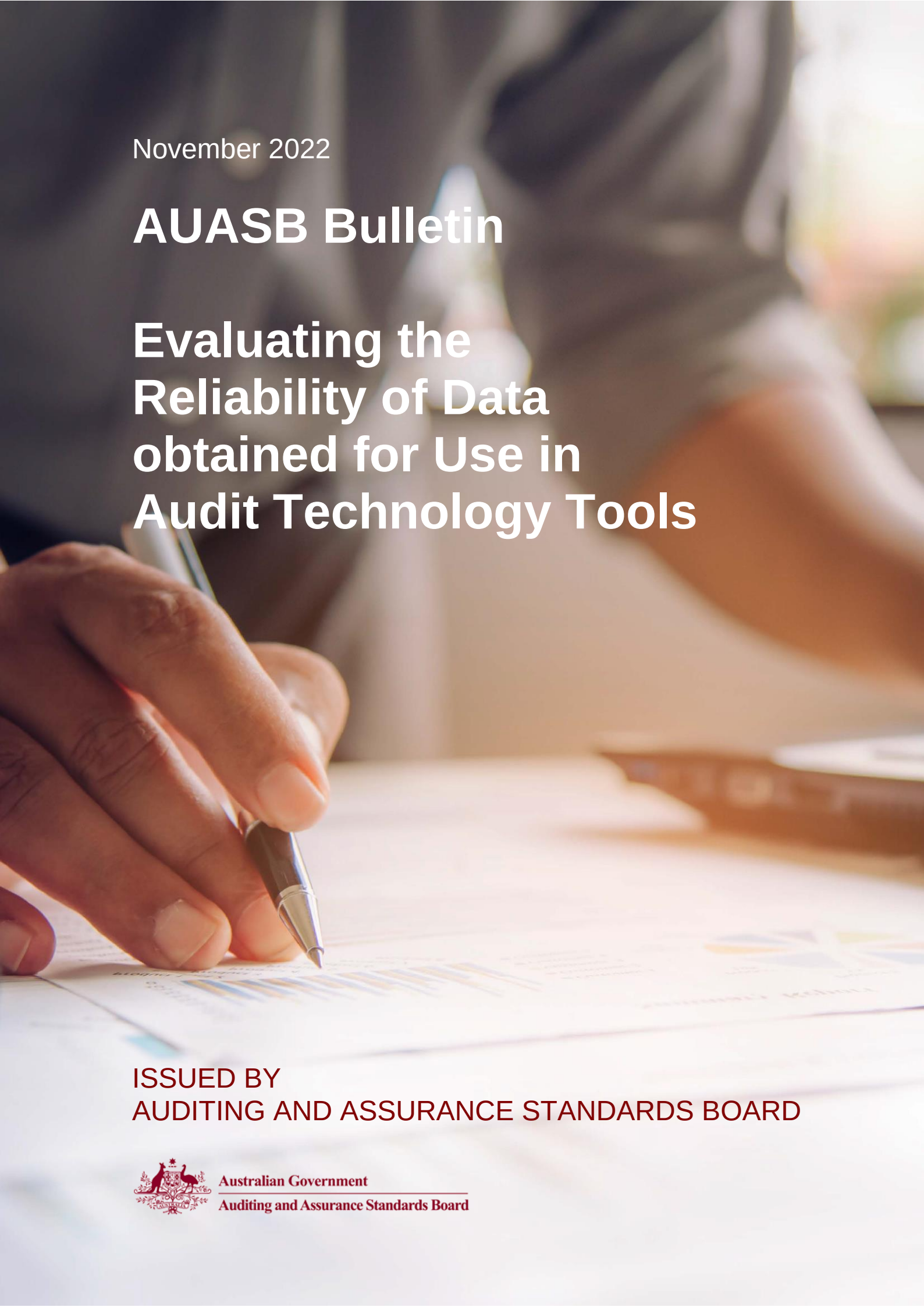

November 2022

AUASB Bulletin

Evaluating the Reliability of Data obtained for Use in Audit Technology Tools

ISSUED BY
AUDITING AND ASSURANCE STANDARDS BOARD

Australian Government
Auditing and Assurance Standards Board

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The Auditing and Assurance Standards Board (AUASB) is an independent, Non-corporate Commonwealth entity of the Australian Government, responsible for developing, issuing and maintaining auditing and assurance standards.

Sound public interest-oriented auditing and assurance standards are necessary to reinforce the credibility of the auditing and assurance processes for those who use financial and other information. The AUASB standards are legally enforceable for audits ore reviews of financial reports required under the *Corporations Act 2001*. For more information about the AUASB see the AUASB Website.

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Introduction and purpose

In the audit of a financial report, the relevance and reliability of the data to be used as audit evidence is fundamental to the auditor being able to obtain sufficient and appropriate audit evidence to support the auditor's conclusion[1].

The ways in which the underlying accounting records and other relevant client data is being accessed and used by auditors has expanded beyond what was initially envisioned in the auditing standards, as technology enables the capture, storage and analyse of data more efficiently and effectively.

Recent ASIC Audit Inspection reports raise insufficient testing of the reliability of data used in testing several times across several audit areas.

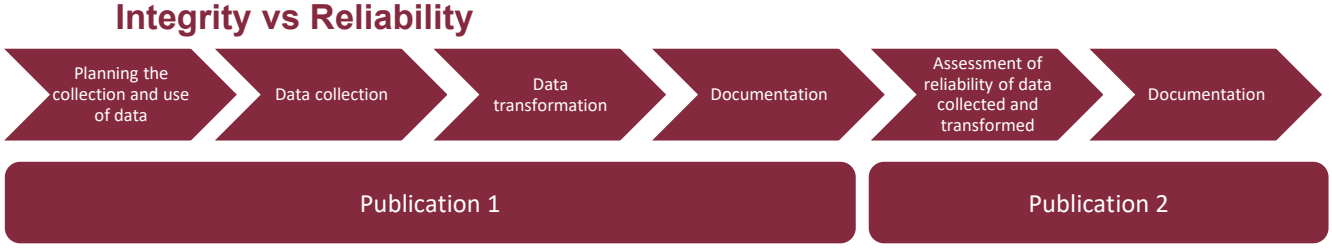
A key area of focus for regulators and standard-setters is unwarranted reliance on the outputs of technology. In the context of an audit, this can broken down into two elements:

- Unwarranted reliance on the inputs into an audit technology tool; and
- Unwarranted reliance on the audit technology tool itself.

In response to the first point above relating to inputs into audit technology tools, the AUASB has released two publications. The first publication which we released in August 2021 Integrity of Data Obtained for the Purpose of an Audit of a Financial Report is focussed on maintaining the integrity of data and addresses matters related to the collection[2] and transformation of data by the auditor before it is used in audit technology tools. This second publication is focussed on evaluating the reliability of data collected by the auditor for use in an audit technology tool[3] and the reliability of the evidence it provides. (See figure 1 below).

The impact of any unwarranted reliance on audit technology tools and techniques is dealt with separately in an IAASB publication Addressing Risk of Overreliance on Technology Arising from the Use of Automated Tools and Techniques from Information Produced by an Entity's Systems, which is available via the IAASB and AUASB Websites.

Figure 1



Whilst the terms integrity and reliability are often used interchangeably, for the purposes of the AUASB publications they have been split into two separate but interlinked concepts.

Integrity refers to the accuracy with which data has been extracted from the identified source, transferred to the auditor and transformed into an appropriate format for the auditor to use

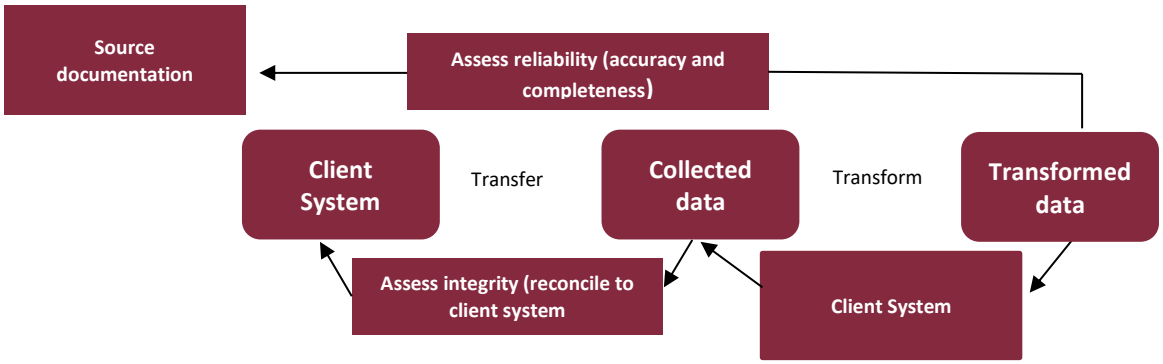
1 See ASA 500 *Audit Evidence* paragraph 7.
2 Collection is the extraction of data and transfer of the data to the auditor
3 The "audit technology tool" is used in this publication to refer specifically to technological resources that are used directly by the engagement team in the performance of engagements.

- Reliability links with reliability in ASA 500 *Audit Evidence*. In order for the auditor to obtain appropriate audit evidence, ASA 500 requires auditors to obtain audit evidence about inter alia the reliability of information (in particular its accuracy and completeness) to be used as audit evidence.

This distinction has been made as data can have integrity (it reconciles with where it was collected from) but not reliability (for example insufficient evidence has been obtained over the accuracy and completeness of information).

Example: Integrity vs Reliability

Figure 2



An auditor has extracted data from their client's inventory system to perform procedures related to the accuracy, valuation and allocation of the inventory account balance and related disclosures. The data extracted, transferred, and stored by the auditor has been reconciled to the client's system with no errors. The auditor concludes that the information collected has maintained its integrity from the client's system.

The auditor intends to perform procedures to assess the obsolescence of inventory using the aging of inventory. To determine the reliability of the data to be used as audit evidence, the auditor selects a sample and tests the accuracy and completeness of the purchase date column of the extracted data set. The auditor identifies from the sample tested that a certain number do not agree with the source documentation. Therefore, there are questions about the reliability of the data for the auditor's purposes.

The aim of this publication is to provide examples and considerations relevant to the auditor's evaluation of the reliability of data where an audit technology tool is used in an audit engagement. This publication may be useful for evaluating the reliability of information to be used as audit evidence in accordance with the ASAs in situations other than for use in an audit technology tool.

AUASB Bulletin *Integrity of data obtained for the purpose of an audit of a financial report* outlined several important considerations related to the use of data in an audit of a financial report which are still relevant for this second publication.

Whilst each publication can be read and understood on its own, as maintaining integrity and evaluating reliability are interconnected in the use of data in an audit, it is important that they are not considered in isolation.

This is particularly critical where different members of the engagement team, at different points in the engagement, perform procedures related to either maintaining integrity or evaluating reliability. Having an overall understanding and oversight of the procedures related to both integrity and reliability of data have been performed and that those procedures are appropriate in the circumstances of the

engagement is an important role for the senior members of an engagement team including the engagement partner.

At the time of this publication being finalised the IAASB is in the process of revising ISA 500 *Audit Evidence* to modernise the standard and respond to challenges created through the use of technology by auditors and clients. This publication will be updated when an updated version of the Audit Evidence standard has been approved and issued by the AUASB.

Reliability of Data to be Used as Audit Evidence in the Context of the ASAs

To be able to obtain sufficient appropriate audit evidence, the auditor obtains data, evaluates that is suitably reliable for the auditor's purposes and performs audit procedures on the data to obtain audit evidence.

ASA 500 contains three requirements addressing reliability of data to be used as audit evidence, these are paragraph 7, an overarching requirement that applies to all sources, paragraph 8 which applies to data prepared using the work of a management's expert and paragraph 9, applying specifically to data produced by the entity (internal data).

ASA 500.7

When designing and performing audit procedures, the auditor shall consider the relevance and reliability of the information to be used as audit evidence, including information obtained from an external information source. (Ref: Para. A30-A44)

ASA 500.8

If information to be used as audit evidence has been prepared using the work of a management's expert, the auditor shall, to the extent necessary, having regard to the significance of that expert's work for the auditor's purposes: (Ref: Para. A45-A47)

(a) Evaluate the competence, capabilities and objectivity of that expert; (Ref: Para. A48-A54) Obtain an understanding of the work of that expert; and (Ref: Para. A55-A58)

(b) Evaluate the appropriateness of that expert's work as audit evidence for the relevant assertion. (Ref: Para. A59)

ASA 500.9

When using information produced by the entity, the auditor shall evaluate whether the information is sufficiently reliable for the auditor's purposes, including as necessary in the circumstances:

(a) Obtaining audit evidence about the accuracy and completeness of the information; and (Ref: Para. A60-A61)

(b) Evaluating whether the information is sufficiently precise and detailed for the auditor's purposes. (Ref: Para. A62)

The focus of this publication is on paragraphs 7 and 9. Paragraph 8 is addressed in GS 005 *Evaluating the Appropriateness of a Management's Expert's Work*.

Factors that influence the reliability of data

ASA 500 outlines that the reliability of data is influenced by:

- the source and nature of the data;
- the circumstances under which it is obtained; and
- the controls over its preparation and maintenance, where relevant[4].

In the context of the ASAs, accuracy and completeness are the primary, but not sole attributes of reliability. Other attributes of reliability such as bias, authenticity and timeliness become relevant in different circumstances and may change depending on the nature of the data and the auditor's needs. The table below provides further information about each of these areas and how they may impact on the auditor's evaluation of reliability.

Factor	Description	Impact
Source and nature of the data	The nature and extent of the auditor's work to evaluate reliability is influenced by the nature and source of the data to be used as audit evidence. Different sources and different types of data will require different approaches to evaluating reliability, for example, external data from a recognised stock exchange is generally more reliable than an internal valuation made by an entity's directors.	ASA 500 generalises that data from an external source is considered more reliable than data from an internal source. However, even when data from an external source is used, the data may not be reliable. For example, the auditor may consider the reliability of data from an industry index, particularly where that index is not widely used or is publicly available. The nature of data is also important. Where data is simple, the extent of testing to evaluate reliability may be less than where the data is complex. Where the auditor is unable to understand the data, it may be difficult for the auditor to conclude that they have evaluated the reliability of the data sufficiently. In some cases, where data is extremely complex, the auditor may be required to use an expert to assist them in evaluating the reliability of the data.

[4] ASA 500, A9 and A35

Factor	Description	Impact
Circumstances under which data is obtained	The way in which data is obtained may also affect the nature and extent of the auditor's evaluation of reliability. Audit evidence is primarily obtained from audit procedures performed during the course of the audit but may also include data obtained from other sources such as previous audits[5].	The circumstances under which data is obtained can impact on the nature and extent of the auditor's evaluation of reliability. Data not obtained directly by the auditor may require more effort from the auditor to evaluate its reliability.
Controls over preparation and maintenance	The reliability of data is influenced by the controls around its preparation and maintenance and whether they are operating effectively. In the context of the ASAs, information processing controls are controls which are either IT based or manual that directly address risks to the completeness, accuracy and validity of information/data. Information processing controls may rely on other controls to operate including other information processing controls of General IT Controls.	The entity's ability to maintain the completeness and accuracy of data stored and processed in the information system may vary based on the complexity and volume of the related transactions and other data. The greater the complexity and volume of data that supports a significant class of transactions, account balance or disclosure, the less likely it may become for the entity to maintain integrity of that data through information processing controls alone. The revised ASA 315 *Identifying and Assessing the Risks of Material Misstatement* includes significant materials related to IT and the audit of a financial report and has clarified the auditor's responsibilities related to GITCs and information processing controls. Refer to AUASB Bulletin: *ASA 315 and the Auditor's Responsibilities for General IT Controls* which provides guidance on when to identify and test GITCs.

Evaluating the reliability of data

In the audit of a financial report, the auditor is required to evaluate whether data intended to be used as audit evidence is sufficiently reliable for the auditor's purposes. When using an audit technology tool, the auditor's reliability testing is focussed on determining whether the different elements within a data set that the audit technology tool is using to produce audit evidence, are sufficiently reliable for the auditor's purposes. The auditing standards do not prescribe what is sufficiently reliable or outline the specific procedures required to evaluate reliability, instead, what the auditor considers to be sufficiently

[5] See ASA 500, A5.

reliable for their purposes and the procedures to evaluate the reliability are a matter of professional judgment and may change from engagement to engagement.

What is sufficiently reliable for the auditor's purposes is influenced by a number of things but is largely influenced by the intended purpose of the data, that is, whether the data is intended to be used as part of risk assessment procedures, further audit procedures to respond to assessed risks or both. Generally, data required for risk assessment procedures does not require as extensive testing of reliability as data required for procedures to respond to an assessed risk of material misstatement. ASA 330 *The Auditor's Responses to Assessed Risks* outlines that more persuasive audit evidence is to be obtained the higher the auditor's assessment of risk. To obtain more persuasive audit evidence, the auditor can increase the quantity of the evidence or obtain evidence that is more relevant or reliable[6].

Whilst the nature and extent of the procedures performed to evaluate data may change, it is important for the auditor to keep in mind that data is sufficiently reliable for the auditor's purposes or it is not. This is particularly important where a data set or elements of a data set will be used for multiple procedures, data may be sufficiently reliable for one purpose but not another.

An important step in the evaluation of the reliability of data is identifying the particular elements of a dataset that the auditor intends to rely upon and that are relevant to the audit procedures to be performed. For example, the auditor is performing procedures related to the aging of receivables, the reliability of the invoice date within a listing is an important element.

Some common challenges in the evaluation of the reliability include:

- Performing inadequate reliability testing – For example, data has been evaluated as sufficiently reliable for risk assessment purposes and is later used as part of the auditor's response to assessed risks without any further reliability testing. In this situation, the auditor is then placing reliance on the data for evidentiary purposes when the auditor has only evaluated the data as sufficiently reliable for risk assessment.

- Using data for multiple purposes – For example, an auditor uses data which has been evaluated as suitably reliable to be used in audit procedures to respond to balance X and uses it also for balance Y which is a significant risk. In this situation, the reliability testing performed to meet the needs for balance X may not be sufficient for balance Y.

- Using attributes of a dataset which have not been tested – For example, the auditor uses a dataset as part of the audit where specific attributes within the data set have been tested and the auditor mistakenly approaches the data like the entire set has been tested.

AUASB Bulletin *Integrity of data obtained for the purpose of an audit of a financial report* outlined the importance of having a clear plan for how data is going to be used. Having a clear plan of how data is intended to be used may assist auditors in performing their evaluation of the reliability of data in their circumstances.

The intended purpose of the data

In addition to identifying whether the data will be used for risk assessment, response to an assessed risk, or both, the auditor's determination of what is sufficiently reliable for the auditor's purposes may also consider, where relevant, the assessed risks of material misstatement at the assertion level which the data will be used for and the persuasiveness of the audit evidence to be obtained from the data.

The auditor is required to obtain more persuasive audit evidence the higher the auditor's assessment of risk. When obtaining more persuasive audit evidence because of a higher assessment of risk, the auditor

[6] See ASA 330 *The Auditor's Responses to Assessed Risks,* paragraphs 7 and A19.

may increase the quantity of the evidence, or obtain evidence that is more relevant or reliable, while remembering that obtaining more audit evidence may not compensate for poor quality.

Where data will be used for both risk assessment and response to an assessed risk or for multiple procedures, the auditor should determine it is sufficiently reliable for all purposes. For example, where data has been extracted for one procedure and the reliability testing has been limited to certain elements of that data required for the initial procedure, testing of additional data may be required to assess the other elements of the data table which are relevant to another procedure.

What are the risks that the data is not sufficiently reliable for the auditor's purposes?

As part of the auditor's evaluation of the reliability of the data, the auditor should identify and plan to address the risks that data is not sufficiently reliable for the auditor's purposes considering the factors that influence its reliability.

Whilst accuracy and completeness are the attributes specifically identified in the requirements of ASA 500, it is important that the auditor also considers other attributes for example bias, authenticity, credibility.

What are the appropriate procedures to evaluate the reliability of the data?

Audit evidence about the reliability of data can be obtained through tests of controls, substantive procedures or a combination of both. Depending on the circumstances, the evaluation of the reliability of data can be either performed as a separate procedure to audit procedures performed using the data or performed concurrently with the actual audit procedures applied to the data when obtaining such audit evidence is an integral part of the audit procedure itself.

Where the auditor is intending to rely on the operating effectiveness of controls to provide evidence about the reliability of data, the auditor may also need to consider the operating effectiveness of relevant General IT Controls. AUASB Bulletin: ASA 315 and the Auditor's Responsibilities for General IT Controls will assist auditors in understanding their responsibilities for General IT Controls.

A key part of this process is determining, and documenting, who is involved in the evaluation of the reliability of data to be used in the audit and this process and how the requirements of the auditing standards have been met, in particular requirements relating to engagement performance (direction, supervision and review).

When designing procedures to evaluate the reliability of data to be used, may consider matters such as:

- Who will perform the evaluation - the auditor or an expert?
- Where the reliability testing is to be performed by the auditor:
    - What tools will be used to perform the testing?
    - What are the processes to determine the reliability of any tools used during the process?
    - Where relevant, does the engagement team member have expertise to be able understand the data and how reliability can be tested?
- Where an expert is required, is the expert an internal or external auditor's expert?

- Understand requirements around the use of internal and external auditor's experts as part of ASA 220 *Quality Management for an Audit of a Financial Report and Other Historical Financial Information* and ASA 620 *Using the Work of an Auditor's Expert*.

- Do engagement team members have sufficient understanding of the process to evaluate reliability to be able to identify errors or where data can or cannot be used?

Where the data has been produced by a management's expert, GS 005 *Evaluating the Appropriateness of a Management's Expert's Work* provides guidance around the use of the work of a management's expert including the determining whether an auditor's expert is needed to assess the work of the management's expert.

Examples

The following examples have been used to demonstrate the auditor's process for evaluating the reliability of data used in audit tools.

Example 1 – Risk assessment procedures – Accounts receivable

Purpose:

As part of the auditor's risk assessment procedures, the auditor intends to assess the risks related to the recoverability of receivables by reviewing the debtor aging trends throughout the year.

Data:

The auditor plans to extract monthly accounts receivable reports which show invoices outstanding for each debtor. The elements of the data set that the auditor will rely upon in their testing are the invoice number, invoice date and invoice amount.

How will reliability of data be evaluated?

The auditor is planning to rely on the system generated debtor report which includes ageing as part of their audit procedures. In accordance with ASA 315, the auditor has identified the relevant Information Processing controls (and related General IT Controls) which address the completeness, accuracy and validity of the report and has evaluated their design and determined their implementation.

As the controls the auditor has evaluated include the elements of the report that the auditor will use as part of the risk assessment procedures related to aging, the auditor has determined that the procedures performed as part of their evaluation of the design and determination of the implementation of relevant controls is sufficient for their purposes.

Example 2 – Substantive Test of Detail – Three-Way Match

Purpose:

The auditor has determined that they will substantively test sales revenue using a three-way match. Revenue is a significant risk and this is the only substantive procedure the auditor intends to perform to respond to the risk.

Data

To perform the three-way match the auditor will use:

- **Revenue broken down by invoice.**
- **Shipping document listing.**
- **Purchase order listing.**

From each listing, the auditor determines the elements that are to be used by the audit technology tool to perform the three-way match. Elements include:

- **PO number**
- **PO quantity**
- **PO price**
- **Invoice number**
- **Invoice quantity**
- **Invoice price**
- **Delivery document number**
- **Delivery document quantity**

How will reliability of data be evaluated?

As this procedure is responding to a significant risk and is the only procedure that the auditor intends to perform, the persuasiveness of evidence obtained from the procedure is high.

The auditor has identified information processing controls that maintain the completeness, accuracy and validity of the data elements that the auditor intending to rely upon. The auditor plans to test the operating effectiveness of those controls.

As the persuasiveness of evidence to be obtained from this procedure is high, the sample size for the testing of the operating effectiveness of controls will be the highest in the auditors sampling methodology.