

# **Audit, Business Processes and Digitalization [BL 5]**

## **Business Level II | CA Sri Lanka**

---

Study Text

By: M B G Wimalarathna [FCA, FCMA, FMAAT, MCIM, CPFA, CIPFA, MCPM] [MBA (PIM/USJ)]

### **Contents of the Curriculum**

---

#### **PART A: INTRODUCTION TO CORPORATE GOVERNANCE, RISKS AND CONTROLS**

A.1: Corporate Governance

A.2: Internal Controls

#### **PART B: BUSINESS PROCESSES AND INTERNAL CONTROLS**

B.1: Sales Management

B.2: Procurement Cycle Management

B.3: Payroll Management

B.4: Cash Management

B.5: Property, Plant & Equipment Management

B.6: Inventory Management

#### **PART C: DIGITALIZATION AND BUSINESS PROCESSES**

C.1: Effectiveness of Controls and Digitalization

#### **PART D: ETHICS AND VALUES**

D.1: Introduction to Assurance Engagements

D.2: Ethics and Agreeing the terms of the Engagement

#### **PART E: FUNDAMENTALS OF AUDIT AND ASSURANCE**

E.1: Risk Assessments

E.2: Audit Planning and Documentations

E.3: Audit Procedures and Audit Evidence

E.4: Audit Finalization and Reporting

## **PART E: FUNDAMENTALS OF AUDIT AND ASSURANCE**

### **E.3: Audit Procedures and Audit Evidence**

---

Audit evidence is required to enable the auditor to form an opinion on the financial statements. Such evidence has to be sufficient and appropriate. We explain the financial statement assertions for which audit evidence is required and consider substantive testing. This encompasses tests of detail and the use of analytical procedures. We also examine the audit of accounting estimates, as judgement must be used in accounting for some of the figures in the accounts. Examples of accounting estimates include depreciation and provisions. We will look in detail at audit sampling, which is an important aspect of the audit. We consider different types of audit sampling and the evaluation of errors. Computer-assisted audit techniques (CAATs) are an important tool in the audit and we examine the two main types of CAATs, audit software and test data

Notes:

#### **Chapter contents**

- E.3.1. Audit Evidence
- E.3.2. Financial statement assertions
- E.3.3. Substantive procedures
- E.3.4. Accounting estimates
- E.3.5. Audit sampling
- E.3.6. Computer-assisted audit techniques

### E.3.1. Audit Evidence

Auditors must design and perform audit procedures to obtain sufficient appropriate audit evidence

#### The need for audit evidence

Remember that the objective of an audit of financial statements is to enable the auditor to express an opinion on whether the financial statements are prepared, in all material respects, in accordance with an identified financial reporting framework (SLAuS 200: para. 3). In this section, we shall look at the audit evidence gathered, which enables the auditor to express the audit opinion

Audit evidence is all the information used by the auditor in arriving at the conclusions on which the auditor's opinion is based (SLAuS 500: para. 5(c))

#### Sufficient appropriate audit evidence

The appropriateness of audit evidence is the measure of the quality of audit evidence; that is, its relevance and its reliability in providing support for the conclusions on which the auditor's opinion is based (SLAuS 500: para. 5(b))

The sufficiency of audit evidence is the measure of the quantity of audit evidence.

SLAuS 500 Audit Evidence (para. 6) requires auditors to 'design and perform audit procedures that are appropriate in the circumstances for the purposes of obtaining sufficient appropriate audit evidence'. 'Sufficiency' and 'appropriateness' are interrelated and apply to both tests of controls and substantive procedures

The following generalizations may help in assessing the reliability of audit evidence

Quality of evidence	
<b>External</b>	Audit evidence from <b>external sources</b> is more reliable than that obtained from the entity's records because it is from an independent source.
<b>Auditor</b>	Evidence obtained <b>directly by auditors</b> is more reliable than that obtained indirectly or by inference.
<b>Entity</b>	Evidence obtained from the entity's records is more reliable when the related <b>control system operates effectively</b> .

Quality of evidence	
<b>Written</b>	Evidence in the form of <b>documents (paper or electronic) or written representations</b> are more reliable than oral representations, since oral representations can be retracted.
<b>Originals</b>	<b>Original documents</b> are more reliable than photocopies or facsimiles, which can easily be altered by the client.

### ***Management's expert***

A management's expert is an individual or organization possessing expertise in a field other than auditing or accounting, whose work in that field is used by the entity to assist the entity in preparing the financial statements

The use of a management's expert by management and states that if information to be used as audit evidence has been prepared by a management's expert, the auditor must evaluate the competence, capabilities and objectivity of the expert, obtain an understanding of the work done, and evaluate the appropriateness of the work done as audit evidence

### ***Information produced by the entity***

If information produced by the entity is to be used by the auditor, the auditor needs to evaluate whether it is sufficiently reliable for the auditor's purposes, including obtaining audit evidence regarding its accuracy and completeness, and evaluating whether it is sufficiently precise and detailed

### ***Selecting items to test***

the auditor must determine the means of selecting items for testing 'that are effective in meeting the purpose of the audit procedure'. The auditor could either select all items, select specific items or use audit sampling

### ***Inconsistencies and doubts over reliability***

If audit evidence from one source is inconsistent with that from another, or the auditor has doubts over the reliability of information, the auditor must determine what modifications or additions to audit procedures are necessary to resolve the issues and must consider the effect on other aspects of the audit

### E.3.2. Financial statement assertions

Audit tests are designed to obtain evidence about the financial statement assertions. Assertions relate to classes of transactions and events and related disclosures and account balances at the period end and related disclosures

Financial statement assertions are the representations by management, explicit or otherwise, that are embodied in the financial statements, as used by the auditor to consider the different types of potential misstatements that may occur

Assertions used by the auditor	
Assertions about <b>classes of transactions and events and related disclosures</b> for the period under audit	<p><b>Occurrence:</b> Transactions and events that have been recorded or disclosed have occurred, and such transactions and events pertain to the entity.</p> <p><b>Completeness:</b> All transactions and events that should have been recorded have been recorded, and all related disclosures that should have been included in the financial statements have been included.</p> <p><b>Accuracy:</b> Amounts and other data relating to recorded transactions and events have been recorded appropriately, and related disclosures have been appropriately measured and described.</p> <p><b>Cut-off:</b> Transactions and events have been recorded in the correct reporting period.</p> <p><b>Classification:</b> Transactions and events have been recorded in the proper accounts.</p> <p><b>Presentation:</b> Transactions and events are appropriately aggregated or disaggregated and are clearly described, and related disclosures are relevant and understandable in the context of the requirements of the applicable financial reporting framework.</p>

Assertions used by the auditor	
Assertions about <b>account balances and related disclosures</b> at the period end	<p><b>Existence:</b> Assets, liabilities and equity interests exist.</p> <p><b>Rights and obligations:</b> The entity holds or controls the rights to assets, and liabilities are the obligations of the entity.</p> <p><b>Completeness:</b> All assets, liabilities and equity interests that should have been recorded have been recorded, and all related disclosures that should have been included in the financial statements have been included.</p> <p><b>Accuracy, valuation and allocation:</b> Assets, liabilities and equity interests have been included in the financial statements at appropriate amounts and any resulting valuation or allocation adjustments have been appropriately recorded, and related disclosures have been appropriately measured and described.</p> <p><b>Classification:</b> Assets, liabilities and equity interests have been recorded in the proper accounts.</p> <p><b>Presentation:</b> Assets, liabilities and equity interests are appropriately aggregated or disaggregated and clearly described, and related disclosures are relevant and understandable in the context of the requirements of the applicable financial reporting framework.</p>

The following table sets out the assertions that apply to **sales and receivables**.

<p>Assertions about classes of transactions and related disclosures</p>	<ul style="list-style-type: none"> <li>• All sales transactions recorded have occurred and relate to the entity (occurrence)</li> <li>• All sales transactions that should have been recorded have been recorded (completeness)</li> <li>• Amounts relating to transactions have been recorded appropriately (accuracy)</li> <li>• All transactions have been recorded in the correct period (cut-off)</li> <li>• All transactions are recorded properly (classification)</li> </ul>
	<ul style="list-style-type: none"> <li>• All disclosed events and transactions relating to sales have occurred and pertain to the entity (occurrence, rights and obligations)</li> <li>• All disclosures required have been included (completeness)</li> <li>• Financial information is appropriately presented and described and disclosures clearly expressed (presentation)</li> <li>• Financial and other information is disclosed fairly and at appropriate amounts (presentation)</li> </ul>
<p>Assertions about account balances at the period end and related disclosures</p>	<ul style="list-style-type: none"> <li>• Recorded receivables exist (existence)</li> <li>• The entity controls the rights to receivables and related accounts (rights and obligations)</li> <li>• All receivables that should have been recorded have been recorded (completeness)</li> <li>• Receivables are included in the accounts at the correct amounts (accuracy, valuation and allocation)</li> <li>• All disclosures required have been included (presentation)</li> <li>• Financial information is appropriately presented and described and disclosures clearly expressed (presentation)</li> <li>• Financial and other information is disclosed fairly and at appropriate amounts (presentation)</li> </ul>

## Audit procedures to obtain audit evidence

Audit evidence can be obtained by inspection, observation, enquiry and confirmation, recalculation, reperformance and analytical procedures

The auditor obtains audit evidence by undertaking audit procedures to do the following:

- (a) Obtain an understanding of the entity and its environment to assess the risks of material misstatement at the financial statement and assertion levels (risk assessment procedures)
- (b) Test the operating effectiveness of controls in preventing, or detecting and correcting, material misstatements at the assertion level (tests of controls)
- (c) Detect material misstatements at the assertion level (substantive procedures)

The audit procedures described in the table below can be used as risk assessment procedures, tests of controls and substantive procedures

**Tests of controls** are an audit procedure designed to evaluate the operating effectiveness of controls in preventing, or detecting and correcting, material misstatements at the assertion level

**Substantive procedures** are audit procedures designed to detect material misstatements at the assertion level. Substantive procedures comprise:

- (a) Tests of details (of classes of transactions, account balances, and disclosures); and
- (b) Substantive analytical procedures

Auditors obtain evidence by one or more of the following procedures:

Procedures	
<b>Inspection of tangible assets</b>	Inspection of tangible assets that are recorded in the accounting records confirms existence but does not necessarily confirm rights and obligations or valuation.  Confirmation that assets which have been physically seen are recorded in accounting records gives evidence of completeness.

<b>Procedures</b>	
<b>Inspection of documentation or records</b>	This is the examination of documents and records, both internal and external, in paper, electronic or other forms. This procedure provides evidence of varying reliability, depending on the nature, source and effectiveness of controls over production (if internal). Inspection can provide evidence of existence (eg a document constituting a financial instrument) but not necessarily about ownership or value.
<b>Observation</b>	This involves watching a procedure or process being performed (for example, post opening). It is of limited use as it only confirms the procedure took place when the auditor was watching, and because the act of being observed could affect how the procedure or process was performed.
<b>Enquiry</b>	This involves seeking information from client staff or external sources.  Strength of evidence depends on the knowledge and integrity of source of information. Enquiry alone does not provide sufficient audit evidence to detect a material misstatement at assertion level, nor is it sufficient to test the operating effectiveness of controls.
<b>Confirmation</b>	This is the process of obtaining a representation of information or of an existing condition directly from a third party eg confirmation from bank of bank balances.
<b>Recalculation</b>	This consists of checking the mathematical accuracy of documents or records and can be performed through the use of IT.
<b>Reperformance</b>	This is the auditor's independent execution of procedures or controls that were originally performed as part of the entity's internal control.
<b>Analytical procedures</b>	Evaluating and comparing financial and/or non-financial data for plausible relationships. Also include the investigation of identified fluctuations and relationships that are inconsistent with other relevant information or deviate significantly from predicted amounts.



### E.3.3. Substantive procedures

Auditors need to obtain sufficient appropriate audit evidence to support the financial statement assertions. Substantive procedures aim to obtain that evidence

#### Types of audit tests

To recap, substantive procedures are tests to obtain audit evidence to detect material misstatements in the financial statements. They are generally of two types:

- Analytical procedures
- Tests of detail of transactions, account balances and disclosures

The types of substantive tests carried out to obtain evidence about various financial statement assertions are outlined in the table below:

Audit assertion	Type of assertion	Typical audit tests
<b>Completeness</b>	Classes of transactions and related disclosures Account balances and related disclosures	<ul style="list-style-type: none"><li>• Review of post year end items</li><li>• Cut-off testing</li><li>• Analytical review</li><li>• Confirmations</li><li>• Reconciliations to control accounts</li></ul>
<b>Rights and obligations</b>	Account balances and related disclosures	<ul style="list-style-type: none"><li>• Reviewing invoices for proof that item belongs to the company</li><li>• Confirmations with third parties</li></ul>
<b>Accuracy, valuation and allocation</b>	Account balances and related disclosures	<ul style="list-style-type: none"><li>• Matching amounts to invoices</li><li>• Recalculation</li><li>• Confirming accounting policy is consistent and reasonable</li><li>• Review of post year end payments and invoices</li><li>• Expert valuation</li></ul>

<b>Audit assertion</b>	<b>Type of assertion</b>	<b>Typical audit tests</b>
<b>Existence</b>	Account balances and related disclosures	<ul style="list-style-type: none"> <li>• Physical verification</li> <li>• Third-party confirmations</li> <li>• Cut-off testing</li> </ul>
<b>Occurrence</b>	Classes of transactions and related disclosures	<ul style="list-style-type: none"> <li>• Inspection of supporting documentation</li> <li>• Confirmation from directors that transactions relate to business</li> <li>• Inspection of items purchased</li> </ul>
<b>Accuracy</b>	Classes of transactions and related disclosures	<ul style="list-style-type: none"> <li>• Recalculation of correct amounts</li> <li>• Third-party confirmation</li> <li>• Analytical review</li> </ul>
<b>Classification</b>	Classes of transactions and related disclosures	<ul style="list-style-type: none"> <li>• Confirming compliance with law and accounting standards</li> <li>• Reviewing notes for understandability</li> </ul>
<b>Cut-off</b>	Classes of transactions and related disclosures	<ul style="list-style-type: none"> <li>• Cut-off testing</li> <li>• Analytical review</li> </ul>

Use the following model for drawing up an audit plan.

- Agree opening balances with previous year's working papers
- Review general ledger for unusual records
- Agree client schedules to/from accounting records to ensure completeness
- Carry out analytical review
- Test transactions in detail
- Test balances in detail
- Review presentation and disclosure in accounts

### **Directional testing**

Substantive tests are designed to discover errors or omissions

Broadly speaking, substantive procedures can be said to fall into two categories.

- Tests to discover errors (resulting in over- or understatement)
- Tests to discover omissions (resulting in understatement)

### **Tests designed to discover errors**

These tests will start with the accounting records in which the transactions are recorded to supporting documents or other evidence

### **Tests designed to discover omissions**

These tests must start from outside the accounting records and then matched back to those records. Understatements through omission will never be revealed by starting with the account itself, as there is clearly no chance of selecting items that have been omitted from the account

### **Analytical procedures**

Analytical procedures are used at all stages of the audit, including as substantive procedures. When using analytical procedures as substantive tests, auditors must consider the information available, assessing its availability, relevance and comparability

We introduced analytical procedures earlier in this Study Text where they were used at the planning stage of an audit. They can also be used as substantive procedures to obtain audit evidence directly. Remember, the use of analytical procedures at the substantive testing stage is optional, but auditors must perform analytical procedures at the planning and finalization stages of the audit

When using analytical procedures as substantive tests, the auditor must:

- (a) Determine the suitability of particular analytical procedures for given assertions.
- (b) Evaluate the reliability of data from which the auditor's expectation of recorded amounts or ratios is developed.
- (c) Develop an expectation of recorded amounts or ratios and evaluate whether this is sufficiently precise to identify a misstatement that may cause the financial statements to be materially misstated.
- (d) Determine the amount of any difference that is acceptable without further investigation.

Substantive analytical procedures are usually more applicable to large volumes of transactions that tend to be predictable over time. The suitability of a particular analytical procedure will depend on the auditor's assessment of how effective it will be in detecting material misstatements

The following tables summarises the key ratios and other issues that may be relevant when performing analytical procedures:

### Important accounting ratios

- Gross profit margins, in total and by product, area and months/quarter (if possible)
- Operating profit margin
- Receivables collection period (average collection period in days)
- Payables payment period (average payment period in days)
- Inventory holding period (average number of days for which inventory is held)
- Inventory revenue ratio (revenue divided into cost of sales)
- Current ratio (current assets to current liabilities)
- Quick or acid test ratio (liquid assets to current liabilities)
- Gearing ratio (debt capital to equity capital)
- Return on capital employed (profit before tax to total assets less current liabilities)

### Related items

- Payables and purchases
- Inventories and cost of sales
- Non-current assets and depreciation, repairs and maintenance expense
- Intangible assets and amortisation
- Loans and interest expense
- Investments and investment income
- Receivables and bad debt expense
- Receivables and sales

### Other areas for consideration

- **Examine changes in products, customers and levels of returns**
- **Assess** the effect of **price and mix changes** on the cost of sales
- **Consider** the effect of **inflation, industrial disputes, changes in production methods** and **changes in activity** on the charge for wages
- **Obtain explanations** for all **major variances** analysed using a standard costing system. Particular attention should be paid to those relating to the over- or under-absorption of overheads since these may, *inter alia*, affect inventory valuations
- **Compare trends in production and sales** and assess the effect on any provisions for obsolete inventory
- **Ensure** that **changes in the percentage labour or overhead content** of production costs are also reflected in the inventory valuation
- **Review other expenditure**, comparing:
  - Rent with annual rent per rental agreement
  - Rates with previous year and known rates increases
  - Interest payable on loans with outstanding balance and interest rate per loan agreement
  - Hire or leasing charges with annual rate per agreements
  - Vehicle running expenses with those expected for the company's vehicles
  - Other items related to activity level with general price increase and change in relevant level of activity (for example telephone expenditure will increase disproportionately if export or import business increases)
  - Other items not related to activity level with general price increases (or specific increases if known)

The working papers must contain the completed results of analytical procedures. They should include:

- ✓ The outline program of the work
- ✓ The summary of significant figures and relationships for the period
- ✓ A summary of comparisons made with budgets and with previous years
- ✓ Details of all significant fluctuations or unexpected relationships considered
- ✓ Details of the results of investigations into such fluctuations/relationships
- ✓ The audit conclusions reached
- ✓ Information considered necessary for assisting in the planning of subsequent audits

### **E.3.4. Accounting estimates**

When auditing accounting estimates, auditors must:

- Test the management process
- Use an independent estimate
- Review subsequent events

In order to assess whether the estimates are reasonable

#### **The nature of accounting estimates**

The auditor's objective is to obtain sufficient appropriate audit evidence about whether accounting estimates are reasonable and related disclosures are adequate

An accounting estimate is 'an approximation of a monetary amount in the absence of a precise means of measurement'

Estimation uncertainty is 'the susceptibility of an accounting estimate and related disclosures to an inherent lack of precision in its measurement'

Examples of accounting estimates include:

- Allowance for doubtful accounts
- Inventory obsolescence
- Warranty obligations
- Depreciation method or asset useful life
- Outcome of long-term contracts
- Costs arising from litigation settlements and judgements
- Provision against the carrying amount of an investment where there is uncertainty regarding its recoverability

#### **Risk assessment procedures**

The auditor shall obtain an understanding of the following to provide a basis for the identification and assessment of the risks of material misstatement for accounting estimates:

- The requirements of the applicable financial reporting framework
- How management identifies those transactions, events and conditions that may give rise to the need for accounting estimates
- How management makes the accounting estimates and an understanding of the data on which they are based, including:
  - ✓ Method
  - ✓ Relevant controls
  - ✓ Assumptions
  - ✓ Whether change from prior period in method used
  - ✓ Whether management has assessed the effect of estimation uncertainty

## Responding to the assessed risks

The SLAuS requires the auditor to perform one or more of the following:

- (a) Determine whether events occurring up to the date of the auditor's report provide audit evidence regarding the accounting estimate.
- (b) Test how management made the accounting estimate and the data on which it is based.
- (c) Test the operating effectiveness of controls over how the accounting estimate was made.
- (d) Develop a point estimate or a range to evaluate management's point estimate

## Other audit procedures

SLAuS 540 (paras. 18–22) requires the auditor to do the following:

- ✓ Evaluate whether the accounting estimates are either reasonable or misstated
- ✓ Obtain sufficient appropriate audit evidence about whether disclosures are correct
- ✓ For accounting estimates that give rise to significant risks, evaluate the adequacy of disclosure of their estimation uncertainty
- ✓ Review the judgements and decisions of management in making the accounting estimates to identify if there are indications of possible management bias
- ✓ Obtain written representations from management as to whether management believes significant assumptions used are reasonable

## E.3.5. Audit sampling

Auditors usually seek evidence from less than 100% of items of the balance or transaction being tested by using sampling techniques

### Methods of selecting items for testing

Auditors do not normally examine all the information available to them, as it would be impractical to do so, particularly given that the alternative of using audit sampling will produce valid conclusions. SLAuS 500 introduces three methods of selecting items for testing:

- Testing 100% of items in a population
- Testing all items with a certain characteristic, as selection is not representative
- Audit sampling

Auditors may select certain items from a population because of specific characteristics they possess. The results of items selected cannot be projected onto the whole population, but they may be used in conjunction with other audit evidence concerning the rest of the population.

Auditors may focus on:

- (a) High value or key items. The auditor may select high value items or items that appear suspicious, unusual or prone to error.
- (b) All items over a certain amount. Selecting items this way may mean a large proportion of the population can be verified by testing a few items.
- (c) Items to obtain information. This could be information about the client's business, the nature of transactions, or the client's accounting and control systems.
- (d) Items to test procedures. This is to see whether particular procedures are being performed

### **Introduction to audit sampling**

Audit sampling is designed to enable the auditor to draw conclusions about an entire population, on the basis of testing a sample drawn from it.

Audit sampling is 'the application of audit procedures to less than 100% of items within a population of audit relevance such that all sampling units have a chance of selection in order to provide the auditor with a reasonable basis on which to draw conclusions about the entire population'

The population is 'the entire set of data from which a sample is selected and about which the auditor wishes to draw conclusions'

Audit sampling can be done using either statistical sampling or non-statistical sampling methods.

Statistical sampling is 'an approach to sampling that has the following characteristics:

- (i) Random selection of the sample items; and
- (ii) The use of probability theory to evaluate sample results, including measurement of sampling risk'.

Non-statistical sampling is a sampling approach that does not have these characteristics

### **Design of the sample**

Sampling risk is 'the risk that the auditor's conclusion based on a sample may be different from the conclusion that would be reached if the entire population were subjected to the same audit procedure'

Non-sampling risk is 'the risk that the auditor reaches an erroneous conclusion for any reason not related to sampling risk'; for example, the use of inappropriate audit procedures, or misinterpretation of audit evidence and failure to recognize a misstatement or deviation



Sampling unit is 'the individual items constituting a population'. It may be a physical item (eg credit entries on bank statements, sales invoices, receivables' balances) or a monetary unit

Stratification is 'the process of dividing a population into sub-populations, each of which is a group of sampling units which have similar characteristics

The main methods of selecting samples are random selection, systematic selection and haphazard selection

(a) **Random selection** ensures that all items in the population have an equal chance of selection, eg by use of random number tables or random number generators.

(b) **Systematic selection** involves selecting items using a constant interval between selections, the first interval having a random start. When using systematic selection auditors must ensure that the population is not structured in such a manner that the sampling interval corresponds with a particular pattern in the population.

(c) **Haphazard selection** may be an alternative to random selection provided auditors are satisfied that the sample is representative of the entire population. This method requires care to guard against making a selection which is biased, for example towards items which are easily located, as they may not be representative. It should not be used if auditors are carrying out statistical sampling

(d) **Block selection** may be used to check whether certain items have particular characteristics. For example, an auditor may use a sample of 50 consecutive cheques to test whether cheques are signed by authorized signatories rather than picking 50 single cheques throughout the year. However, block sampling may produce samples that are not representative of the population as a whole, particularly if errors only occurred during a certain part of the period, and therefore the errors found cannot be projected onto the rest of the population.

(e) **Monetary unit sampling** is a type of value-weighted selection in which sample size, selection and evaluation results in a conclusion in monetary amounts

Key stages in the sampling process are as follows:

- Determining objectives and characteristics of the population
- Determining sample size
- Choosing method of sample selection
- Projecting errors and evaluating the results

### E.3.6. Computer-assisted audit techniques

CAATs are the use of computers for audit work. The two most commonly used CAATs are audit software and test data

Computer-assisted audit techniques (CAATs) are 'applications of auditing procedures using the computer as an audit tool'

The overall objectives and scope of an audit do not change when an audit is conducted in a computerized environment. However, the application of auditing procedures may require auditors to consider techniques that use the computer as an audit tool. These uses of the computer for audit work are known as CAATs

CAATs may be used in performing various auditing procedures, including the following:

- Tests of details of transactions and balances
- Analytical review procedures
- Tests of computer information system controls

The advantages of using CAATs are:

- (a) Auditors can test program controls as well as general internal controls associated with computers.
- (b) Auditors can test a greater number of items more quickly and accurately than would be the case otherwise.
- (c) Auditors can test transactions rather than paper records of transactions that could be incorrect.
- (d) CAATs are cost effective in the long term if the client does not change its systems.
- (e) Results from CAATs can be compared with results from traditional testing – if the results correlate, overall confidence is increased.

The disadvantages associated with using CAATs include:

- Setting up the software needed for CAATs can be time consuming and expensive.
- Audit staff will need to be trained so they have a sufficient level of IT knowledge to apply CAATs.
- Not all client systems will be compatible with the software used with CAATs.
- There is a risk that live client data is corrupted and lost during the use of CAATs

The major steps to be undertaken by the auditors in the application of a CAAT are as follows:

- (a) Set the objective of the CAAT application
- (b) Determine the content and accessibility of the entity's files
- (c) Define the transaction types to be tested
- (d) Define the procedures to be performed on the data
- (e) Define the output requirements
- (f) Identify the audit and computer personnel who may participate in the design and application of the CAAT
- (g) Refine the estimates of costs and benefits
- (h) Ensure that the use of the CAAT is properly controlled and documented

- (i) Arrange the administrative activities, including the necessary skills and computer facilities
- (j) Execute the CAAT application
- (k) Evaluate the results

There are two particularly common types of CAAT, audit software and test data

### Audit software

Audit software consists of computer programs used by the auditors, as part of their auditing procedures, to process data of audit significance from the entity's accounting system. It may consist of generalized audit software or custom audit software. Audit software is used for substantive procedures

The following table provides some examples of the use of audit software in the course of an audit.

Audit software: examples of use
<ul style="list-style-type: none"> <li>• Perform calculations and comparisons in analytical procedures</li> <li>• Sampling programs to extract data for audit testing, eg select a sample of receivables for confirmation</li> <li>• Scan a file to ensure that all documents in a series have been accounted for or to search for large and unusual items</li> <li>• Compare data elements in different files for agreement (eg prices on sales invoices to authorised prices in master file)</li> <li>• Reperform calculations eg totalling sales ledger</li> <li>• <b>Prepare documents and reports eg produce receivables' confirmation letters and monthly statements</b></li> </ul>

Benefits of using audit software

- (a) Audit software can perform calculations and comparisons more quickly than those done manually.
- (b) Audit software makes it possible to test more transactions than when simply manually scanning printouts. For example, audit software may facilitate searches for exceptions, such as negative or very high quantities when auditing inventory listings. The additional information will give the auditor increased comfort that the figure being audited is reasonably stated
- (c) Audit software may allow the actual computer files (the source files) to be tested from the originating program, rather than printouts from spool or previewed files which are dependent on

other software (and therefore could contain errors or could have been tampered with following export).

(d) Using audit software is likely to be cost-effective in the long term if the client does not change its systems

#### Difficulties of using audit software

(a) The costs of designing tests using audit software can be substantial, as a great deal of planning time will be needed in order to gain an in-depth understanding of the client's systems so that appropriate software can be produced.

(b) The audit costs in general may increase because experienced and specially trained staff will be required to design the software, perform the testing and review the results of the testing.

(c) If errors are made in the design of the audit software, audit time, and therefore costs, can be wasted in investigating anomalies that have arisen because of flaws in how the software was put together rather than by errors in the client's processing.

(d) If audit software has been designed to carry out procedures during live running of the client's system, there is a risk that this disrupts the client's systems. If the procedures are to be run when the system is not live, extra costs will be incurred by carrying out procedures to verify that the version of the system being tested is identical to that used by the client in live situations

#### Test data

Test data techniques are used in conducting audit procedures by entering data (eg a sample of transactions) into an entity's computer system, and comparing the results obtained with pre-determined results. Test data is used for tests of controls

Examples include:

(a) Test data used to test specific controls in computer programs, such as online password and data access controls.

(b) Test transactions selected from previously processed transactions or created by the auditors to test specific processing characteristics of an entity's computer system. Such transactions are generally processed separately from the entity's normal processing. Test data can for example be used to check the controls that prevent the processing of invalid data by entering data with, say, a non-existent customer code or worth an unreasonable amount, or a transaction which may if processed break customer credit limits

(c) Test transactions used in an integrated test facility. This is where a 'dummy' unit (eg a department or employee) is established, and to which test transactions are posted during the normal processing cycle

Bearing the examples above in mind, we can see that the main benefits of using test data techniques are:

(a) Test data provides evidence that the software or computer system used by the client are working effectively by testing the program controls and in some cases there may be no other way to test some program controls.

(b) Once the basic test data have been designed, the level of ongoing time needed and costs incurred is likely to be relatively low until the client's systems change

However, there are some problems with using test data.

(a) A significant problem with test data is that any resulting corruption of data files has to be corrected. This is difficult with modern real-time systems, which often have built-in (and highly desirable) controls to ensure that data entered cannot be easily removed without leaving a mark.

(b) Test data only tests the operation of the system at a single point of time and therefore the results do not prove that the program was in use throughout the period under review.

(c) Initial computer time and costs can be high and the client may change its programs in subsequent years

### **Audit data analytics**

The emergence of data analytics should lead to increased auditor efficiency and reduced audit risk

**Big Data** is a broad term for the larger, more complex datasets that can be held by modern computers. The term refers to a qualitative shift in the amount of data that is available in comparison with the past

**Data analytics** is the examination of data to try to identify patterns, trends or correlations. As the quantity of data has increased, it has become more and more necessary to evolve ways of processing and making sense of it

A key advantage of ADA is that, where it is applied appropriately, it can help improve both audit efficiency and audit quality. Large quantities of data can be interrogated relatively quickly, allowing auditors to focus immediately on the riskiest areas, and thus obtain evidence to reduce audit risk.

Examples of how data analytics might help auditors include:

- ✓ Analyses of revenue trends into product or region
- ✓ Matches of orders to cash receipts and of purchases to cash payments
- ✓ Three-way matches between purchase/sales orders, goods received/dispatched documentation and invoices
- ✓ Testing of user codes for whether appropriateness of segregation of duties is appropriate, and for whether any inappropriate combinations of users have been involved in processing transactions

However, there are also limitations its use, such as:

- ❑ Auditors need to have a clear understanding of the data they are analyzing. There is a risk that the data analyzed is not actually relevant to the audit.
- ❑ It should not be thought that if, in the future, auditors are able to test 100% of a population, the auditor's opinion could provide more than just reasonable assurance. It cannot, because professional judgement is always involved
- ❑ Both accounting estimates and qualitative disclosures require professional judgement. ADA can be a useful aid to this, but judgement and skepticism will always be needed.
- ❑ Although technology can help obtain evidence, auditors and stakeholders should not become overconfident in technology

Challenges to the increased use of ADA include:

- ❑ **Data acquisition** – the auditor needs to acquire and store large amounts of the entity's data. This can pose technical difficulties.
- ❑ **Conceptual challenges** – the auditor will need to think about how to use data in ways that are different from how the entity has used it in the past.
- ❑ **Legal and regulatory challenges** – eg concerning data security.
- ❑ **Resource availability** – if ADA involves the use of centralized highly-skilled data scientists, then there may not be enough of this resource to support audit teams.
- ❑ **How regulators can maintain oversight** – regulators may not have experience of ADA, so they may find it hard to inspect audits.
- ❑ **Re-training/re-skilling auditors** – this will require significant time and investment in training



## Chapter review questions

1. Define sufficiency and appropriateness as they relate to audit evidence
2. State the financial statement assertions
3. Fill in the blanks

Audit evidence from external sources is ..... than that obtained from the entity's records

4. State five procedures which auditors can use to obtain audit evidence
5. Explain what 'reperformance' is
6. Link the type of account with the purpose of the primary test in directional testing
  - (a) Assets
  - (b) Liabilities
  - (c) Income
  - (d) Expense
  - (i) Overstatement
  - (ii) Overstatement
  - (iii) Understatement
  - (iv) Understatement
7. State four issues auditors should consider when carrying out analytical procedures on wages and salaries
8. Identify the significant relationships in the list of items below
  - (a) payables
  - (b) interest
  - (c) purchases
  - (d) sales
  - (e) amortisation
  - (f) loans
  - (g) receivables
  - (h) intangibles
9. Complete the definition

An accounting estimate is an ..... of the ..... of an item in the absence of a ..... of measurement

10. Give three examples of sample selection methods that can be used in audit sampling
11. Name two types of CAAT that are commonly used