AUDIT SAMPLING

Highlights Of Technical Clinic

BY
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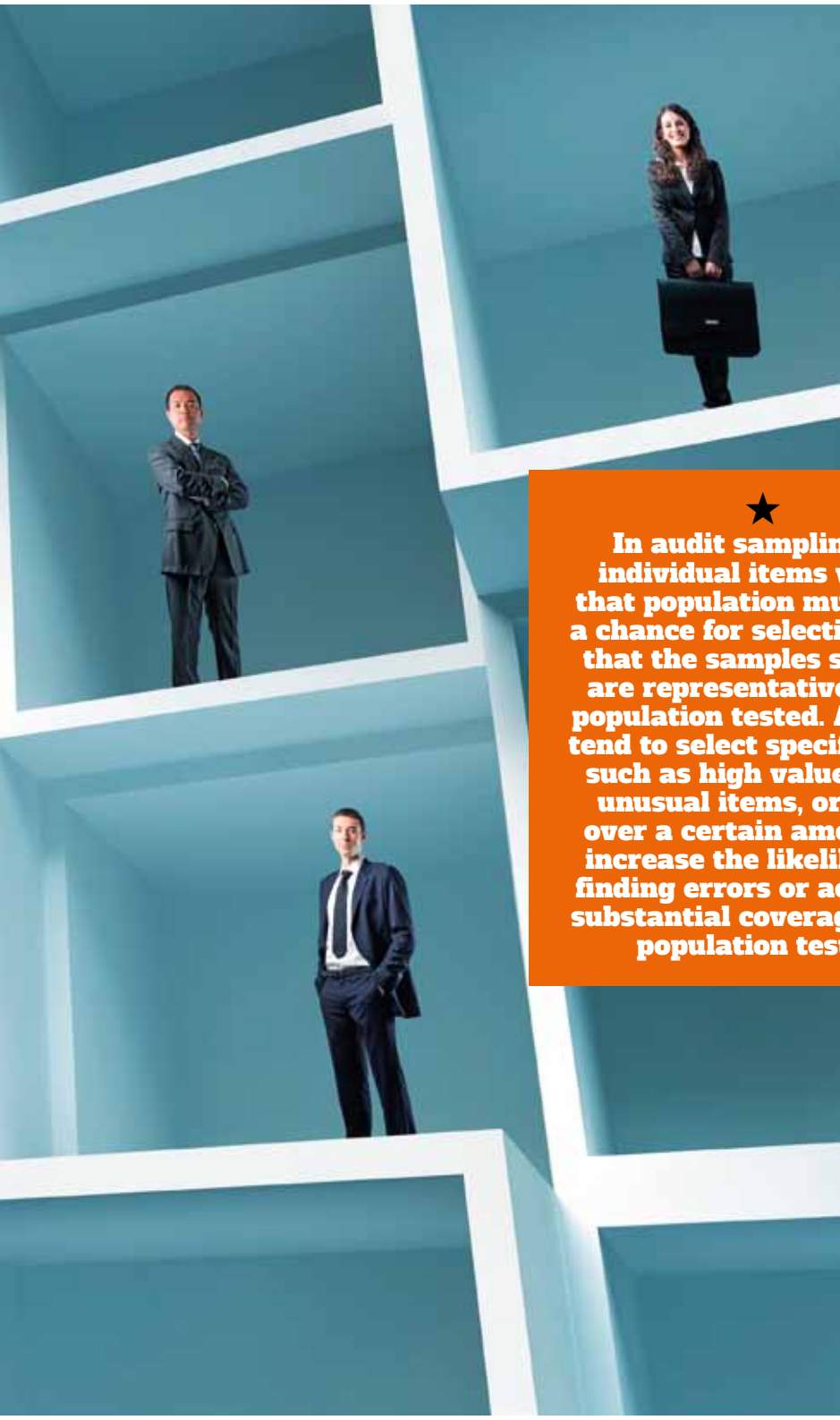
It is not practical for the auditor to test 100% of the population within an account balance. Therefore, the auditor applies audit sampling in the selection of samples to obtain audit evidence from that account balance. Wee Kong Eng, Partner of KE Wee & Associates, shared insights on this topic with a group of practitioners and we bring you the highlights here.

Q1 WHAT IS AUDIT SAMPLING? WHY IS SELECTING SPECIFIC ITEM (SUCH AS A HIGH VALUE ITEM) FROM A POPULATION NOT A FORM OF AUDIT SAMPLING?

Audit sampling is the testing of less than 100% of the items within a population to obtain and evaluate evidence about some characteristic of that population, in order to form a conclusion concerning that population. In audit sampling, all individual items within that population must have a chance for selection, such that the samples selected are representative of the population tested.

Auditors tend to select specific items such as high value items, unusual items, or items over a certain amount, to increase the likelihood of finding errors or achieve a substantial coverage of the population tested. Selection of specific items from a class



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of transaction or an account balance does not constitute audit sampling. The results of audit procedures applied to items selected in this way cannot be projected on the entire population and therefore do not provide audit evidence concerning the remainder of the population. A typical example is when the auditor selects sales transactions with amounts of more than S$10,000. This is not an audit sampling method as the auditor is merely testing 100% of a "sub-population" rather than the entire population. Therefore, the results cannot be projected on the whole population. Further, audit procedures are expected to be performed on the remaining population comprising sales transactions below S$10,000 in order to conclude the whole population.

Q2 IN AUDIT SAMPLING, HOW ARE THE SAMPLES SELECTED?

Sample selection methods which can be used in audit sampling, are (a) random, (b) systematic and (c) haphazard, as illustrated below. For illustration purposes, we assume a population of 100 sampling units and a sample size of 10.

(a) Random Selection

This method is applied through random number generators, for example, random number tables. The auditor can use an Excel formula to determine the random numbers required. We illustrate with a step-by-step guide here:

- Open up an Excel worksheet and click on the "*fx*" formula bar.

- Search for function "RANDBETWEEN".
- Specify range; as the number of sampling units is 100, the auditor can input the "bottom" value as 1 and the "top" value as 100, to determine the first random number.
- Copy and paste the formula nine times to create the subsequent random numbers.
- Print out the Excel worksheet as the random number will change every time the worksheet is opened.

Note: For the auditor to apply random selection, the population must be sequentially numbered.

(b) Systematic Selection

The auditor applies this method using a sampling interval (10th) computed by dividing the number of sampling units in the population (100) by the sample size (10). The auditor picks a starting point haphazardly or via a computerised system which generates a random number within the first sampling interval, after which the auditor subsequently selects the remaining nine items, consistently using the sampling interval of 10.

Note: The auditor must make sure that the sampling units within the population are not structured in such a way that the sampling interval corresponds with a particular pattern in the population. For example, for a population covering sales of all the branches of a company, sales figures of a particular branch appear at intervals of 10 in the total sales listing. If systematic sampling is employed, there is a risk that all or none of the sales of that particular branch will be selected.

(c) Haphazard Selection

The auditor applies this method to give all items in a population a chance for selection by choosing items without following a structured technique but trying to avoid bias. During the selection process, the auditor may avoid favouring middle items, ignoring first and last items, selection of unusual item... the list can go on.

Note: The auditor must make sure he avoids any conscious bias or predictability when selecting the sample. For example, when selecting items to perform inventory count, the auditor selects only the high value items and ignores those inventory items that are low in value for each individual inventory type but cumulatively make up a significant proportion of the population.

★ SSA 530 para 12 requires the auditor to investigate the nature and cause of all deviations or misstatements identified, and evaluate their possible effect on the purpose of the audit procedures and on other areas of the audit.

Q3 WHAT ARE SOME COMMON NON-SAMPLING TESTS AN AUDITOR WOULD TYPICALLY PERFORM ON AN ACCOUNT BALANCE?

Some examples of non-sampling tests an auditor would perform on an account balance include:

(a) 100% examination of an account balance

Take an example of an audit of a small company with three employees. The auditor may find it more efficient to perform audit procedures to check the existence of all the employees in that company by verifying to their employment contracts and physically verifying their existence at the client's premises.

(b) Analytical procedures

This involves the evaluation of the company's current year's financial and non-financial information with that of prior period as well as the independent expectation formed to identify any unusual or significant variance. Thus, in the case of a company with only three employees, the auditor can apply reasonableness test on the payroll costs by performing the following:

- Inquire management for the increase or decrease in staff headcount;
- Obtain all the employees' payroll files that contain the appointment letters, increment letters and any other information that may affect the payroll computation relating to that staff, and
- Check with management on any overtime pay or bonus paid or to be paid to the staff.

After gathering all the information, the auditor can determine the payroll cost expected to incur for the year

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and compare that against the actual payroll cost recorded by the company. Any difference should be investigated and the work performed needs to be documented.

(c) Other selective testing of specific items, for example, high value, key and unusual (but not representative) items

The auditor would select items with a specific feature within a population to perform audit procedures. One example is where the auditor only selects new employees to check the existence of staff. Selecting specific items within a population is not an audit sampling method and does not allow the auditor to conclude on the entire population. Thus, the auditor needs to consider performing audit procedures on the remaining population which includes existing employees and those employees who resigned during the year to conclude on the existence of the employees during the audited period.

Q4 IN AUDIT SAMPLING, IF ANY OF THE SAMPLES CANNOT BE FOLLOWED THROUGH, SHOULD A REPLACEMENT SAMPLE BE SELECTED?

SSA 530 para 10 states that "if the audit procedure is not applicable to the selected item, the auditor shall perform the procedure on a replacement item". We illustrate an example where the auditor selects 10 samples of inventory items for testing of the net realisable value. Out of the 10 samples selected, it is noted that two samples have no sale subsequent to year-end. The auditor should choose appropriate replacement samples to replace the original samples. However, this does not mean that no work needs to be performed on the original samples. The original samples where there are no subsequent sales are exceptions noted which need to be investigated, with the disposition properly documented.

The auditor needs to evaluate whether the original samples have issue of inventory obsolescence by reviewing the company's inventory ageing list and discussing with management, preferably the sales manager or sales director, and assess the reasonableness of their assessment. After considering all these, the auditor must make sure all the work performed and discussion are properly documented and referenced to work performed on inventory obsolescence review of the account balance to indicate that work has been done.

Q5 FOR TEST OF DETAILS USING AUDIT SAMPLING, IF THE AUDITOR IDENTIFIES A MISSTATEMENT IN THE SAMPLES TESTED OF A POPULATION, HOW SHOULD THE AUDITOR ADDRESS THAT MISSTATEMENT?

SSA 530 para 12 requires the auditor to investigate the nature and cause of all deviations or misstatements identified, and evaluate their possible effect on the purpose of the audit procedures and on other areas of the audit. The misstatements or deviations detected should be analysed and then be projected on the population to obtain a broad view of the scale of misstatement. A misstatement which has been concluded to be an anomaly[1] is usually excluded when projecting misstatements on the population but included in the evaluation of results of the testing together with the projected misstatements.

We take a scenario where the auditor identifies a misstatement in a sample to test the occurrence of sales for a trading company. In that sample, the quantity billed is more than the quantity received and acknowledged by a customer. Inquiry with the finance personnel reveals that the billing error could be a result of a miscommunication with that particular customer only and the auditor will preliminarily assessed that misstatement to be an anomaly.

[1] An anomaly is a misstatement or deviation that is demonstrably not representative of misstatements or deviations in a population.

In addition to further audit procedures performed to corroborate the finance personnel's responses, which may include verification of correspondences with that customer and credit notes subsequently issued to that customer, the auditor would also select additional samples to test the occurrence of sales. No exception is noted in the extension of audit procedures or samples. Hence, the auditor concludes that the misstatement is an anomaly. This misstatement, which is not required to be projected, represents the auditor's best estimate of misstatement in the population.

On the other hand, had further misstatements been noted from the additional audit procedures or samples, the auditor should further investigate the nature and cause of these misstatements to evaluate their possible effect on other areas of the audit. Where many of the misstatements or deviations possess a common feature, a sub-population of items with such a feature may be identified for further testing. For example, if the auditor notes that the deviation in billing quantities from the quantities received relates to only one customer, the auditor would request the client to investigate all the invoices issued to that customer for further potential misstatements. The auditor would also want to check all the credit notes issued to that customer after the year-end to conclude that there is no overstatement of sales to that customer for the year.

★ SSA 530 para 10 states that "if the audit procedure is not applicable to the selected item, the auditor shall perform the procedure on a replacement item".

Where there is no common feature noted in the misstatements or deviations identified, all misstatements including the earlier misstatement need to be projected on the population to obtain a broad view of the scale of misstatements, as illustrated in Table 1.

Thereafter, the risk that the actual misstatement or deviation rate may exceed the tolerable misstatement should be assessed. In this illustration (Table 1), tolerable misstatement is assumed to be S$150,000. Based on the projection, the sales are not materially misstated as the projected misstatement is less than the tolerable misstatement of S$150,000. Should the projected misstatement be more than the tolerable misstatement, the auditor would require the management to quantify the total misstatement in the population and thereafter, the auditor would audit the accuracy and completeness of the misstatement quantified by management. ISCA

TABLE 1 (For illustration only)

SUMMARY OF MISSTATEMENTS

Sales invoice no.	Sales invoice amount (S$)	Misstatements (S$)
12001	230,776	1,250
10204	53,895	85
10892	224,931	1,050
	Total misstatements	**2,385**

$$\text{Projected misstatement} = \text{Total misstatements} \times \frac{\text{Population value}}{\text{Sample value}}$$

$$= \text{S\$2,385} \times \frac{\text{S\$5,500,000}}{\text{S\$2,574,560}}$$

$$= \text{S\$5,095}$$

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