

## Case 19-8c

### Excel Data

#### Background

As part of a financial statement audit, an engagement team often performs audit procedures on digital data files. A common responsibility of an engagement team member is to request digital data files from the entity. Proper data acquisition and preparation is critical to being able to perform audit procedures effectively and efficiently. Audit procedures on digital data files are commonly performed throughout an audit, including during the planning, testing, and evaluation phases. However, this case study does not focus on a specific phase of the audit process since the procedures that will be discussed are applicable in all phases of an audit when digital data files are received.

When requesting data from the entity, the following are important considerations:

- It is essential that you understand what the sampling unit is (i.e., on what level you will be performing your analysis [e.g., invoice, customer, transaction]) and which fields are required to perform your analysis so that you request the right data at the appropriate level of detail. Be sure you are specific about the data you request.
- Place special emphasis on the “as-of” or cut-off date for the data you are requesting.

Once the data file is acquired, various steps typically need to be taken to prepare the dataset before it can be used for audit procedures, such as making sure the dataset is the correct dataset or performing data cleanup procedures.

The following are examples of why proper data cleanup is so important:

- If the data file is not properly cleaned up, you run the risk that sampling tools may not function as intended.
- There is also risk of making risk assessment conclusions or testing selections that are based on incorrect data. For instance, if the transaction amounts do not align with the correct transaction under the correct header, you could potentially sample on the transaction ID number or another numerical identifier instead of the amount.

As an engagement team member, you will likely be responsible for (1) evaluating the condition of the data before it can be used and (2) performing data preparation procedures. In this case study, we are going to look closely at how to clean up and prepare data received from the entity so that it can be used to perform our audit procedures. We begin our discussion with the assumption that you have just received data from the entity. It is now time to (1) assess the data and determine whether it is sufficient and appropriate for your purposes and (2) determine what data preparation you need to perform.

When assessing data provided by the entity, it is important to exercise professional skepticism to verify that the data file is sufficient and appropriate for the purpose. Questions to consider include:

- Does the data file contain the information you requested?

- For example, if you requested a detail of all accounts receivable (AR) invoices that comprise the AR balance, does the data file include AR data or does it include accounts payable (AP) data?
- Does the data file include all of the fields and columns you requested?
  - For example, you may have requested that the AR dataset include columns for customer name, invoice amount, invoice date, invoice due date, and number of days the invoice has been outstanding.
- Has the entity provided the data at the correct level of detail?
  - For example, if you requested the AR dataset at the customer invoice level, did the entity provide you with that level of detail or did they incorrectly provide the detail at the customer account balance level?
- Does the data file have the correct date parameters?
  - For example, you might request data “as of December 31” or you might request a file containing “all open accounts receivable invoices as of the December 31 cut-off date.” You could also request a quarter-to-date detail (e.g., “quarter-to-date September 30” detail), which would include activity that occurred during the third quarter only, as opposed to requesting “year-to-date September 30” detail, which would contain all activity from January 1 through September 30.
- Does the balance agree with the ledger account(s) that you are testing?
  - Do not spend time performing testing with data if it does not agree with the population being tested (i.e., the total of the account balance per the general ledger).

Once you have determined that the data file received from the entity is what you requested, then determine whether the files have been formatted appropriately for the planned audit procedures, or whether they require certain data cleanup procedures so that the data file fits its purpose. A clean Microsoft Excel data file has the following characteristics:

- There are no merged rows or scattered text.
- Minimal formatting is required (e.g., no major copy-and-paste work is required).
- Totals can be recalculated easily.
- Cells are formatted properly (e.g., number fields are numeric and date fields are dates).
- Columns are formatted properly (e.g., no data that should be within one column are split among multiple columns).
- The data file is complete. The entity may have exported a file to Excel and the data was truncated. Look at the tabs to see whether there is an indication that there may be more data. Also, check that the data sheet does not end in row 1,048,576, because data cut off at this row number indicates that the data exceeded Excel’s row limits and was cut off.

In practice, it is rare that you will receive data from an entity with all the characteristics of a clean data file discussed above. Therefore, it is important to know what you should do if you receive an Excel data file that is not in the proper format necessary to perform your audit procedures.

### Activity 1

Review Handout 1, and discuss what you learned about properly prepared data.

You have 10 minutes to complete this activity.

### Activity 2

Now that you are familiar with the characteristics of a clean data file and the steps to take in preparing a data file, you will have the opportunity to practice the data preparation steps on a data file. You have just received an e-mail from your manager asking for help cleaning up a data file received from the entity (the Accounts Receivable Open Invoice Report), which is attached to the e-mail. Note that for the purpose of this activity, you need to change the dates to the appropriate date format convention of MM/DD/YY.

You can now access Handout 2 and begin the activity by reading the e-mail from your manager. After you have read the e-mail, open the e-mail attachment (Handout 3) and begin performing the data cleanup procedures.

You have 10 minutes to complete this activity.

Once you have finished Activity 2, you can access Handout 4 and compare the sample deliverable to your clean dataset (*password required from professor*).

### Activity 3

Now that you are familiar with data cleanup procedures, we will shift to a discussion on using Excel. Knowing how to perform data cleanup procedures and being able to work efficiently in Excel will both be extremely important, since you will most likely work in Excel on a daily basis. Being proficient in Excel will not only help you perform data manipulation and cleanup procedures more quickly and efficiently but it will also extend how much you can do with datasets and increase the effectiveness of the procedures and testing that you use Excel for.

You will now use Handout 5 to complete an activity that teaches various Excel functions. The Handout contains three sections of tasks for you to complete and includes relevant how-to guidance to assist you in completing each task. Section 1 of Handout 5 covers tips and tricks, Section 2 covers various Excel formulas, and Section 3 covers PivotTables.

You have 50 minutes to complete this activity.

Once you have finished Activity 3, you can access Handout 6 and compare the completed activity to your Excel workbook (*password required from professor*).

**Activity 4**

Now that you have some foundational Excel knowledge, you will have the opportunity to put the Excel functions you just learned into practice. You will now complete certain data manipulation requests that you received from your manager regarding the Accounts Receivable Open Invoice Report that was used for the data cleanup in Activity 2.

You can now access Handout 7 and begin the activity by reading a second e-mail from your manager. To perform the requested procedures, use Handout 4 (*password required from professor*) to ensure that everyone is using the same cleansed dataset.

You have 10 minutes to complete this activity.

Once you have finished Activity 4, you can access Handout 8 (*password required from professor*) and compare the sample deliverable to your dataset.