

Chapter 5

How do you conduct a performance audit?



The purpose of conducting a performance audit is to obtain sufficient and appropriate evidence to develop findings that answer the audit objective(s) and questions. As discussed in Chapter 4, the audit questions should guide your audit work; thus, the information you collect and analyse should directly address the audit questions.

This chapter will answer the following questions:

- How do you determine the sufficiency and appropriateness of evidence?
- How do you gather information for a performance audit?
- How do you analyse information?
- How do you document and safeguard information?

These activities can occur sequentially or concurrently, depending on the audit and the types of methodologies your team has decided to use. In practice, information is often collected, analysed and evaluated for sufficiency and appropriateness simultaneously. It can also be helpful to begin to identify the elements of potential findings while you are still collecting data. Doing so can help you identify any gaps in your evidence and the need for additional data collection. This is usually an iterative process.

During data collection, your audit team may also need to revisit some of the decisions made during the planning phase of the audit. For example, as you identify new potential sources of information that can be used as evidence or if you determine that some of the information collected is not reliable or helpful in answering the audit questions, you may need to adjust the audit scope, questions, the application of criteria, and methods for information collection

and analysis. Remember to obtain your management's approval for any material changes to your audit plan and keep your internal stakeholders and the audited entities informed. (GUID 3920/44-47, 72)

How do you determine the sufficiency and appropriateness of evidence?



The Standard

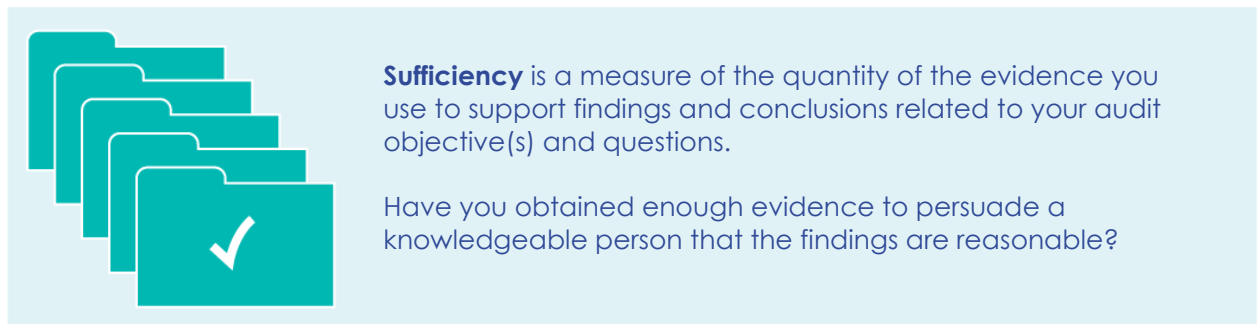
The auditor shall obtain sufficient and appropriate evidence in order to establish audit findings, reach conclusions in response to the audit objective(s) and audit questions and issue recommendations when relevant and allowed by the SAI's mandate.

Source: ISSAI 3000/106

Audit findings must be supported by evidence, so the quantity and quality of the evidence you obtain is important. This means you will need to continuously consider and evaluate the evidence you are: (1) planning to obtain; (2) are in the process of obtaining; or (3) have already obtained, for sufficiency and appropriateness (GUID 3920/69-77). Before we present various methods to collect and analyse information and data, it is important to understand the differences between information and evidence. When qualitative and quantitative information is collected that can be used to support a point you wish to establish related to the audit questions; it becomes audit evidence. Though all the information collected during the audit can help you develop your understanding of the audit topic. Often the evidence you will use to support your findings emerges through your analysis of the collected information.

Sufficiency refers to the quantity of evidence collected (see **Figure 25**). Do you have enough evidence to persuade a knowledgeable person that the findings are reasonable? For example, information obtained from only one source, such as an interview or a single document, will likely not be enough to support a finding but may still be relevant to use as a general illustration. It is important that findings be supported and corroborated by multiple sources and types of evidence.

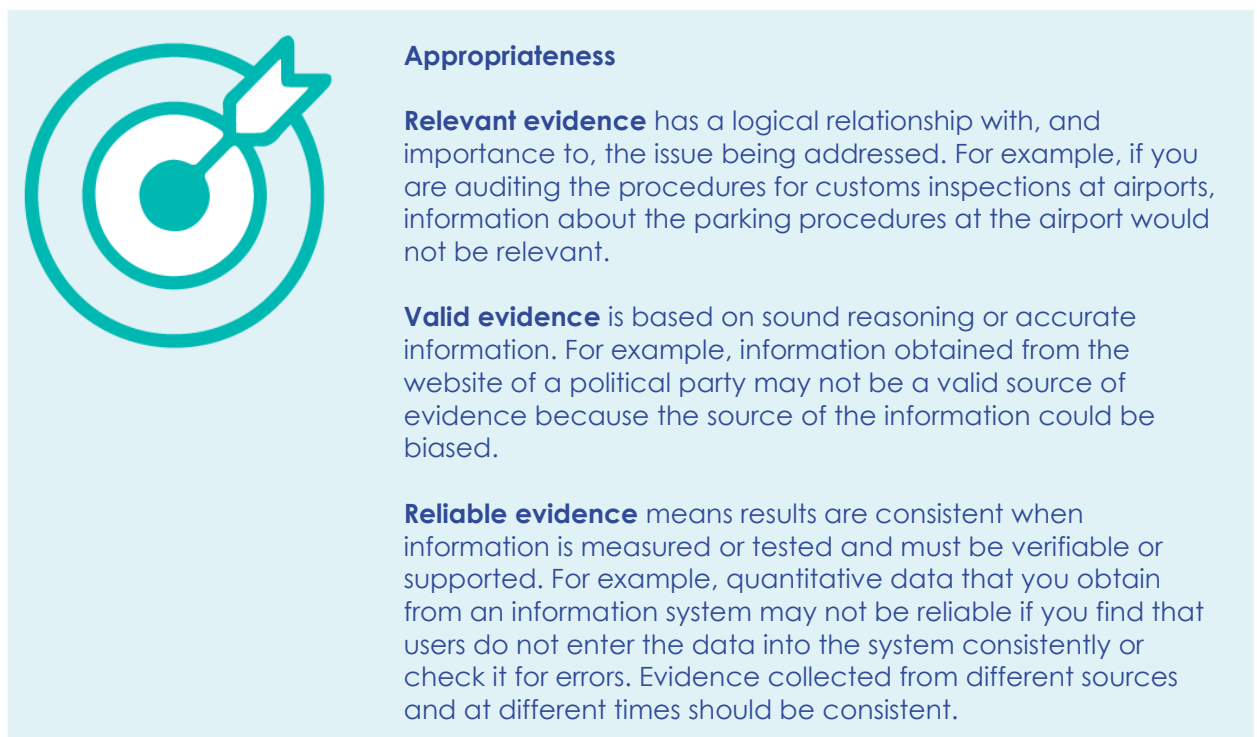
Figure 1: Sufficiency of evidence



Source: IDI/PAS Development Team

How much evidence is sufficient depends in part on the appropriateness of the evidence? Appropriateness refers to the quality of the evidence. Is the evidence relevant, valid and reliable? It is important to consider the source, content, and timing of your evidence when making these determinations. **Figure 26** contains more information on these important concepts.

Figure 2: Appropriateness of evidence



Source: IDI/PAS Development Team

You need to obtain your data from knowledgeable and reliable sources using accepted methods.

In performance audits, evidence will typically be persuasive (that is, pointing toward a conclusion) instead of conclusive (that is, definitively stating 'yes/no' or 'right/wrong') (GUID 3920/71). Ultimately, determining whether you have sufficient and appropriate evidence for your findings will require ***professional judgement***. In making such determinations, you will need to be aware of the potential strengths and weaknesses of your evidence and consider the source of the evidence, as some sources may be more credible or reliable than others. Find below useful tips to consider when assessing the sufficiency and appropriateness of your evidence.

Sufficiency and appropriateness of evidence

Sufficiency

- ✓ The greater the audit risk, the greater the quantity and quality of evidence required.
- ✓ The more important the finding, the greater the quantity and quality of evidence required.
- ✓ Stronger evidence may allow less evidence to be used.
- ✓ Having a large volume of audit evidence does not compensate for a lack of relevance, validity or reliability.
- ✓ More evidence is normally necessary when the audited entity(ies) or other stakeholders have different opinions on the subject matter.

Appropriateness

- ✓ Ensure that your evidence is relevant – that is, of importance to your audit topic.
- ✓ Ensure that your evidence is valid – that is, based on accurate information and logical analysis.
- ✓ Ensure that your evidence is reliable – that is, results are consistent and able to be verified.
- ✓ Documentary evidence is often more reliable than testimonial evidence, but the reliability varies depending on the source and purpose of the document.
- ✓ Testimonial evidence that is corroborated in writing is more reliable than oral evidence alone.
- ✓ Evidence-based on many interviews is more reliable than evidence based on a single or a few interviews.
- ✓ Testimonial evidence obtained under conditions in which people may speak freely is more valid and reliable than evidence obtained when people may feel intimidated.
- ✓ Evidence obtained from a knowledgeable, credible and unbiased third party is more valid and reliable than evidence obtained from the management of the audited entity or others who have a direct interest in the audited entity.
- ✓ Weak internal controls can affect the reliability and consistency of evidence across an organisation. Thus, evidence obtained when internal control is effective is more reliable than evidence obtained when the internal control is weak or non-existent.
- ✓ Evidence obtained through the auditor's direct observation, computation and inspection is more reliable than evidence obtained indirectly.
- ✓ Original documents are more reliable than copied documents.

Source: Adapted from GUID 3920/75-76 and Government Auditing Standards (US GAO)

Thoughtfully assessing and ensuring the sufficiency and appropriateness of your evidence throughout the audit is a critical responsibility of your audit team. It will require that you apply **professional judgement** and critical thinking skills. (GUID 3920/77)

If you find limitations or uncertainties in your evidence, there are steps you can take to try to mitigate the **audit risks**. These steps include:

- seeking independent corroborating evidence from other sources;
- presenting the findings and conclusions so that the supporting evidence is sufficient and appropriate for the purposes used. You also need to describe in the report any related limitations or uncertainties with the validity or reliability of the evidence if such disclosure is necessary to avoid misleading the report users about the findings or conclusions;
- redefining the audit questions or the audit scope to eliminate the need to use the specific evidence that is causing concern. Remember to inform the audited entities about any significant changes; and
- determining whether to report the limitations or uncertainties as a finding, including any related significant internal control deficiencies.

The results of your evaluation of the sufficiency and appropriateness of evidence and any mitigations may not be clear cut, and you may have to make difficult determinations as an audit

team and with your management. When making these determinations, it is important to remember that evidence is not sufficient and appropriate when:

- using the evidence carries an unacceptably high risk that it could lead you to reach an incorrect or improper conclusion;
- the evidence has significant limitations, given the audit questions and its intended use; and
- the evidence does not provide an adequate basis for addressing the audit objective(s) and questions or supporting the findings and conclusions.

As you move forward with your information collection, remember that a healthy **scepticism** about what people tell you and the information from documents you obtain – not simply accepting things at face value – is extremely important for you to do quality work. This is called **professional scepticism**, and it is a key component of two audit concepts – **independence** and **professional judgement**, as discussed in Chapter 2.

For example, as you collect testimonial evidence, it is important that you consider the credibility of the people being interviewed – what is their position, knowledge, expertise and forthrightness? Descriptions of the person's actions and other people's actions may or may not be reliable, and it is therefore important that it be considered from all angles. For instance, there are often tensions and different interests within an organisation, such as between departments and between managers and staff. While this may motivate people interviewed to share information with the auditors, it is imperative for the auditors to be mindful of these tensions and assess the reliability of the information because it may represent vested interests rather than fact.

Even when the person interviewed describes the situation with honesty or a document they share with you addresses the audit topic, the information may not fully and correctly describe the real situation because different people and organisations may have different perspectives and preferences and thus interpret the reality in different ways. All individuals are experts on their own role, perspective, knowledge and opinions – but may not know the full ‘story’ and may not be able to see issues from other equally relevant perspectives. It would be extremely rare that sufficient and appropriate evidence could be obtained from a single interview or document. There may be specific circumstances where the individual being interviewed or the document used is uniquely authoritative in relation to the audited activity, but it is important that you apply considerable caution and professional judgement when evaluating such circumstances. Using multiple interviews with staff in different positions and roles, on the other hand, can enable the auditors to develop an understanding and analysis of the organisation going beyond what people in it have been aware.

Keeping the sufficiency and appropriateness of the evidence in mind as you conduct audit work will help you ensure that you have enough quality evidence to develop strong audit findings.

How do you gather information for a performance audit?

How do you work with the audited entities?

As with planning, gathering information will generally require you to coordinate closely with the audited entities and any other organisations from which you will need to obtain information (GUID 3910/63-69).

Below are some general tips for communicating with the audited entities as you conduct audit work to help ensure smooth and efficient information collection.

Communicating with the audited entities

- ✓ Agree with the audited entities on the procedures that you will follow to schedule interviews and site visits and to request information to avoid miscommunication and delays. A 'no surprises' approach is generally wise.
- ✓ Plan ahead! Recognise that the audited entities are busy carrying out their primary mission. The more advance notice that you provide the audited entities about your requirements for the audit, the better chance you have of obtaining the information that you need within your desired time frames.
- ✓ Identify agreed-upon points of contact within the different offices at the audited entities to facilitate direct and responsive communication.
- ✓ Agree with senior management in audited entities on who you will keep informed about the progress of the audit, making further dissemination of such information the responsibility of the entity itself.
- ✓ Notify the audited entities as early as possible of the interviews and site visits that you plan to conduct and within what general timeframes.
- ✓ Give the audited entities sufficient time to respond to your information requests. The precise time frames will vary depending on the complexity of the request but understand that large requests for information may take the audited entities additional time to pull together.
- ✓ Keep the audited entities informed of your progress on the audit and any significant changes to your audit plan and timeframes.
- ✓ Escalate early to your management any challenges you encounter in obtaining information from the audited entities so these issues can be quickly resolved.
- ✓ Communicate and work to resolve these issues with the audited entities.
- ✓ Be professional, courteous, and fair in all your dealings with the audited entities.
- ✓ Discuss emerging preliminary findings with the audited entities during the audit to get their feedback and input.
- ✓ Revisit audit protocols with the audited entity if you encounter challenges or delays and adjust as necessary.

Source: IDI/PAS Development Team

Chapter 4 discusses meeting with audited entity at the beginning of your audit. After the initial meeting, during the planning phase, it is important to continue to communicate with the audited entities throughout the audit about your planned work and time frames to ensure that the officials understand the scope of the audit, your plans and your progress. Regular discussions with the audited entities can be useful to identify additional sources of evidence or to obtain perspectives that may inform the development of findings. It is also important for you to discuss with the audited entities the methods your audit team will use to collect information so that the audited entities are prepared to support your efforts.

Most audits will also include a meeting with the audited entities at the end of the audit. Your audit team can confirm that the key facts support your findings and discuss your findings, and any potential recommendations, with the audited entities. This meeting is sometimes referred to as an exit conference. The exit conference is an opportunity for you to share a preliminary draft of your audit report and discuss the audited entities' perspectives on your preliminary findings and recommendations, as applicable. It presents an opportunity for you and your team to make any needed changes before providing the formal report to the audited entities for official review and comment. These steps are discussed in more detail in Chapter 7.

A sound dialogue throughout the audit process with the audited entities is pivotal in achieving real improvements in governance and may increase the impact of the audit. In this context, the auditor can maintain constructive interactions with the audited entities by sharing preliminary audit findings, arguments and perspectives as they are developed and assessed throughout the audit (ISSAI 3000/58). Typically, you will not present the SAI's findings to the audited entities until the end of the audit – first at the exit conference and then when you publish a final report. However, as you are conducting your work, if you find issues that require immediate corrective action – such as evidence of fraud or significant internal control deficiencies that could lead to fraud (see below) – it is important that you communicate these issues to your management as soon as possible (GUID 3910/91-93). It is recommended that you also discuss with your management how and when to inform the audited entities of these issues.

Fraud

Fraud involves an individual or entity obtaining or attempting to obtain something of value through wilful misrepresentation.

For example, an entity that misstates or misrepresents programme information or results to obtain government funding may be committing fraud.

As an auditor, it is not your responsibility to uncover fraud or to determine whether an act is fraud. This is the responsibility of a judicial or other adjudicative system.

But you need to continuously assess the risk of fraud related to your audit objective(s), including factors such as:

- individuals' incentives or pressures to commit fraud;
- the opportunity for fraud to occur; and
- attitudes that could increase the risk of fraud.

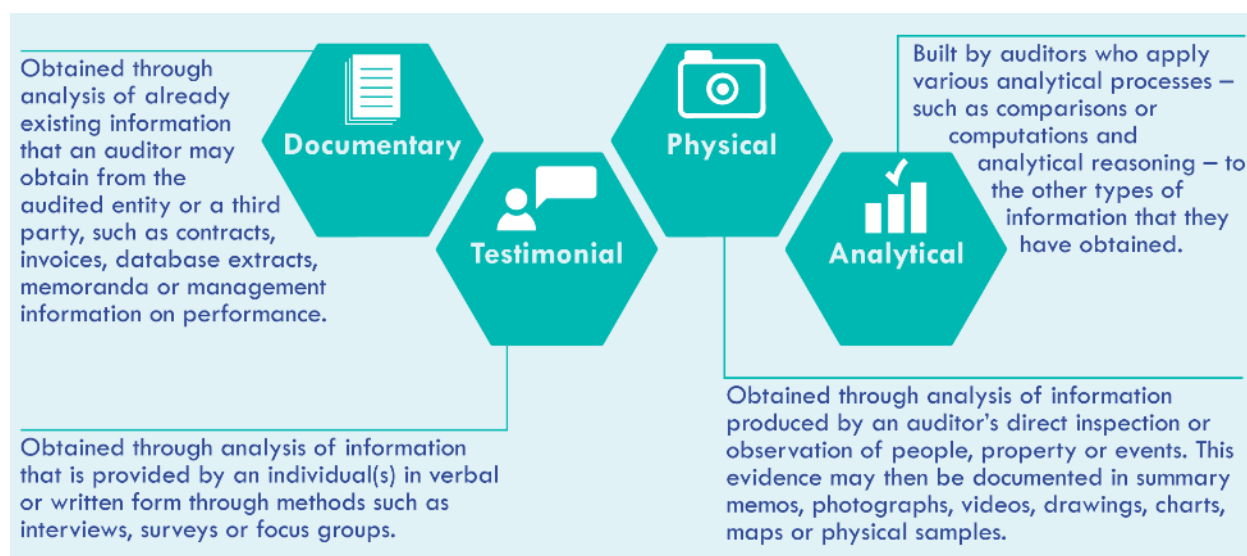
If information comes to your attention during the audit indicating that fraud, significant within the context of your audit objective(s), may have occurred, consult with your internal stakeholders, such as a legal expert, and with SAI management to (1) determine its effect on the audit findings; and (2) the appropriate next steps to take based on your SAI's procedures.

Source: IDI/PAS Development Team

How do you gather information using various methodologies?

There are numerous methods that audit teams can use to gather information. Still, all audit work has to be conducted with the goal of obtaining sufficient and appropriate evidence to support the findings of the audit. It is important that you ensure the audit you conduct will produce evidence to support the development of findings and provide new information or analysis and potentially support recommendations. There are multiple types of evidence, as discussed in **Figure 27**.

Figure 3: Types of evidence



Source: Adapted from *Government Auditing Standards* (US GAO)

There are many different methods that audit teams can use to collect information and, ultimately, produce evidence. This chapter will cover four common methods used for information collection in detail:

- interviews;
- document collection;
- direct observations and inspection; and
- surveys.

The type of evidence that is most appropriate will vary depending on the audit questions and how the evidence is used in the report (See GUID 3920/44-50). It is often beneficial to use multiple types of evidence to support your findings and conclusions. Ultimately, it is important to apply professional scepticism when collecting and analysing data, as the strength of your evidence will rely on the reliability of the combined data in sum.

As you collect information, consider whether your audit work could provide insights related to the economy, efficiency, and/or effectiveness of the audited entities. This means your audit work could not just focus on what the audited entities did, but on how effective and efficient they were in doing so and with what resources. It is also important to keep in mind the concept of **materiality** as you determine what information to collect and how to collect it to better ensure that your eventual findings will be of value. As discussed in Chapter 4, it is important to describe in the audit plan the methods and information sources the audit team will use to gather evidence.

Depending on the complexity of the method, keep in mind that you may need to bring in stakeholders, such as methodologists, subject matter experts, or consultants from inside or outside your SAI to help you implement your chosen audit plan or provide advice as you conduct audit work (GUID 3910/81). If you do not have access to experts that can assist you

with complex methods, then it is important for your audit team to select data collection methods that your team has the training, competency, and resources to carry out (GUID 3910/79-80). Finally, it is also recommended that you carefully consider the data that a method may yield and any limitations before beginning data collection.

Interviews

Interviews are an important evidence-gathering tool for performance audits and will generally be your primary means of gathering testimonial evidence. An interview is a question-and-answer session that is designed to elicit specific information – and, in the case of a performance audit, appropriate evidence. Interviews also provide a good opportunity for you to gain insights about potential sources of documentary evidence. An auditor’s ability to interview effectively and then accurately document the information provided during the interview will influence the quantity and quality of the evidence collected. A well-designed and executed interview can yield:

- the perspective and observations of the person(s) being interviewed;
- documents and information or data provided by the person interviewed; and
- referrals to other people or offices for additional information.

There are two general types of interviews – unstructured and structured.

- Unstructured interviews are designed to elicit a full discussion of the interviewee’s observations and knowledge about the interview topics. The questions are not prescribed, and how you ask them is flexible and dependent on the interview. The responses are also not defined – that is, the interviewee can answer the questions any way that they would like instead of selecting from a list of potential answers. Examples of open-ended questions that an auditor might ask during an unstructured interview include:
 - Please briefly describe the state’s activities regarding the prevention of domestic violence against women.
 - What are the state’s main obstacles, if any, to correctly applying the laws protecting women from domestic violence?
 - Based on your experience, what can be done to improve the service for women victims of domestic violence?
- Structured interviews are designed for an auditor to ask a prescribed set of questions uniformly, usually offering a defined set of possible responses. It is recommended that you consider your audit questions and the evidence you have already collected to develop reasonable and likely response options for a structured interview. This approach is useful when you want to quantify responses. That is when you want to say, “Of [the number of] people we interviewed, [this number of people] said” It is often used when conducting interviewer-administered surveys, such as telephone surveys. An example of a closed-ended question that an auditor might use in a structured interview is below:

- Example: What problems, if any, do the police face in delivering services to women victims of violence?
 - () Insufficient staff
 - () Lack of capacity to listen respectfully and without prejudice
 - () Lack of proper reception
 - () Few police officers with skills in gender issues
 - () Inadequate facilities
 - () Lack of standards
 - () Lack of information about women's rights
 - () Other. Which? _____

For example, the European Court of Auditors conducted an audit using both result-oriented and system-oriented approaches to examine the degree to which the European Union's (EU) efforts to mitigate risk in the agricultural sector were efficiently implemented and were effectively delivering results. As part of this review, the audit team conducted interviews with 105 farmers in 17 different EU member states to discuss, among other things, the causes of production losses for the farmers (for example, climate events, pests), the preventive measures taken at farm level (for example, crop rotation, sanitary measures) and the degree to which farmers are insured against the risk of loss. The interviews included structured questions, which allowed the audit team to effectively quantify the responses. For more details about how this method was used to support the audit team's findings, see [*Special Report no 23/2019: Farmers' income stabilisation: comprehensive set of tools, but low uptake of instruments and overcompensation need to be tackled*](#).

An interview can also be semi-structured, meaning that your set of questions includes both prescribed and flexible questions. The approach you choose will depend on how you want to use the responses. The typical interview will likely include both open-ended and closed-ended questions.

Tips for effective interview questions

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| <ul style="list-style-type: none"> ✓ Ask objective, neutral questions without the implication of bias. ✓ If you seek an open-ended response, avoid questions that can be answered with a 'yes' or a 'no'. ✓ If you seek a closed-ended response, ask questions that restrict answers to a 'yes', 'no' or other specific response. | <ul style="list-style-type: none"> ✓ Keep your questions simple, clear and concise. ✓ Do not try to cover two issues in one question. ✓ Use probing questions to encourage further discussion about important topics without biasing responses. For example, "Could you tell me more about that...?" or "I am not sure I fully understand the process. Could you elaborate?" |
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Source: IDI/PAS Development Team

To be effective, interviews must be planned well, conducted with care and skill, and documented fully and accurately. Also, remember to consider people outside the audit organisation with relevant and valid knowledge about it (for example, clients, civil society

organisations, experts and other government entities). There are generally three phases involved in carrying out effective interviews – planning, conducting and documenting the results:

1. **Planning the interview** involves the necessary research, administrative and logistical activities you need to conduct before you can effectively interview an official:
 - Identify the office or individuals to be interviewed. If you are unsure, ask your primary contact at the audited entities to identify these individuals.
 - Plan the logistics for the interview, including working with the audited entities to schedule the time and location of the appointment. Good practice is to have at least two members of the audit team present at all interviews so that each member of the team can corroborate the other members' understanding of what was discussed.
 - Conduct pre-interview research to ensure you are knowledgeable about the topic and the role of the individual(s) you will be interviewing.
 - Develop questions for the interview based on the information you need to elicit. If you are interviewing an individual from the audited entity, make sure your questions include enquiries about the degree to which the entity is achieving its objectives (**effectiveness**), the resources it requires to carry out its mission (**economy**) and the relationship between resources employed and outputs delivered (**efficiency**). If you have well-defined criteria that are relevant to the interview topics, it may be useful to derive questions from these criteria to make it easier to analyse the information later. Depending on the situation, you may want to send these questions to the audited entities ahead of time so that they can ensure the correct individuals are present and prepared to respond to your questions. It is also useful to think about potential follow-up questions so that you are prepared to probe the interviewee further during the interview as necessary.
2. **Conducting the interview** involves carrying out the planned interview to elicit the information you need, including collecting related **audit documentation** and data:
 - Determine who will lead the interview. It is common practice for one person to lead the interview and the other members of the audit team to be responsible for taking notes.
 - At the outset of the interview, provide introductions of the audit team and interviewees, a statement of purpose for the interview and background information on the audit.
 - When interviewing officials, ask relevant questions and take careful notes of their responses. It is important that you ask follow-up and probing questions to improve the quality and depth of your evidence. For example, a useful probing question is, "Can you give me an example of that?" It is also important to probe for and evaluate any contrary evidence that may exist to help you to understand the full picture and avoid incorrect conclusions. Be prepared to adjust or go beyond your planned list of

questions if other issues relevant to the audit objective(s) are identified during the interview.

- Maintain control over the interview to keep the conversation focused on the topics of the interview.
- Request related documentation and information to corroborate or expand upon the testimonial information provided by the officials. Explain to the interviewees how the information you are gathering is relevant and needed for the audit.
- At the close of the interview, summarise key information gathered and the documents or data the individuals have agreed to provide to your audit team. Address any final questions or comments from the interviewees, and thank them for their assistance. You may also want to let the interviewees know that you may need to follow up with them as the audit progresses.

Tips for conducting effective interviews

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| ✓ Be prepared. Study the subject and understand the role of the individual(s) you are interviewing. | ✓ Don't talk too much – listen and observe. |
| ✓ Prepare a list of the questions to be asked during the interview in advance. | ✓ Be flexible but have in mind the goal of the interview. |
| ✓ Schedule the date, time, duration and location of the interview in advance. | ✓ Be brave enough to ask difficult questions if relevant to the audit; be frank and candid. |
| ✓ Bring more than one person from your audit team to the interview. | ✓ Avoid asking complex questions, demonstrating ego and displaying excessive knowledge or attitudes of superiority. |
| ✓ Assign roles to each person before the interview, such as who will ask the questions and who will take notes. Avoid doing interviews alone if possible. | ✓ In the case of evasive answers, use pauses or silence to indicate that you are waiting for complete information. |
| ✓ Start and end the interview on time. | ✓ Take accurate and comprehensive notes. |
| ✓ Be attentive, observant, objective, respectful, impartial, sensitive and confident. | ✓ Consider bringing an audio recorder, if appropriate. |
| ✓ Create a rapport with the interviewee: an interview is not a cross-examination. | ✓ Document the interview as soon as possible after conducting it. |

Source: Adapted from AFROSAI-E Performance Audit Template Manual, 2013; SAI Brazil – Interviews in audit

3. **Documenting the results of the interview** involves creating an accurate written record of the information that was obtained during the interview in a way that facilitates analysis and **quality control** (GUID 3920/100). See Appendix 8 for a template to document the interview:

- Be as accurate as possible. You will be editing, summarising and synthesising information as you develop the interview record. Still, it is important that you ensure your paraphrases and changes are true to the information provided.

- Organise the written record in a way that will help your team analyse the information obtained. For example, you could organise the record by audit question or topic area and use subject headings to draw attention to different areas.
- Document the names of the individuals you interviewed and their titles and contact information. This is essential for maintaining an accurate record of the interview.
- Differentiate between the official position of the audited entity that the interviewee may have provided and the interviewee's opinion on a matter. This is a significant consideration in determining the appropriateness of the information.
- It is useful to reference and electronically link the documents that were provided by the interviewee in the interview record where relevant. This will help to clearly explain the documentation in context with the interviewees' statements.
- Take steps to verify and confirm the accuracy of the interview record. Some audit teams share their interview notes with the individual drafting the interview record to ensure they have a comprehensive set of notes from the meeting. Other audit teams have one person draft the record based on their notes and then have the other team members review it for accuracy based on their notes. You can choose the approach which works best for your team, but it is important to ensure your teammates who attended the interview review the record to confirm its accuracy. It is recommended that you follow up with the interviewee if you are unsure or do not understand any of the information they provided. In some instances, you may also be able to record and transcribe the interviews. When appropriate, audio-taping the interview can make it easier for you to listen closely to what the individuals are saying, as you will not need to concentrate on taking notes. If you decide to record the interview, ask for the interviewee's permission and keep in mind that recording the interview might prevent the interviewee from speaking freely on sensitive issues. It is recommended that you consult your organization's policy on audio-taping interviews because practices vary widely by SAI.

To obtain a comprehensive view of the audit topic, it is important to interview people with different positions, perspectives and insights. Since the results of your interviews will be testimonial evidence, conducting many interviews with different people or offices can help increase the strength of your evidence. Conducting interviews is resource-intensive, though, so limit your interviews to what is necessary. One way to determine this is to consider whether conducting additional interviews will add relevant new or interesting information that you cannot obtain from other sources, such as from documents. It is important to remember that the reliability of testimonial evidence obtained through interviews is dependent on the person who provides it and their level of knowledge or bias. It is recommended that you corroborate the information obtained whenever possible with documentation or another form of evidence to mitigate **audit risk**, as discussed in Chapter 4. See Appendix 8 for an interview guide that contains more details about how to plan, conduct and document interviews.

Document collection

The typical audit will rely upon a wide range of documentary evidence to support its findings and conclusions. Thus, document collection is a very important method of obtaining evidence.

Documentary evidence is generally considered to be more reliable than testimonial evidence. It is important to have documentary evidence to corroborate the testimonial evidence you obtain (see **Figure 27** and GUID 3920/74-77). You can collect documents from many different sources. However, whether you can use the documentary evidence you collect as evidence depends on its authenticity and the integrity of the sources and systems producing the information (see side bar). This is discussed in more detail below.



When evaluating if documentary evidence is appropriate, these questions are useful to consider:

- Does the document represent the official position of the audited entity?
- Is the document a draft or the final version?
- Is the document incomplete or outdated?
- Was the document developed by the most knowledgeable source?
- Does the source of the document have any biases that could affect its reliability?
- Is the information accurate?
- Was the methodology used to develop the document sound?

Source: IDI/PAS Development Team

Audited entities

For most audits, the audited entities are the primary source of relevant documentary evidence. Be sure to request from the audited entities documents that provide evidence to answer your audit questions. This documentation could be either qualitative or quantitative. Examples include:

- policies, guidance and organisational charts;
- contracts, invoices, accounting information and budgetary data;
- quantitative data about the performance of the topic being audited; and
- research or studies related to the audit topic.

At the beginning of the audit, it is useful to ask the audited entities for documentation to provide you with information about its organisation, operations and guidance related to the relevant topic area. Collecting and reviewing this information early in the audit will help prepare to effectively conduct interviews, surveys, additional document collection and inspections as the audit progresses.

Remember to ask for documentation that substantiates officials' statements, establishes relevant facts and provides insights into how effective and efficient the audited entities are in performing its role relevant to the audit objective(s) and questions.

As you collect documents from the audited entities, it is your responsibility to assess if the information is appropriate. You cannot assume, just because a document or data was provided by the audited entities, that it is relevant, valid and reliable. For example, the audited entities may not have accurate information or have performed accurate analysis itself, or it may provide you with information that presents a biased or incomplete view of the

situation. Make sure you understand how data and information was developed, and that information in the documents is consistent with what you have been told by the audited entities. For example, you can ask the same questions of multiple people about the origin of the information and collect similar types of information from different sources to corroborate what is provided by the audited entities and to ensure you have a complete picture. You may also want to ask to review the source data, cases or files that underpin an audited entities' analysis or conclusions so that you can verify the results yourself. Also consider the timing of the documents that you are reviewing. Specifically, if you are examining documents related to a specific event, determine whether the document was prepared at or close to the time of the event. For example, were the meeting minutes prepared the same day or six months later? This could affect the validity and appropriateness of the audit evidence.

It is useful to maintain a register to record and control all documents you collect during the audit. This will assist you in keeping track of the documents you have requested, what the audited entity has provided, and what documents are still outstanding.

Depending on the audited entity and sensitivity of the topic, you may face challenges obtaining documents or information from the audited entity. If an audited entity is trying to prevent you from obtaining information that is relevant to your audit questions, it is recommended that you notify your supervisor immediately so these issues can be quickly escalated and resolved in accordance with your SAI's policies and legal rights.

Challenges obtaining information from the audited entity and how to address them

Based on the laws of the country, each Supreme Audit Institution (SAI) has to have the legal right to access relevant government documents and information to support the audits they undertake. Developing a positive relationship with the audited entity, including communicating frequently about the information you need and why it is needed to support the audit, can help you obtain information more easily.

However, some audited entities may not readily provide access to the information you request. If you are having difficulty obtaining information to which you believe your SAI is legally entitled, such as through significant delays or denials to information:

- ✓ notify your supervisor immediately so they are aware of the issue and can escalate it to senior SAI management, as appropriate;
- ✓ consult a legal expert within your SAI to ensure the information you are requesting is information to which your SAI is entitled, and for advice on how to frame your request for the information;

- ✓ ensure your request for information has a direct relationship to specific audit questions;
- ✓ explain the nature of the request to the audited entity as specifically as possible and link it to your specific audit question(s);
- ✓ set specific due dates for receiving requested information or meetings;
- ✓ if the requested information is legitimately sensitive, work with SAI management and the audited entity to determine if there is an alternative source of information that would meet the needs of the audit or if an acceptable accommodation, such as reviewing the information on-site, can be reached; and
- ✓ document the attempts you have made to obtain the information and maintain a log of your requests.

Your audit team will need to work closely with SAI senior management to determine how to resolve the issue.

Source: IDI/PAS Development Team

Third-party sources


Relevant third-party organisations – such as clients, experts, civil society organisations, contractors, professional organisations, research organisations or other government entities – which are not the primary subject of the audit, can also be useful sources for documentary evidence. For example, a contractor may be able to provide you with information about its performance relative to a contract. Or a research organisation may have conducted a relevant study about the audit topic. As described in Chapter 4, it is always useful at the beginning of an audit to conduct a literature search of general research reports, books or papers related to the audit area to help you identify relevant sources.

Ensure that you understand the context, the third party's role relevant to the topic and any potential bias or motivations of the third party when considering whether the source is appropriate to use as evidence.

Collecting information from a knowledgeable and relevant third party can be especially useful if you doubt the trustworthiness or openness of the audited entity. In such circumstances, information from a third party can help to either corroborate the information provided by the audited entity or help you develop a complete picture of the audited activity.

File reviews

File reviews involve reviewing many similar types of documentary records, such as personnel files or contracts, to extract information. File reviews need to be structured and systematic to allow for the issues or questions to be addressed y across files. Similar to direct observation, it is important that you identify the information you need to collect and develop a data collection instrument before beginning information collection. See Appendix 9 for an example of a comparison between two files.

 A well-defined data collection instrument is important to a successful file review. Ensure that you:

- understand the contents of the files before developing your data collection instrument;
- carefully develop the questions that will help you capture the desired information from the files; and
- test the data collection instrument on a small number of files to ensure it captures the needed information.

Source: IDI/PAS Development Team

Web-based sources

Audit teams will often use web-based sources to obtain information. Sources may include the websites of government agencies, legislative bodies, trade associations or media outlets. Using information from certain websites is associated with a higher risk that the information is not appropriate. For example, information from blogs, wikis and personal websites is not recommended to be used as evidence because these sources do not have any identifiable, recognisable authority, or their authenticity cannot be verified. Other websites – such as those related to trade journals or newspapers – may be authentic but not necessarily authoritative or reliable. Use professional judgement when using information from these sites.

You will need to carefully consider whether the website you are using is a reliable source to use for the specific information you are considering using from the site. Ask yourself these questions about web-based sources:

- Is the source authentic?
- Is the source authoritative on this topic?
- Is the source reliable?
- Is the source unbiased?

If using information from web-based sources, it is also important that you report on what date you retrieved the information because web-based information can change. Ultimately, using your **professional judgement** and applying **professional scepticism** will be critical in deciding whether to use web-based sources and the information derived from them.

Computer-processed data

Audit teams frequently obtain computer-processed data as a source of documentary evidence, such as data extracts from databases or software applications, data maintained in spreadsheets, data collected from forms and surveys on web portals.

As with any data source, you cannot assume the data are reliable. If the data are not reliable, you cannot trust that the information is valid. If the data you obtain are expected to materially affect findings, conclusions or recommendations, you will need to take a few additional steps to ensure the data are complete and accurate. Completeness refers to the extent that the data records you need are available and that data fields in such records are populated appropriately. Accuracy refers to the extent that the recorded data reflects the source information.

There are some potential steps you can take to assess the reliability of your data source. The extent of your assessment will depend on how significant the data are to your findings. Potential steps include:

- interviews with knowledgeable officials about the data sources and how data are collected, processed and validated;
- electronic or manual data testing for missing data, outliers or obvious errors;
- reviews of related internal controls, such as processes and procedures related to entering and validating data; and
- a traced selection or random sample to or from source documents.

Some of these steps can be complex to implement. You may want to consider bringing in a stakeholder, such as a methodologist or an auditor with previous knowledge of the topic, with expertise in assessing data reliability for advice or assistance in determining what steps to take and how to conduct the assessment.

It is recommended that you begin to assess the reliability of your computer-processed data as soon as possible after identifying the data as potentially material evidence. See Appendix 10 and Appendix 11 for a template for assessing data reliability and an example of data reliability questions for the audited entities. Audit teams often analyse computer-processed data to develop analytic evidence. It is recommended that you assess the reliability of the data before conducting an extensive analysis of the data because analytic evidence is only as reliable as the underlying data.

You will find that computer-processed data are rarely perfect. However, you will need to determine if the data are sufficient for the specific ways you plan to use them. Considering the risks of using the data is important, such as the sensitive or controversial nature of the data or whether using the data might have a significant negative impact on the decisions of those who read your audit report. It is also useful to consider the strength of your corroborating evidence, as strong corroborating evidence could help to mitigate some of the risks of imperfect data. Conversely, if your corroborating evidence is limited and you are relying heavily on the computer-processed data as the sole basis for your findings, then the importance of its validity and reliability is further amplified. The decisions you make about the reliability of computer-processed data may require the collective **professional judgement** of your audit team, management and data experts within your organisation.

Remember, you should only use computer-processed data if you determine that the data are sufficiently reliable for the purposes for which you are using it. Also, when reporting computer-processed data in your final audit report, it is recommended as a **risk assurance** step that you disclose some methodological information about the data you obtained, how you obtained it and any limitations of the data.

Direct observation and physical inspection

It is important that you get away from your desk and observe the people, activities, procedures, property or events related to your audit. These methods of information collection are referred to as direct observation and physical inspection. Evidence obtained through direct observation and physical inspection is known as physical evidence. It is generally considered to be one of the strongest forms of evidence and more reliable than indirect evidence – that is, evidence provided to you by the audited entities or third party.

These methods can be very useful if your audit questions relate to the condition of items or property, accounting for inventory or whether an operation is being conducted as intended. Using these methods can help you understand the context of the issues related to the audit and how the related areas are working.

For example, the European Court of Auditors conducted a result-oriented audit of animal welfare in the EU. The audit team selected a sample of five EU member states based on the size of their livestock sectors and the existence of weaknesses in their animal welfare compliance that had already been identified. In each member state, the audit team conducted direct observations of animal welfare inspections of farms, animal transport and animal slaughter. In addition, the audit team conducted on-the-spot checks for farmers' effective compliance with requirements associated with their receiving payments and grants, such as whether animals have the legally required grazing space and appropriate nutrition. For more information, see [Special Report No 31/2018: Animal welfare in the EU: closing the gap between ambitious goals and practical implementation](#).

Figure 28 provides some additional examples of audit topics that may benefit from direct observation or physical inspection and related observations or inspections you could consider.

Figure 4: Examples of direct observations or physical inspections

Maintenance of government-owned facilities by a contractor	Conduct site visits to relevant properties to physically inspect the buildings based on criteria established in the contract. Take photographs and document the conditions you observe.
Procedures for customs inspections at airports	Visit relevant airports and observe how customs inspections are being conducted. Record your observations so that you can compare what you observe to the audit entity's procedures for conducting inspections. This may help you determine if inspections are being conducted according to the specified procedures and the level of resources that are required to conduct such inspections. You could also consider during your observations whether there are ways for the audited entity to be more efficient in the way they conduct their inspections.
Approvals for large purchases of equipment	Inspect relevant files to check for the signatures and credentials of the approving officials in accordance with legal requirements. You could also use this type of information as part of a broader review to help you determine whether the guidance and training for approving officials is sufficient to ensure they comply with legal requirements or to determine whether the audited entity has sufficient internal controls in place to ensure the law is followed.
Chemical hazards in food	Observe controls in place at border inspection sites to inspect food to determine whether states effectively comply with food safety policies by conducting the appropriate physical checks of imported products of animal and non-animal origins and with what resources.

Source: US GAO; European Court of Auditors Special report no 02/2019: Chemical hazards in our food: EU food safety policy protects us but faces challenges, 2019

Some direct observations are simple and may just require a few photographs or a video as you are touring a warehouse or site. For example, you may interview an official about the damage caused by flooding at a government site. You could then take photographs of the damage to corroborate the official's statements.

However, direct observations or physical inspections that are intended to directly answer or partially answer your audit questions need to be conducted systematically. Consider talking to a stakeholder with expertise in this area, such as a methodologist, for guidance or assistance in implementing these methods.

Below are general steps to be taken to ensure the information you collect from your observations and inspections are relevant, valid and reliable:

- 1. Determine what you will observe or inspect.** Determine what sites, people, events or files you will observe or inspect. If the universe is small, you may be able to conduct observations or inspections at all or most of the sites or events. However, if you have a large potential population to consider, you may have to select a sample of sites. If this is the case, it is recommended that you talk to a methodologist to help you determine which sites or events are best to observe or inspect to obtain the most appropriate evidence for your audit and how those results can be used.

2. **Determine what condition should exist.** Determine the condition that ‘should’ exist – that is, your criteria – before conducting your observations or inspections. The source of these criteria will depend on your audit objective(s) and questions. Still, it could be determined through a review of contracts, inventory records of the audited entities or required procedures. Chapter 4 discusses audit criteria in detail.
3. **Determine what evidence you will collect and how.** Based on the criteria you have determined, develop a structured set of questions for you and your audit team to answer as you conduct the observations or inspections. This may be referred to as a data collection instrument. See Appendix 12 for a sample data collection instrument. This set of questions has to be simple for you and the audit team to consistently answer at each observation or inspection, even if conducted separately. The information you intend to collect can be quantitative (for example, numbers of items) or qualitative (for example, descriptions of an event or condition). Seek evidence that will help you evaluate the **economy, efficiency** and **effectiveness** of the audit topic. For example, if you are observing how customs inspections are being conducted, you do not want just to determine that they are being conducted. You may also want to assess how quickly (efficiency) and thoroughly (effectiveness) they are being conducted and with what resources (economy). In addition, determinations that you make about how you will conduct your observation – such as conducting a covert vs. an overt observation or observing a process as a participant – can affect the quality of the evidence. For instance, customs officials who are aware that you are observing their inspections may follow procedures more closely than those who are not aware.
4. **Document the results.** Carefully and accurately document the results of your observations or inspections – that is, what exists – by answering the questions you have developed as you conduct the inspection or observation (GUID 3920/100). Keep in mind when, where and how the inspection or observation occurred and ensure it is recorded or documented in a way that fairly represents the facts. For example, if an emergency event occurs during your observation, the audited entities’ response to that event may not reflect typical operations for the entities. It is also important that you record what you observe rather than your interpretation of what you observed. Analysis of this information should come later. See Appendix 13 for a sample template for documenting direct observations or physical inspections.

Conducting site visits

The typical audit requires many types of evidence and methods for collecting information. When conducting an audit, you often may have less time, staff resources and money than desired. This, as well as needing to use your SAI's resources wisely, necessitates that you collect information in the most efficient way possible. One technique that most auditors use to do this is by conducting a site visit that combines multiple interviews, document collection and direct observations or physical inspections in a single visit to a site or geographic location. Here is an example of how a site visit could be used to support an audit related to the management of training for customs inspectors.

Sample site visit to assess the sufficiency of training for customs inspectors. For a system-oriented audit question related to the management of training for customs inspectors, an audit team could potentially conduct the following information collection in a multiple-day site visit to the city where the training programme is located:



Day 1

Visit the academy that provides customs inspection training to new inspectors to conduct interviews of the programme administrators, the officials who develop the training curriculum and the officials who provide the training.



Day 2

Return to the academy to observe training and to take photographs or video of training and associated training aids.



Day 3

Visit the local airport to observe inspectors conducting customs inspections and to interview inspectors and supervisors.

Source: IDI/PAS Development Team

Scheduling a comprehensive site visit will require planning, careful scheduling and an understanding of how the audited entity or subjects of the visit are organised. However, the extra effort to do so will allow you to collect far more evidence in a short period than if you conducted interviews and physical observations on separate visits to the location.

Surveys

Surveys are another information collection method that audit teams can use to obtain evidence. A survey is a systematic collection of information from a defined population that can provide you with self-reported information about existing conditions or programmes. Surveys may be self-administered by questionnaire (for example, mail, email or web surveys) or interviewer-administered (for example, face-to-face or telephone surveys). A survey could be a useful method to consider for your audit if you need to gather detailed and specific information from a comprehensive group of people, offices within an organisation, or

organisations, such as to measure the level of satisfaction of a targeted user population with regard to public services rendered.



If you plan to survey members of the public, traditional or social media could provide you with effective options to reach your intended audience.

For example, US GAO recently used social media to survey members of the US population who have lived in privatised military housing.

If you use the media to contact survey populations, take care to ensure you are using methods that are inclusive – that is, methods that will reach all subpopulations of your intended audience – so that you do not inadvertently bias the results.

Source: IDI/PAS Development Team

For example, the United States' (US) Government Accountability Office (GAO) conducted a review of early childhood education programmes provided by each of the 50 US states. The audit teams took a system-oriented approach and sought to determine the number and characteristics of these programmes, how they are funded and the degree to which they overlap with federal and other state programmes. As part of its review, the audit team conducted two surveys. Each survey was sent to early childhood education programme officials in each state. The first survey identified state programmes providing early learning or childcare services to children in the 0-5 age group. The second survey gathered more information about the programmes identified in the first survey, including their characteristics and funding sources. The audit team then analysed the survey data to determine which characteristics state programmes shared with federal and other state programmes, as well as the benefits and challenges of using multiple funding sources. For more details about these surveys and the results, see [*Child Care and Early Education: Most States Offer Preschool Programs and Rely on Multiple Funding Sources \(GAO-19-375\)*](#).

It is important to note that designing and administering a survey that produces objective, credible and reliable information is a complex and time-consuming. A considerable amount of upfront work is required to develop and test the survey. This work, and the time commitment it entails, is often overlooked by audit teams when considering this method. Before embarking upon a survey, ask yourself whether there are alternative sources of information available that could be used effectively instead of the survey or as corroborating evidence with the testimonial information collected from the survey.

Some of the key steps in administering a survey are briefly highlighted below and discussed in more detail in Appendix 14. If your audit team is considering a survey, it is recommended that you seek out a stakeholder within or outside your SAI with expertise in the design and administration of surveys to provide guidance and assistance.

1. **Identify the survey population.** You need to identify the population you will survey, including whether you will survey the entire population or a sample. In doing so, you have to ensure that the individuals or organisations are the best sources of the information you seek. The box below provides only a brief introduction to the concept of sampling, but there is much more to learn about sampling and how it can be used. It is recommended that you seek the advice of an expert and review academic literature when considering a sample.

Sampling

Sampling can be a powerful tool for estimating the characteristics of a population when you cannot collect information on the whole population. A sample is a group of people, sites, objects, items, or documents taken from a larger population for measurement. An audit team could use sampling as a tool for multiple data collection methods, including document reviews, physical inspections, or surveys. There are two general types of samples: probability and non-probability.

Probability sample

A probability sample uses random sampling techniques to create a sample. Every member of a population has a known and equal chance of being selected for such a sample.

Well-designed probability samples allow analysts to make statements about an entire population and measure the accuracy of their estimates.

Non-probability sample

Non-probability samples are simpler but more restrictive in what they will allow you to say. Such samples may use random or non-random processes, like auditor judgement or convenience sampling. Random processes, if possible, are preferable, though they will not allow you to generalise your results across the population in this type of sample.

Non-probability samples can be useful when you need descriptive information about your sample or if you are trying to establish the existence of an attitude or error rather than prevalence. They are not recommended as the sole support for findings involving estimates of variables.

Source: US GAO

- 2. Select a method for administering the survey.** There are multiple methods you can use to administer a survey, including face-to-face or telephone interviews, web-based surveys, paper surveys via mail, electronic surveys via email, or in-person self-administered paper surveys. The method you choose will affect the response rate to your survey if the target population cannot easily respond to the survey or if you do not have the staff resources to administer it as planned.

Survey response rate

The survey response rate may affect how you can use the information provided in a survey – for example, whether the responses can be generalised across the whole population or whether the responses can be used only in a more limited scope.

If you do not receive enough responses to your survey from certain subpopulations, there is a chance that your results could be biased.

Keep in mind how varying response rates from different geographic locations, offices or demographic groups could lead to bias or error in the results of the survey.

There is no minimum threshold for an acceptable response rate. You will likely need to work with a subject matter expert to ensure that you have a sufficient response rate in total and across subpopulations for the intended use of the results of your survey or to assess and adjust for nonresponses.

Source: US GAO

- 3. Analysing the survey responses.** You will need to analyse the information obtained from the survey to use it as evidence. The type of analysis required will be dependent on the types of questions you asked and how you want to use the information. Potential techniques for analysing evidence is covered in more detail later in this chapter.

4. **Documenting the survey results.** You will need to carefully document how you conducted the survey, the survey responses and any analysis performed on the survey results.

Conducting an effective survey will require far more guidance than this handbook provides. Remember to seek out assistance from a methodological expert, either internal or external to your SAI, before attempting to conduct a survey.

Tips for conducting effective surveys

- ✓ Write clear, concise, accurate and neutral questions.
- ✓ Do not cover two issues in one question.
- ✓ Avoid ambiguous or vague questions.
- ✓ Only ask questions that will be used for analysis.
- ✓ Start the questionnaire with easy questions.
- ✓ Avoid too many open-ended questions.
- ✓ Conduct pre-tests of the survey questions with members of the target population.

Source: IDI/PAS Development Team

Other potential methods for collecting information

There are many methods you can use to collect information besides those this chapter has covered. Below are two additional methods that are more commonly used.

Case studies

Case studies are an in-depth, detailed examination of one or more complex events, incidents or locations. You could use this approach to examine processes over time, as well as the relationships between processes and outcomes. The goal of a case study is often used to answer complex 'why' or 'how' questions. Case studies are time-intensive and often involve multiple methods of data collection and sources of information. Because case studies are focused on a single or limited event, the information obtained will not represent all events. In fact, case study subjects are often purposefully selected because they provide particular or unique perspectives. You can avoid bias in such cases by including subjects that offer multiple perspectives and describing the differences objectively. Information obtained from case studies works well in combination with or supplementing other data collection methods.

Focus groups

Focus groups are moderated discussions with groups of participants to explore concepts or obtain information about their experiences related to the topic (for example, the perspectives of customs inspectors regarding the quality of their training). A focus group is different from a group interview because it also aims at observing and exploring the interaction among the participants. As with many data collection methods, the individuals chosen to participate could affect the appropriateness of the information you obtain, so choose carefully to avoid biasing the results.



Site selection for case studies has a direct impact on the data you will be able to collect and your resulting findings. Ensure that:

- case study selections are well-thought-out, defensible and documented; and
- you choose sites that contain a range of the characteristics of interest. For example, choose sites from rural and urban areas, large and small cities, or areas with lots of activity and areas with little.

Source: IDI/PAS Development Team



The goal of a focus group is to have a robust discussion among the participants. To encourage this:

- keep groups small – about eight to ten participants;
- assure participants of their anonymity; and
- create homogenous groups so that participants feel free to express their perspectives honestly (for example, managers with managers and employees with employees).

Source: IDI/PAS Development Team

Important factors to keep in mind while gathering information

- ✓ For most audit topics, there will be far more information available than you can gather and analyse. It is important to set realistic expectations about the information that is needed and can be collected during the time frames of the audit.
- ✓ As you collect data, you may find discrepancies or disagreement between information obtained from the various sources. It is your responsibility to resolve these discrepancies to ensure that the evidence you use to develop your findings is relevant, valid and reliable.
- ✓ Remember that it is your responsibility to exercise professional judgement and scepticism and consider issues from different perspectives. This will require you to maintain an open and objective attitude to various views and arguments.

Source: IDI/PAS Development Team

How do you analyse information?



The Standard

The auditor shall analyse the collected information and ensure that the audit findings are put in perspective and respond to the audit objective(s) and audit questions, reformulating the audit objective(s) and audit questions as needed.

Source: ISSAI 3000/112

You will need to perform analysis of the information you have collected to understand and explain what you found and ultimately to produce evidence. The goal of analysis is to use the information collected to assess **economy**, **efficiency** and/or **effectiveness** and to answer your audit questions. Focusing on the audit questions will help you organise your information and ensure that your analysis will help you get the answers you need.

As discussed earlier in this chapter, information collection and analysis are often conducted concurrently during the audit. Continuous analysis of your information throughout the audit will help you identify if you are collecting enough of the right information to answer your audit questions. This is part of your responsibility and enables you to actively manage audit risk and avoid the development of incorrect or incomplete audit findings, conclusions and recommendations or provide unbalanced information.

There are many different types of analytical methods you can use to analyse the information collected. The methods you choose will depend on your audit questions and the nature of the information (GUID 3920/86). Some common qualitative and quantitative methods of analysing information and data are briefly discussed below.

What are key qualitative methods of analysing information?

Qualitative analysis includes a wide range of methods for structuring, comparing, compiling and describing information that supports logical reasoning and arguments related to the evidence. You would typically conduct qualitative analysis of evidence from interviews, documents and surveys.

Specifically, you will have conducted many interviews and collected many documents throughout your audit that contains evidence to help you answer your audit questions. Your audit questions may provide a basic structure for analysing the qualitative information you have collected to identify key evidence. Beyond this, there are many different qualitative approaches you can use to analyse the documents, ranging from simple to complex methods that require planning. **Figure 29** provides some examples of common methods of qualitative analysis that can be used in analysing information from interviews or documents.

Figure 5: Examples of common types of qualitative analysis

Direct	This type of analysis involves extracting information directly from documents or interviews provided, such as information about the entity's official plans and actions or information related to the performance of the audited topic. This is the simplest type of qualitative analysis, but it is important for you to corroborate this information with other evidence you obtain.
Topical	This type of analysis involves reviewing documents or interviews with a focus on topical information that is relevant to your different audit questions. Searching for common themes, similarities or differences can be useful in the development of audit findings.
Chronological	This type of analysis involves reviewing documents or interviews with the purpose of establishing the order in which a series of events took place or to establish the steps of a process.
Thematic	This type of analysis involves identifying and counting the frequency of certain expressions or themes in documents or interviews; for example, how often summaries from management meetings include discussions on how to provide more developmental opportunities for employees. This type of analysis will require you to develop a clear methodology before you begin, including clearly defining what will be counted and how.
Content	This type of analysis involves structuring and analysing complex qualitative data with the intent of distilling it into quantitative information. This is one of the most complex types of qualitative analysis and will require you to develop a clear methodology before you begin. See below for more information on how to effectively implement this type of analysis.

Source: US GAO

Analysing documents

When analysing the documents that you have collected, the qualitative method(s) you use and the complexity of the analysis required will depend on your audit objective(s), questions, and the types of documents or other sources of information that you have. For example, if your audit questions are related to the customs inspections requirements the audited entity has established in agency guidance, and the audited entity has only one related guidance document. You may be able to extract information directly from that one document – a method referred to as direct analysis. However, if the audited entity's requirements for customs inspections are contained in 10 different guidance documents, your analysis will need to be more complex to systematically account for the guidance in all the documents. The more complex methods of qualitative analysis discussed in **Figure 29** above, such as content analysis, often require careful planning and clear methodologies to effectively implement. See Appendix 15 for more information about content analysis and an example.

Analysing interviews

The interviews you have conducted will also likely comprise a significant amount of your evidence. You will need to select an approach to analyse your interviews to identify common threads of information or topics, things that fit together, or examples of the same underlying problem, issue or concept. For example, if one of your audit questions is related to the effectiveness of training for customs inspectors, you could conduct a topical analysis by reviewing each of your interview records and extracting all the information pertaining to the effectiveness of training for analysis. The box below describes some simple steps of how such a topical analysis based around your audit questions could be carried out.

How do you analyse interviews based on the audit questions?

1. Choose a method for structuring the information from the interviews, using audit questions as the first choice; and sub-questions, actors, regions, etc, as the next choice if it is not meaningful to structure the information only in line with the audit questions.
2. Read the interview notes again and focus on the structure. If interviews are to be organised according to audit questions, make a note in the margin when something is relevant for question number one, two, etc.
3. Go through all the notes regarding audit question number one. If there are many relevant remarks, make a written summary. If necessary, choose a new factor to structure the remarks. Key players could be used as such a structuring factor.
4. Compile and analyse the answers of each type of key player, one at a time.
5. Compile and analyse the answers of all types of key players together.
6. Look for similarities and differences between the answers of different categories of key players.
7. Summarise the information and judge how the interviews can contribute to answering the audit questions and developing recommendations.
8. Continue with the next audit question.

Source: AFROSAI-E Performance Audit Handbook, 2016

It is important to document what you find as you analyse the interviews. One common approach is to develop a summary document to compile the information from the interviews related to each audit question or factor. See Appendix 16 for a document summary example. At a basic level, this involves grouping and labelling similar evidence in a way that makes it easy for you to understand and evaluate. Having all the information organised and documented in one place will help you understand the totality of the relevant evidence related to the topic. If you develop a summary document, include the source information of each piece of the evidence – such as a link back to the original interview documentation – to ensure the evidence trail is clear. Your SAI may have access to software programs you can also use for this type of data analysis. This is discussed in more detail below.

You have a unique opportunity to compile data from many different sources and listen to the knowledge and views of many different members of staff on many levels within the audited entities and third parties. As noted earlier, keep in mind as you are analysing the interviews that the individuals whom you interviewed may have different perspectives on the issues and only a partial view of the facts or the causes of a problem. It is your job as an auditor to evaluate all the information provided to you in the interviews to come up with a more objective and comprehensive picture of the performance of the audited entities.

What are key quantitative methods of analysing data?

Quantitative analysis ranges from simple (for example, calculating an average) to complex (for example, statistical modelling) methods. In performance auditing, quantitative analysis can help you uncover important patterns and relationships in your data and identify areas that need attention or improvement. This section will briefly describe the types of quantitative analysis you may want to consider in your performance audits.

Statistical analysis

Statistical analysis is the science of uncovering patterns and trends in data. It can range from simple descriptive statistics to complex analysis like regression analysis (see below) that requires sophisticated techniques and software.

Descriptive statistics

In performance audits, you will most often use descriptive statistics to help you understand, summarise and describe distributions in the data you have collected in a meaningful way, such as in analysing the audited entities' achievement of performance targets by site or

income distribution in a population. **Figure 30** describes some basic concepts in descriptive statistics and when they can be useful.

Figure 6: Basic concepts in descriptive statistics

Concept	Definition	When to use
Mean	The sum of a set of values divided by the number of values; also known as average.	Useful when data points are symmetrically distributed. Use caution if you have data points that are extreme outliers – that is, unusual when compared to the rest of your data.
Median	The middle value when the values are arranged in order of size; the 50th percentile.	Useful when extreme scores or outliers may distort the mean.
Mode	The most frequent value of a set of values.	Useful when you are looking for the most common category, popular option or typical value.
Range	The difference between the highest and the lowest observation.	Useful to complement the mean and median to discuss how data points are distributed.
Variance	Quantifies the extent to which elements of a population are spread out from each other; average of the squared distance between the single observation and the mean value.	Useful to complement the mean as a measurement on how scores are distributed.
Standard deviation	Measure of the dispersion or spread in the data; the square-root of the variance.	Useful to complement the mean as a measurement of how data points are distributed; use caution if the data have significant outliers.
Percentage	A measure of a part or proportion relative to the whole, expressed in hundredths.	Useful to understand the size of a part of population relative to the whole, such as the number of 'yes' answers in relationship to the total number of responses on a survey.
Index	Measure of changes in a representative group of individual data points; a compound measure that aggregates multiple indicators.	Useful to compare the development of variables over several years, or to compare different years, such as an inflation index.

Source: Adapted from AFROSAI-E Performance Audit Handbook 2016:119

You may need to use multiple descriptive statistics to present a full picture of your data set because a single figure – like the mean – may be misleading if there are outliers in the data set. **Figure 31** shows how some of these descriptive statistics could be used to describe the incomes of staff at a factory.

Figure 7: Incomes of staff at a factory

Staff	1	2	3	4	5	6	7	8	9	10	11
Salary	\$12k	\$14k	\$15k	\$15k	\$15k	\$16k	\$18k	\$20k	\$22k	\$70k	\$95k

Mean: \$28k
Median: \$16k
Mode: \$15k
Note: 'k' equals a thousand.

Source: IDI/PAS Development Team

If you are asked to report on the typical salary at this factory, using only the mean could provide a skewed view because of the two workers who have large salaries. The median and mode, in this case, provide better measures of the typical salary of the workers at the factory. Providing the percentage of workers in your data set who make less than a certain value could also be useful in describing this data set. For example, nearly 82% of the workers earn a salary of less than \$25k.

Some of these concepts – variance and standard deviation, for example – can at times be challenging to calculate and interpret. Software spreadsheet programs can assist with the calculation. Though if you do not have experience applying these concepts in a performance audit, it is recommended that you talk to an internal stakeholder with subject matter expertise if you think such analysis would benefit you in answering your audit questions.

Regression analysis

Regression analysis is a statistical technique for assessing the degree to which variables are associated with one another (for example, correlated).

Regression analysis can be useful in performance auditing if you are trying to:

- test a relationship that is supposed to hold true;
- identify relationships among variables that may be causally related, which can help explain outcomes;
- identify unusual cases that stand out among expected values; or
- make predictions about values.

For example, the US GAO conducted an audit in 2018 that examined factors that affect university preparatory course offerings at high schools in the US. The audit team took a problem-oriented approach that began with the premise that poverty can adversely affect academic and other outcomes in many ways. The audit team examined how high school students of different poverty levels are offered courses to prepare them academically for college. To do this, GAO developed a regression model to test the relationship between the offerings of university preparatory courses and school characteristics, including poverty levels of students, school size, population density of the area (that is, rural versus urban) and ethnic make-up of the student population. Among other things, GAO's regression analysis showed

that schools with high poverty rates among their students were less likely to offer the mathematics and science courses that most public four-year universities expect students to take in high school. For a more detailed explanation of this example and the audit team's methodology, see [*K-12 EDUCATION: Public High Schools with More Students in Poverty and Smaller Schools Provide Fewer Academic Offerings to Prepare for College \(GAO-19-8\)*](#).

Appendix 17 includes a very simple application of regression analysis to illustrate its potential usage. As with all types of modelling, regression analysis can be complicated and may require specialised software for certain data sets or complex analyses with many variables. If you do not have experience with this type of analysis, seeking out training, academic literature, or guidance from a methodologist or subject matter expert can help you appropriately interpret and describe the results of regression in your audit.

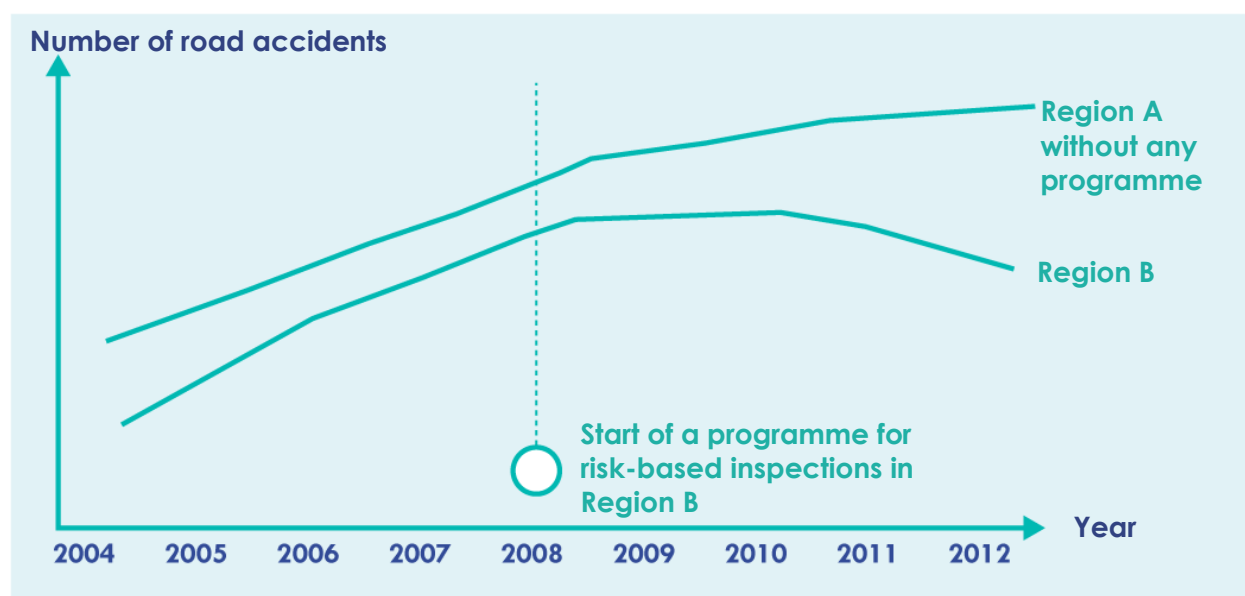
Trend analysis

Trend analysis is useful if you are looking for patterns or changes in your quantitative data. At its simplest, trend analysis involves collecting data from multiple time periods, plotting that data on a graph so that you can see how the data has changed and then determining the factors that led to the change.

In performance auditing, trend analysis is frequently used to look at changes in budgets, costs and programme performance. It may also help you examine the effect of a change in the environment – such as a new law, programme or resource – on a specific variable.

For example, an SAI was examining the number of road accidents in different regions. This was a problem-oriented approach in that the preliminary problem of road accidents was known, but the causes and mitigations were not known. One region in the study – Region B – implemented a programme to conduct risk-based traffic inspections, while Region A did not implement such a programme. The auditors analysed the number of road accidents before and after the inspection programme was put in place in 2007, as seen in **Figure 32**.

Figure 8: Road accidents in regions with different types of inspections



Source: IDI/PAS Development Team

As you can see from this analysis, the number of road accidents began to change in Region B shortly after the inspection programme was implemented. A few years later, the number of accidents even began to decrease in Region B. The rate of increase in the accidents in Region A also slowed down, despite having no programme for risk-based inspections.

While compelling, the data analysis alone did not tell the whole story. To complete their trend analysis, the auditors had to do further investigation and analysis to determine whether there were other factors that could explain the differences in road accidents in Regions A and B and the decrease in accidents in Region B. For instance, in their investigation, they found that a national campaign on road safety was launched around the same time as the inspection programme in Region B. Thus, this was a contributing factor that the audit team had to consider when determining the effect of the inspection programme on road accidents. This is also a good example of how an audit team could use trend analysis to focus on questions of efficiency and effectiveness – that is, what inputs were required to achieve the desired outcomes.

As with this example, determining ‘how has X changed?’ is often just the starting point in a trend analysis for further examination to understand ‘why did X change?’. For this reason, make sure that any findings and conclusions that you develop based on trend analysis consider the many factors that could be contributing to the observed trends in the data.

You can learn more about the data collection and analytical methods discussed in this chapter — and others — by reviewing academic or evaluation literature.

Using software for data analysis

A wide variety of commercial software applications are available that can assist you in conducting both qualitative and quantitative data analyses. These applications range from commonly used word processing and spreadsheet programs to more expensive and complex systems. For example, you can use software programs to manage, organise and analyse large amounts of qualitative data, including conducting content analyses. There are also many software programs available that support analysis of large sets of quantitative data, advanced statistics and modelling.

The use of these sophisticated tools can enhance your audit work and analyse much larger sets of data than you can manage and conduct manually. Remember that the quality of the data is a critical consideration when using such software programs. Software programs can only produce reliable results if the underlying data are reliable.

Check with your internal methodologists and subject matter experts to find out what software applications your SAI has access to that may support your work. Many companies also provide open versions or trial versions of their software programs for free; this may be a useful option for your audit team to consider if your SAI does not have a paid licence for a program you wish to use.

Using graphics to analyse and visualise data

Using graphics to analyse or visualise data is commonly referred to as data visualisation. Simply put, data visualisation is the presentation of data in a picture or a graphic to visually communicate a quantitative message to help with analysis. Its goal is to enable auditors, as well as decision-makers, to grasp difficult concepts and identify new patterns.

Data visualisation in its most simple form includes basic graphs and charts, such as the trend analysis and scatter diagram shown in the examples above. In its more complex forms, it can include the visualisation of millions of lines of data using sophisticated software.

If you have quantitative data, consider using data visualisation as an analytical method. Creating charts of that data can enable you to more quickly and easily see the connections between data points, make comparisons and understand causality than reading lines of text and numbers.

Figure 33 shows examples of the types of charts you can use in your analysis to display the same information.

Figure 9: Examples of charts that can be used for data visualisation

Total budget for fiscal years 2016-2019

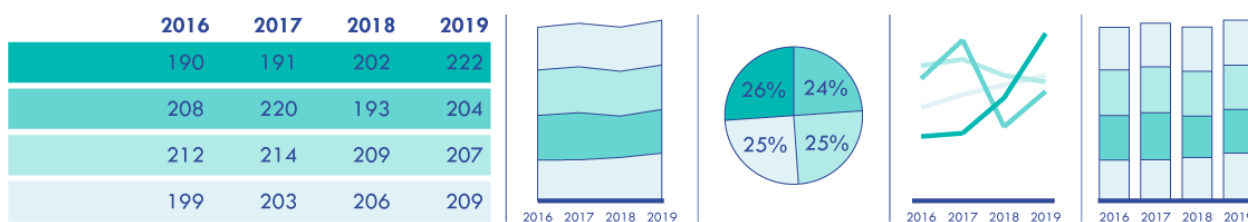
Ministry

Defence

Education

Health

Treasury



Common commercial software applications have capabilities that can assist you in creating different visualisations. Still, your SAI may also have specialised software that can assist you in visualising large data sets. Talk to an internal stakeholder with subject matter expertise to determine what resources are available.

It is important to remember that data visualisation must be easy to understand for the reader to be effective. The best graphics are self-explanatory, though in some cases, you may need to provide the reader with some background information in table notes to give the information appropriate context. Graphics are also intended to be complementary to the text of the report and not repetitive – meaning that you do not need to repeat in the text the information that the graphic provides.

Once you have completed your analysis and developed your findings, data visualisation can also be extremely valuable for communicating the results of your audit. The United Kingdom’s National Audit Office and the US GAO have created websites to share the interactive data sets they have recently produced. Check out these links for some examples of how you can use data visualisation in your audit reports:

www.nao.org.uk/search/publication_type/data-visualisations/

www.flickr.com/photos/usgao/

And check out this blog post on why you may want to do so:

www.nao.org.uk/naoblog/visualising-data/

How do you document and safeguard information?

As you collect and analyse your information, it is important to document or show your work in a timely fashion and to safeguard the documented information. As discussed in Chapter 2, it is important your audit team creates and uses a cross-reference system that establishes understandable and transparent links between the documentation obtained during an audit. A documentation system should: provide you with easy access to the information; enable supervisors to review the work as part of their **quality control** procedures throughout the audit (and reflect this review after it is conducted), and facilitate internal or external **quality assurance** reviews.

As mentioned in the sections above, be sure to document what you are doing to collect the information, how you are analysing the information and the results of your analysis. It is helpful to do this while you are taking these steps so that the process is fresh in your mind and you can recollect all the pertinent details. You must establish adequate documentation to provide a clear understanding of the audit work that you carried out. In practice, this means that your documentation should enable an experienced auditor with no prior knowledge of the audit to understand the nature, timing, scope and results of the audit work that you performed and the audit evidence that you obtained to support the audit findings, conclusions and recommendations, and the reasoning behind all significant matters that required you to exercise professional judgement (ISSAI 3000/87). Prompt supervisory review of your **audit documentation** will also ensure that individual documents are complete, accurate, clear and understandable. This is an important **risk assurance** step because it can also alert supervisors to any problems with the audit (such as insufficient evidence or insufficient documentation of information gathered that weakens its usefulness as evidence). (GUID 3910/82-84)

It is helpful to group your collected information and analyses, either electronically or paper-based, by establishing an understandable folder system.

Protecting personal or sensitive information

Throughout the audit, you may collect personal (such as personally identifiable information) or sensitive information from the audited entities. If this type of information is collected, you must ensure it is adequately safeguarded. When you think you may begin collecting this type of information or if you have begun to collect it, it is suggested that you contact the audited entities to discuss whether and how you can report on this information and ascertain that you are safeguarding the information in a manner that meets the audited entities' and your SAI's standards. For example, sensitive information could include personally identifiable information about an individual, such as a national identification number or a birth date. In another example, certain information may be classified or otherwise prohibited from general disclosure by law or regulations. In such circumstances, you may need to publish a separate, classified or limited-use report containing such information and distribute the report only to those authorised by legislation or regulation to receive it.

When conducting a performance audit, remember to...

- ... continue to assess and manage risk, and ensure the quality of the audit work, through analysis of the evidence for sufficiency and appropriateness; communication with internal and external stakeholders; developing detailed audit documentation, and supervision of the audit work;
- ... continue to assess the independence of the audit team to ensure that you avoid bias, or the appearance of bias that could cause others to call into question the impartiality of the audit team;
- ... frequently communicate with the audited entity to collect data, ensure analyses are comprehensive and verify that the factual basis for the findings are accurate and fair;
- ... communicate with internal, and as appropriate, external subject matter experts and stakeholders to get advice, support or alternative perspectives in collecting information and conducting analysis to enhance the quality of the works;
- ... continuously apply professional scepticism as you collect information through consideration of the credibility of the individuals whom you interview and the data you collect – probe for and evaluate contrary evidence, do not take things at face value;
- ... focus your information collection and analysis on the economy, efficiency and/or effectiveness of the audited entity relative to the audit objective(s) and questions;
- ... ensure that evidence and other audit documentation is sufficiently complete and detailed to establish the work performed and evidence obtained to support significant judgements;
- ... consider the materiality of the information you are collecting and potential results of the analyses you are conducting and apply professional judgement to ensure that your audit work is focused on significant activities of the audited entity; and
- ... ensure that information is collected specifically from vulnerable populations so that data is inclusive of all affected parties.

Source: AFROSAI-E Performance Audit Handbook, 2016