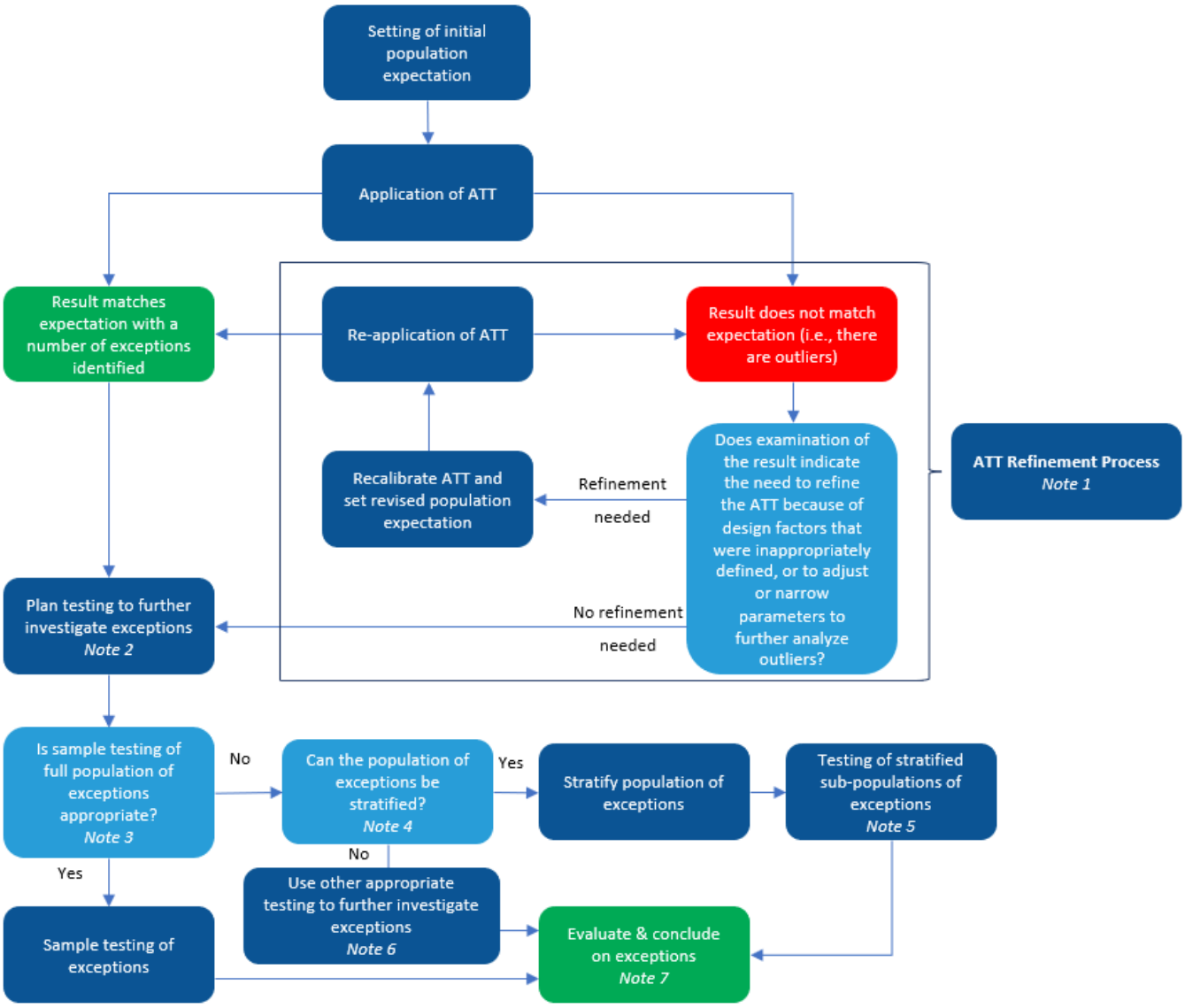
Different terminology may be used to describe items that result from the application of an ATT to a population. For example, the UK FRC uses "outliers" to describe results that do not match the auditor's initial expectation for the population, moving to describe them as "exceptions" when the auditor has analyzed the outliers and determined that they are "truly exceptions" and not generated as a result of inappropriate tool scoping, poorly defined initial parameters, or the use of poor-quality data.[3] Other terms used include "notable items"[4] and "items of audit interest".[5]

[3] United Kingdom Financial Reporting Council (FRC), *Addressing Exceptions in the use of Audit Data Analytics*

[4] American Institute of Certified Public Accountants (AICPA), *Guide to Audit Data Analytics*

[5] Canadian Public Accountability Board (CPAB), *Technology in the Audit*

The following diagram provides an overview of steps that may be relevant in addressing exceptions when performing an ATT that is used as a further audit procedure:



Note 1

When the result of the ATT does not match the auditor's expectation, the auditor may examine the result to determine if this is because of design factors that were inappropriately defined, or the expectation being inappropriately set. This may result from, for example, the auditor not understanding the entity and its environment fully, or not understanding the population. If this is the case, the test may be refined and the ATT re-applied (after updating the auditor's understanding, as appropriate).

When refining the design of the ATT, considerations may include:

- Applying the auditor's understanding of the entity and its environment to determine if the results can be explained and parameters refined, in order to identify items that warrant further investigation as exceptions.
- Discussion with management, similar to discussions held when the auditor is refining an expectation when undertaking substantive analytical procedures in accordance with ISA 520[6], to understand the underlying data and potential relationships better.
- Re-examination of the underlying data to understand if the data is of sufficient quality to be useful in the audit process.

The auditor may determine that the design factors were appropriately defined but that certain parameters need to be refined (i.e., adjusted or narrowed) to further analyze outliers to determine whether they are exceptions or non-exceptions.[7]

The presence of an item(s) that appears unusual or does not meet the auditor's initial expectation, may be indicative of a potential misstatement in the financial statements. When refining the parameters of an ATT after initial application, the following are not appropriate reasons for revising the auditor's expectation.

- Adjusting parameters to artificially reduce the volume of work required. Where an auditor does not have enough time to properly investigate the results generated, they should revise the audit plan in order to ensure they have the time and resources necessary to perform the engagement.
- Adjusting parameters to generate the same number of exceptions as in the prior period. The understanding of the entity and its environment obtained in prior periods may help the auditor in developing expectations, but the design and evaluation of further audit procedures is based on the auditor's understanding of the entity in the current period.
- Adjusting parameters to reduce the number of exceptions when the data input is known to be of poor quality. In this case, the poor-quality data should be addressed before the ATT is applied.

Stratification of the population may be appropriate when data with certain characteristics is found inappropriate for the use of an ATT. For example, if a mid-year system change or integration resulted in issues with data quality for some months, those periods may be separated and tested using a different approach.

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6 ISA 520 *Analytical Procedures*, paragraph A5 and A12

7 The auditor should also be mindful of the auditor's obligation to comply with the principles of integrity, objectivity, professional competence and due care, and professional behavior in accordance with relevant ethical requirements, for example, as set out in the International Ethics Standards Board for Accountants (IESBA) *International Code of Ethics for Professional Accountants (including International Independence Standards)*

Note 2

When the result of the ATT matches the auditor's expectation, there may be items in the population that are considered to be exceptions (items that are indicative of a control deviation(s) (for a test of controls) or a misstatement(s) (for a substantive procedure)). It is appropriate to further investigate the population of exceptions to determine whether a control deviation(s) or a misstatement(s) exists.

Note 3

It may be appropriate to perform further testing on a sample of items when there is a reasonable basis on which to draw conclusions about the entire population of exceptions. When sampling is applied, it is important that the auditor selects a representative sample, so that bias is avoided, by choosing sample items which have characteristics typical of the population (which may be achieved with or without stratification of the population).[8]

Note 4

When the population of exceptions is not homogeneous, the auditor may consider whether the population of exceptions can be stratified into homogeneous sub-populations for the purposes of testing the exceptions.[9] The likelihood of selecting a representative sample is enhanced when the sub-populations are homogeneous. Stratification may reduce sampling risk as contemplated in ISA 530 by focusing testing on more homogeneous sub-populations of exceptions.[10]

Note 5

When stratifying the population of exceptions into homogeneous sub-populations, auditors may wish to consider the following characteristics:

- Monetary value[11] – auditors may wish to stratify by the monetary value of the exceptions, allowing greater focus on larger value items which may be more likely to lead to a material misstatement.
- Qualitative characteristics[11] – in addition to quantitative measures by which to stratify the population of exceptions, auditors may wish to consider if any particular qualitative characteristic may be used to stratify a population. For example, on examination of the population of exceptions, the auditor may discover that a large number occurred on a certain date, and in this instance stratifying by date may allow for more meaningful analysis.

It may be appropriate to perform further testing on a sample of items within a sub-population when there is a reasonable basis on which to draw conclusions about that sub-population of exceptions.

Note 6

The auditor may perform further testing on 100% of the full population of exceptions. Alternatively, where appropriate, the auditor may perform alternative procedures on the original entire population of items on which the ATT was applied, or on the class of transactions, account balance or disclosure, to obtain sufficient appropriate audit evidence.

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8 ISA 530, *Audit Sampling*, paragraphs 4, 6, 8, A8 and A12

9 ISA 530, paragraph A8 and Appendix 1

10 ISA 530, paragraphs A8 and Appendix 1, paragraph 1

11 ISA 530, Appendix 1, paragraph 2

Note 7

The auditor evaluates the results of the testing of the exceptions, whether by sampling or other means, to meet the purpose of the audit procedure, including determining whether a control deviation(s) or a misstatement(s) exist. When the auditor is unable to come to a conclusion in this regard, the auditor may, for example, perform additional or alternative procedures on the original entire population of items on which the ATT was applied, or on the class of transactions, account balance or disclosure, to obtain sufficient appropriate audit evidence.

2. When using ATT in performing risk assessment procedures or when forming an overall conclusion, is the auditor required to further investigate all unusual items identified?

Risk Assessment Procedures

When designing an ATT to be used as a risk assessment procedure, the auditor may consider what would constitute an unusual result, by establishing parameters to define a boundary or set of expected characteristics based on the auditor's initial understanding of the population.

If an unusual result is identified, further investigation would generally be appropriate. The auditor could perform further investigation, for example through inquiry and corroboration, to determine how the item might affect the risk assessment of the population (e.g., through the identification of a new risk of material misstatement or the revision of an assessed risk of material misstatement). The auditor may also consider how the results of the ATT may affect the design of other risk assessment procedures and further audit procedures. Where investigation concludes that the original procedure design, population or parameters were not appropriate, the ATT may also be refined and reperformed.

As a risk assessment procedure is not intended to detect individual misstatements or deviations, the auditor may not need to investigate every unusual item in order to meet the purpose of the ATT.

An example of an ATT performed as a risk assessment procedure

An example of an ATT that may be performed as a risk assessment procedure is a visualization of monthly sales, by category of key product lines, compared to the prior period. The procedure may identify items that do not meet the auditor's expectation, for instance particular months and product lines where the sales are higher than the auditor expected based on their initial understanding of the entity and its environment.

The auditor may perform inquiries and other procedures to understand the results of the procedure. For instance, the auditor may perform inquiries with the sales director and learn that a new bonus plan that incentivized sales for certain lines was introduced during the year. The auditor may inspect the bonus plan and compare against the months and product lines that were identified as unusual.

This information may then lead the auditor to determine that there is an increased risk of fictitious sales after the new bonus plan was introduced. This information may also help the auditor to plan the nature, timing and extent of the further audit procedures for sales.

When Forming an Overall Conclusion

ATT may be designed and performed near the end of the audit to assist the auditor when forming an overall conclusion as to whether the financial statements are consistent with the auditor's

understanding of the entity. These procedures are intended to assist the auditor to draw reasonable conclusions on which to base the auditor's opinion[12].

As such procedures are not intended to detect individual misstatements or deviations, the auditor may not need to investigate every unusual item in order to meet the purpose of the ATT. However, the results may identify a previously unrecognized risk of material misstatement. In such circumstances, ISA 315 (Revised 2019) requires the auditor to revise the auditor's assessment of the risks of material misstatement and modify the further planned audit procedures accordingly.[13]

3. Does the concept of performance materiality still apply when an auditor performs an audit procedure using an ATT on an entire population?

Yes, performance materiality still applies. Even when the auditor performs an audit procedure using an ATT on an entire population (e.g., all the items of an account balance) there is still the need to address the risk of possible uncorrected or undetected misstatements for all relevant assertions of that account balance and for the financial statements as a whole.

As explained in ISA 320[14], planning the audit solely to detect individually material misstatements overlooks the fact that the aggregate of individually immaterial misstatements may cause the financial statements to be materially misstated, and leaves no margin for possible undetected misstatements.[15] When considering the financial statements as a whole, performance materiality is designed to reduce the risk that the aggregate of uncorrected and undetected misstatements in the financial statements exceeds materiality. Similarly, performance materiality relating to a materiality level determined for a particular class of transactions, account balance or disclosure is set to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements in that particular class of transactions, account balance or disclosure exceeds the materiality level for that particular class of transactions, account balance or disclosure.[14]

Although an ATT applied on an "entire population" of a class of transactions, account balance or disclosure may be a very effective procedure, it does not eliminate the need to determine performance materiality. This is because further audit procedures should be responsive to the assessed risks of material misstatement at the assertion level for all relevant assertions of all significant classes of transactions, account balances and disclosures. Therefore, the risk of uncorrected and undetected misstatements that in aggregate may be material remains because of factors such as:

- The ATT may not be designed to detect material misstatements at the assertion level. For instance, it may be an ATT that is designed as a risk assessment procedure (e.g., an ATT designed to organize or analyze the population for insights, unusual trends or to identify items for substantive testing).[16]

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12 ISA 520, paragraphs 6 and A17

13 ISA 520, paragraph A18.

14 ISA 320, *Materiality in Planning and Performing an Audit*

15 ISA 320, paragraph A13

16 The IAASB has issued *Non-authoritative Support Material Related to Technology: Frequently asked questions regarding the use of automated tools and techniques in Performing Audit Procedures,* to assist auditors in understanding whether a procedure may be both a risk assessment procedure and a further audit procedure.

- The ATT may not be designed to address all relevant assertions of the particular class of transactions, account balance or disclosure. For example, the ATT may be performed on a recorded or "known" population but may not be designed to address completeness of that population.
- The ATT may not be designed to address all assessed risks of material misstatements whether due to fraud or error, including at the financial statement level. For example, a procedure may not address the risk of management override of controls and other risks relating to fraud.
- The ATT may not be performed on the entire set of data representing the population. For example, prior to the procedure being performed the data may have been organized or "cleansed", resulting in the removal or modification of data considered erroneous or irrelevant.
- Other limitations relating to the design or performance of the procedure that affect detection risk[17] (e.g., an incomplete understanding of the population, inappropriate assignment of personnel, inadequate supervision or review, poor execution or misinterpretation of results).

[17] ISA 200, *Overall* Objectives *of the Independent Auditor and the Conduct of an Audit in Accordance with International Standards on Auditing,* paragraph 13 defines "detection risk" as the risk that the procedures performed to reduce audit risk to an acceptably low level will not detect a misstatement that exists.

About the IAASB

The objective of the IAASB is to serve the public interest by setting high-quality auditing, assurance, and other related standards and by facilitating the convergence of international and national auditing and assurance standards, thereby enhancing the quality and consistency of practice throughout the world and strengthening public confidence in the global auditing and assurance profession.

The IAASB develops auditing and assurance standards and guidance for use by all professional accountants under a shared standard-setting process involving the Public Interest Oversight Board, which oversees the activities of the IAASB, and the IAASB Consultative Advisory Group, which provides public interest input into the development of the standards and guidance.

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