The Role of Analytics in Auditing – The Importance of What the Numbers Indicate and Lack to Indicate

Vienna, November 18, 2013

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Continuous auditing paradigm

Application ofAudit Analytics:
- Analytical review
- Controls assessment and testing (100% of transactions comply with the rule, any activities occur without control)
- Substantive testing (100% of transaction are complete, valid, accurate)
- Fraud detection

CAAT’s
Group Activity:

Provide three examples of data analysis where tests are performed on whole population (data set) with the use of CAAT’s.
Audit analytics- test examples

» Accounts payable
  - Matches between employee and vendor master files
  - Duplicate invoices/payments

» Payroll
  - Payments to fictitious employees
  - Employees with unusual proportions of overtime

» Accounts receivable
  - Changed invoice dates (aging analysis)
  - Multiple accounts of same customer

» General ledger entries
  - Suspicious entries (weekends, near reporting ending dates)
  - Testing cut-off violations
BENFORD’S LAW?
Frank Benford (1938) after observing naturally occurring numbers discovered the following pattern:

<table>
<thead>
<tr>
<th>Leading Digit</th>
<th>Occurring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30.1%</td>
</tr>
<tr>
<td>2</td>
<td>17.6%</td>
</tr>
<tr>
<td>3</td>
<td>12.5%</td>
</tr>
<tr>
<td>4</td>
<td>9.7%</td>
</tr>
<tr>
<td>5</td>
<td>7.9%</td>
</tr>
<tr>
<td>6</td>
<td>6.7%</td>
</tr>
<tr>
<td>7</td>
<td>5.8%</td>
</tr>
<tr>
<td>8</td>
<td>5.1%</td>
</tr>
<tr>
<td>9</td>
<td>4.6%</td>
</tr>
</tbody>
</table>
Benford’s law

Could be used:
» Purchase orders
» Accounts payable transactions
» Customer refunds
» Inventory prices
» Revenues
» Customer balances

Data sets not suitable for Benford’s law include:
• Data sets with 500 or fewer transactions
• Data generated by formulas
• Data restricted by max or min number (overtime for wages, wage rates etc)
Analytical procedures can be used at three stages in the audit:
- Planning as risk assessment procedure (ISA 315)
- Substantive procedures (ISA 520, ISA 330)
- Overall review (ISA 520)

The term “analytical procedures” means evaluations of financial information through analysis of plausible relationships among both financial and non-financial data.
Analytical procedures at this stage include:

» Comparisons with:
  - **Similar information** for prior periods,
  - **Anticipated results** of the entity, from budgets or forecasts
  - **Predictions** prepared by the authors
  - **Industry information**

» Comparisons between elements of financial statements subject to a certain expected pattern (i.e. gross profit to sales)

» Comparisons between financial and non-financial information (i.e. payroll expenses and number of employees).
Analytical procedures may:

» Identify aspects of the business of which the auditor was unaware.

» Identify the existence of unusual transactions or events, and amounts, ratios, and trends that might indicate whether material misstatement due to fraud or error could exist.

Limited availability of information for smaller entities reduce the opportunities for preliminary analytical procedures.
Ratio analysis

- profitability ratios,
- asset efficiency ratios,
- liquidity,
- solvency.

It's not about which ratios the auditor should calculate, and the appropriateness of results. It's about getting a reliable story out of numbers presented in financial statements.
CASE STUDY SESSION -
ANALYTICAL PROCEDURES FOR RISK ASSESSMENT
Analytical procedures for risk assessment

- Key financial performance measures for the management
- Motivation for business improvement or financial statements “decoration”
- External parties reports (credit agencies or analysts’ reports)
- Smaller entities often do not have processes to measure and review financial performance.
Sources of information used by the management to analyse financial performance:

» Key performance indicators (financial and non-financial) and key ratios, trends and operating statistics.

» Period-on-period financial performance analyses.

» Budgets, forecasts, variance analyses, segment information and divisional, departmental or other level performance reports.

» Employee performance measures and incentive compensation policies.

» Comparisons of an entity’s performance with that of competitors.
Reflect 3-5 minutes and discuss on possible key performance indicators for a small textile company producing and mainly exporting fashionable pieces for well known women brands. The company is predominantly financed by bank loans.
The use of substantive analytical procedures *alone* can provide *sufficient appropriate audit evidence*?

Depends on:
- the inherent risk,
- type of analytical procedures.

Substantive analytical procedures can be performed during the interim or final audit.
Use of analytical procedures as substantive tests

The auditor must:

» Determine the **suitability of particular analytical procedures for given assertions**.

» Evaluate the **reliability of data from which the auditor's expectation of recorded amounts or ratios is developed**.

» **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.**

» Determine the amount of any difference that is **acceptable without further** investigation.
Suitability of particular analytical procedures

- The determination of the suitability of particular substantive analytical procedures is influenced by the nature of the assertion and the auditor’s assessment of the risk of material misstatement.

- Particular substantive analytical procedures may also be considered suitable when tests of details are performed on the same assertion.
Use of analytical procedures as substantive tests

Reliability of data depends on the following circumstances:

» Source of the information available,

» Comparability of the information available,

» Nature and relevance of the information available,

» Controls over the preparation of the information that are designed to ensure its completeness, accuracy and validity.
Use of analytical procedures as substantive tests

Evaluation of whether the expectation is sufficiently precise-matters relevant

» The accuracy with which the expected results of substantive analytical procedures can be predicted.

» The degree to which information can be disaggregated.

» The availability of the information, both financial and non-financial.
Acceptable difference between recorded and expected values

The auditor’s determination of the amount of difference from the expectation that can be accepted without further investigation is influenced by materiality and the consistency with the desired level of assurance, taking account of the possibility that a misstatement, individually or when aggregated with other misstatements, may cause the financial statements to be materially misstated.
Types of substantive analytical procedures:
- Ratio analysis
- Examining related accounts
- Trend analysis
- Reasonableness test
- Regression analysis
Investigating results that are inconsistent:

» Inquiries of management and obtaining appropriate audit evidence relevant to management's responses

» Performing other audit procedures if necessary (eg if management cannot provide an explanation or the explanation is not adequate)

Difference in the result:

A) Do not represent a misstatement

B) May represent misstatement which will be confirmed or denied by further audit procedures (tests of details).
You have been engaged as an auditor of small family company which owns two large retail stores with complete baby program (clothes, toys, gear and accessories etc.) Sales are predominantly to individual customers in cash through cash registers in the stores. Also, sales are made to other retail stores (totaling not more than 10%) for the products directly imported by the company.

Task:
Design appropriate substantive analytical procedure in respect of the revenues from individual customers. Explain the overall approach in obtaining substantive assurance.

Work in groups at the table.
The purpose of using analytical procedures at or near the end of the audit is to determine whether the financial statements as a whole are consistent with the auditor’s understanding of the entity.

Same analytical procedures used to identify risk in planning stage.

Is there a risk of material misstatement that has not been previously recognised?