Analytical Procedures – A Powerful Tool for Auditors

(Relevant to Paper 8 – Principles of Auditing and Management Information Systems)

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Audit tests

Auditors normally carry out the following types of audit tests to determine whether financial statements are fairly stated:

(i) procedures to obtain an understanding of internal control
(ii) tests of controls
(iii) substantive tests:
- substantive tests of transactions;
- analytical procedures; and
- tests of details of balances.

Auditors perform types (i) and (ii) audit tests to reduce assessed control risk, whereas substantive tests are used to reduce planned detection risk. There are three types of substantive test: substantive tests of transactions, analytical procedures, and tests of details of balances.

Auditors perform audit procedures (see below) in the form of detailed audit steps so as to achieve the specific audit objectives. Indeed all audit procedures fall into any one of the five types of tests, and some of them may serve as more than one type of test.

Tests of controls

Auditors perform tests of controls when their assessment of risks of material misstatement at the assertion level includes an expectation that controls are operating effectively. This means that auditors perform tests of controls only when: (i) a system exists; and (ii) the system has controls. The performance of tests of controls is to establish whether those controls in the systems are actually functioning properly and effectively so that the auditors can determine whether or not they can rely upon the controls.

Substantive tests

Substantive tests (also known as substantive procedures) are procedures designed to test for dollar errors or irregularities directly affecting the correctness of financial statement balances. Auditors perform substantive tests in an audit to detect material misstatement at the assertion level.

Substantive tests of transactions emphasize the verification of transactions recorded in the journals and then posted in the general ledger. Analytical procedures emphasize the overall reasonableness of transactions and the general ledger balances. Tests of details of balances consider the closing balances in the general ledger.

Relationship between tests of controls and substantive tests

In tests of controls, an exception is only an indication of the likelihood of errors or irregularities affecting the dollar value of the financial statements, whereas an exception in substantive tests is a financial statement misstatement. Exceptions in tests of controls are significant only if they occur with sufficient frequency to cause the auditors to believe that there may be material dollar misstatements in the financial statements. Auditors would then need to plan to perform substantive tests to determine whether dollar misstatements have actually occurred.

Audit procedures

Auditors utilize the following types of audit procedures to collect audit evidence:

(i) inspection
(ii) observation
(iii) inquiry
(iv) confirmation
(v) recalculation
(vi) re-performance
(vii) analytical procedures.

They document the findings and conclusions from the audit procedures performed so as to provide: (i) a sufficient and appropriate record of the basis for the auditors' report; and (ii) evidence that the audit was performed in accordance with Hong Kong Standards on Auditing and applicable legal and regulatory requirements.

Analytical procedures

Bright readers may have noticed that analytical procedures serve as both audit tests and audit procedure. Let's study the roles of analytical procedures in an audit.

Analytical procedures refers to the analysis of significant ratios and trends including the resulting investigation of fluctuations and relationships that are inconsistent with other relevant information or which deviate from predicted amounts.

Nature of analytical procedures

These may be achieved through the consideration of comparisons of the entity's financial information with, for example:

- Comparable information for prior periods
- The entity's anticipated results
- Similar industry information.

When performing analytical procedures, the auditors examine both financial data and non-financial data, such as the number of employees. Before starting their analytical procedures, auditors estimate the expected value (of the ratio/ trend/ account balance/ transaction, etc.) before calculating the actual value so as to avoid the actual value being biased for the auditor's estimate of the expected value. The expected results are estimated based on preliminary discussions with the clients.

After having performed their analytical procedures, the auditors then compare the actual results with those expected and look for reasons for any significant variations. Unexplained variations may indicate a misstatement in the figures in that area, which would lead the auditors to plan their audit work to devote more time and resources to those areas. When the application of analytical procedures does not identify any unusual or unexpected differences, the results provide evidence in support of management's assertions.

Timing and purpose of analytical procedures

Analytical procedures may be performed at any of all three stages in the audit process: the planning phase, the testing phase and the completion phase.

During the planning phase, analytical procedures can be used as risk assessment procedures. They help auditors identify significant matters requiring special consideration later in the audit engagement, such as to:

- understand the client's industry and business
- assess going concern
- indicate possible misstatements
- reduce detailed tests.

During the testing phase, analytical procedures can be used as substantive procedures in collecting appropriate audit evidence. They can be performed together with other substantive procedures (substantive tests of transactions and tests of details of balances) and they help to:

- indicate possible misstatements
- reduce detailed tests.

During the completion phase, analytical procedures can be used as part of an overall review of the financial statements for the auditors to reach conclusions about the fair presentation of the financial statements. The analytical procedures help the auditors to take a final review of the audited financial statements objectively and help to:

- assess going concern
- indicate possible misstatements.

Limitation of analytical procedures as substantive procedures

Analytical procedures only provide conclusions on reasonableness of data rather than precision and cannot easily be linked to specific assertions (i.e. the nature or cause of a difference); therefore analytical procedures are less persuasive than tests of details of balances. The substantive evidence gathered using analytical procedures is thus generally used to corroborate other substantive evidence gathered, rather than being used as a sole source of evidence.

Cost-benefit of analytical procedures

Analytical procedures cost the least because of the relative ease of making calculations and comparisons. It is quite often easier for auditors to obtain considerable information about potential misstatements by simply comparing two or three numbers. Tests of controls are low cost because auditors simply make inquiries and observations and examine the evidence of the performance of controls, such as initials on documents. These tests can be done on a large number of items within a short period of time. However, substantive tests of transactions are more expensive because they may include re-performance, which involves re-calculation and tracing. Tests of details of balances are often the most expensive because of the cost involved in sending confirmations and performing physical counts.

Design of analytical procedures as substantive procedures

The expected effectiveness and efficiency of an analytical procedure in identifying potential misstatements depends on:

(i) the nature of the assertion
(ii) the plausibility and predictability of relationship
(iii) the availability and reliability of the data used to develop the expectation
(iv) the precision of the expectation.

Documentation of analytical procedures as substantive procedures

The identification of the relationships and types of data used, as well as conclusions reached when recorded amounts are compared with expectations and require judgment by the auditors, should be documented using all of the following:

(i) the expectation and factors considered in its development
(ii) results of the comparison of the expectation with the recorded amounts or ratios developed from the recorded amounts
(iii) any additional auditing procedures performed in response to significant unexpected differences arising from the analytical procedures and the results of such additional procedures.

Investigating unusual items

In practice not all the actual results obtained from analytical procedures will be close to the expected results estimated by auditors. As mentioned above, auditors then have to investigate and obtain adequate explanations and appropriate corroborative audit evidence. Auditors seldom jump to the conclusion that fraud exists, but have to at least reveal the suitability and reliability of data adopted in the estimation. If the auditors are confident with their data, they normally start by making inquiries of management. This should be followed by a corroboration of management's response. However, if management is unable to provide an explanation or if the explanation is not considered adequate, auditors should consider the need to apply other audit procedures based on the results of their inquiries.

Advice on the use of analytical procedure

Analytical procedure is a powerful tool that has the potential to increase the efficiency of audits since it is a relatively low-cost procedure that seems to have considerable power in identifying errors or irregularities and in guiding audits. Although the calculation of ratios and comparison of trends are relatively easy tasks, the analysis of ratios and trends requires a good understanding of the client's business and industry. Hence analytical procedures are preferably handled by a more senior auditor within the audit team. T/D