

Installing & Running Auditmetrics

If you obtained Auditmetrics AI from the Microsoft Store, it will be automatically loaded on the “Start Menu” on a Windows 10/11 operating systems. If you are using an older legacy Windows contact:

support@auditmetrics.com.

The software’s compact efficient algorithms and data structures are designed to be loaded on desktops and notepads. If you are on a company server it is best to contact IT.

Auditmetrics Pro 7 has conducted audits of accounts involving over six million records. That is the realm of large businesses with data stored on servers. Such business environments will have tech support that can be called upon in setting up an Auditmetrics readable dataset.

This discussion is for those small business and students whose business accounting tools are primarily business accounting package such as QuickBooks and Excel. We should be clear about the formal definition of “small business”. Depending on the particular industry a small business is a company that has 500 or less employees. A vast majority are already on servers. This discussion is for truly small business with possibly ten or less employees.

Step 1: Practice Data:

Before downloading the practice data, create a working folder such as **AuditPractice**. Get practice audit data by downloading and save it in your AuditPractice folder:

https://auditmetricsai.com/FileLibrary/Test_Population.xlsx

Let’s take a look at the Practice data to be sampled:

| Transaction_ID | VENDOR_NUMBER | amount | absamt | TxDate | ACCOUNT | DataSet | ZipCode | CustomerID |
|----------------|---------------|----------|--------|-----------|---------|-----------|---------|------------|
| 12646 | 676 | \$5.00 | \$5.00 | 3/1/2023 | 5705 | Acme Inc. | 20134 | 16760 |
| 12078 | 676 | (\$5.00) | \$5.00 | 7/1/2022 | 5705 | Acme Inc. | 20134 | 16760 |
| 20075 | 2195 | \$5.00 | \$5.00 | 6/1/2023 | 6245 | Acme Inc. | 20135 | 31950 |
| 13469 | 2996 | \$5.00 | \$5.00 | 12/1/2023 | 5705 | Acme Inc. | 20134 | 39960 |
| 23975 | 2783 | \$5.00 | \$5.00 | 10/1/2023 | 6820 | Acme Inc. | 20134 | 37830 |
| 4883 | 586 | \$5.00 | \$5.00 | 8/1/2022 | 5060 | Acme Inc. | 20134 | 15860 |
| 12301 | 2998 | \$5.00 | \$5.00 | 11/1/2022 | 5705 | Acme Inc. | 20134 | 39980 |
| 10774 | 3101 | \$5.00 | \$5.00 | 4/1/2022 | 5530 | Acme Inc. | 20136 | 41010 |
| 23195 | 2736 | \$5.00 | \$5.00 | 2/1/2022 | 6630 | Acme Inc. | 20134 | 37360 |
| 7962 | 3833 | \$5.00 | \$5.00 | 11/1/2023 | 5060 | Acme Inc. | 20135 | 48330 |
| 23208 | 2736 | (\$5.00) | \$5.00 | 3/1/2022 | 6630 | Acme Inc. | 20136 | 37360 |
| 6276 | 3833 | \$5.00 | \$5.00 | 4/1/2023 | 5060 | Acme Inc. | 20134 | 48330 |

Please take note of the first row of the account data fields. Some are in red which are fields required by the Auditmetrics parser. If they are not present you will receive an error message. Don’t worry about them for now. Our goal is to go through the process of selecting a random sample which will be used to conduct an audit. Right now, the AuditPractice folder has only the excel file. Though Excel is very user

friendly it is not an effective and efficient dataset. Your first step is to convert Excel to a tab delimited text file. This is the format Auditmetrics is expecting. Efficient processing was an interesting discussion when Auditmetrics upgraded from Auditmetrics V5 to Auditmetrics V6.

File name:

Save as type:

Step 2: Let's Get Started

Now call up AuditmetricsAI.com home page:

The screenshot shows the AuditmetricsAI.com interface. On the left, there is a configuration panel with the following fields:

- Detail:
- No. Strata:
- Precision (Margin of Error):
- Efficiency:
- Total Sample:

Below these fields is a button labeled "Potential Detail Cutoffs" with a red arrow pointing to it. Underneath the button are two radio button options:

- Sample Size Excel File
- Sample Validation Excel File

At the bottom of the sidebar is a section titled "1. Sample Size Calculations".

On the right side of the interface, there is a text box that reads:

The first step is to read in Test_Population.txt file. Auditmetrics will review the dataset and suggest what is called a detailed stratum. This stratum represents large volume account entries. It keeps large dollar amount out of sampling statistical uncertainty.

When you select detail cutoff you then go to the AuditPractice folder:

The screenshot shows a file explorer window. The left pane shows a folder structure with "AuditMetrics" and "AuditPractice" folders. The "AuditPractice" folder is selected. The right pane shows the contents of the "AuditPractice" folder:

- Test_Population.txt (4/4/20)
- Test_Population.xlsx (4/4/20)

This is the Auditmetrics suggested detail stratum using the default of 6 strata that we rounded up to \$1,600 which means all transactions \$1,600 are selected for the stratum:

| | | |
|--------------------------------|------|---|
| Detail | 1600 | Computer Suggested Initial Detail Cutoff: \$ 1560 Interquartile Range \$ 18 - \$ 192 |
| No. Strata | 6 | |
| Precision (Margin of Error) | .03 | |
| Efficiency | | |

Precision or margin of error is what determines sample size. A precision of 3% is the gold standard which would require the largest sample size. Sample size represents time and cost. If you want a smaller sample just to get a preliminary look at the account you can use a range of precision from 3% to 10%. This is such an important concept please refer to [Auditmetrics Primer](#) and [Springer text](#) to review this concept.

Step 3: What is the design of the stratified dataset including sample size requirement:

You should notice the blank Efficiency box. Statistical efficiency is a another very important concept in statistical analysis. It is axiomatic that a stratified random sample is more efficient than sampling from the total unstratified account.

For Help: Info@auditmetrics.com

| | | |
|--------------------------------|------|------------|
| Detail | 1600 | 0 -49.99 |
| No. Strata | 5 | 50-174.99 |
| Precision (Margin of Error) | .03 | 175-399.99 |
| Efficiency | 0.71 | 400-824.99 |
| Total Sample | 1153 | 825-1600 |
| | | > 1600 |

Potential Detail Cutoffs

Sample Size Excel File

Sample Validation Excel File

1. Sample Size Calculations

| Sample Specs: | | | | | |
|---------------|---------|----------|-------------|--------|--|
| Freq. | Mean | Std Dev. | Total Acct. | Sample | |
| 10101 | 19.02 | 14.15 | 192150 | 67 | |
| 5776 | 91.67 | 43.38 | 529492 | 123 | |
| 2813 | 258.69 | 95.3 | 727690 | 138 | |
| 1614 | 548.66 | 185.14 | 885532 | 161 | |
| 893 | 1108.68 | 409.74 | 990051 | 206 | |
| 458 | 1869.44 | 633.62 | 856205 | 458 | |

You will notice that we changed the number of strata from 6 to 5 which created a more compact stratified sample without significantly affecting Efficiency. As you become confident in working with Auditmetrics you will find that there is a certain amount of flexibility in the inputs. A target for efficiency is around .60 or greater. If not, there are solutions not appropriate for this discussion but the references cited above can provide guidance.

If you are now satisfied with the stratification and efficiency of the account, now select the following button to generate the Excel template that will document the approved stratification calculation results.

- Sample Size Excel File**
- Sample Validation Excel File**

1. Sample Size Calculations

Step 4: Generate the Sample

This is a two-step process. First select the random sample command that is displayed above and Auditmetrics will go through a series of validation procedures to assure the selected sample is not a statistical outlier that will give imprecise results

- Sample Size Excel File**
- Sample Validation Excel File**

1. Sample Size Calculations

2. Select Random Sample

- Sample Size Excel File**
- Sample Validation Excel File**

1. Sample Size Calculations

3. Sample Validation

Auditmetrics command 3 goes through a series of statistical validation calculations. If one or more fails the next step is to select another sample until all validation tests are passed.

The following exhibit indicates that all tests have been passed:

| Population: | | | | | |
|-------------------------------|---------|-----------|----------|----|----|
| N | Mean | Total \$ | | | |
| 10101 | 19.02 | 192150.03 | | | |
| 5776 | 91.67 | 529492.47 | | | |
| 2813 | 258.69 | 727690.32 | | | |
| 1614 | 548.66 | 885532.28 | | | |
| 893 | 1108.68 | 990051.43 | | | |
| 458 | 1869.44 | 856205.07 | | | |
| Sample Summary: | | | | | |
| Validation Tests Listed Below | | | | | |
| n | Mean | SD. | Total \$ | | |
| 67 | 19.03 | 12.77 | 1275 | ok | ok |
| 123 | 91.09 | 37.78 | 11204 | ok | ok |
| 138 | 248.38 | 103.46 | 34277 | ok | ok |
| 161 | 558.59 | 143.8 | 89934 | ok | ok |
| 206 | 1106.4 | 412.6 | 227918 | ok | ok |
| 458 | 1869.44 | 633.62 | 856205 | | |

Validation #1- Observed precision under 0.03 no need to resample

Validation #2- Strata specific test passed.

Potential Detail Cutoffs

Sample Size Excel File

Sample Validation Excel File

1. Sample Size Calculations

To finish the process and with this button, the validated sample below is generated.

Sample size = 1,153







| | A | B | C | D | E | F | G | H | I | J |
|----|----------------|---------------|--------|--------|-----------|---------|-----------|---------|-------------|--------|
| | Transaction_ID | VENDOR_NUMBER | amount | absamt | TxDate | ACCOUNT | DataSet | ZipCode | Customer ID | Strata |
| 1 | | | | | | | | | | |
| 2 | 22131 | 680 | \$5.00 | \$5.00 | 1/1/2024 | 6245 | Acme Inc. | 20136 | 16800 | 1 |
| 3 | 7498 | 555 | \$5.38 | \$5.38 | 8/1/2023 | 5060 | Acme Inc. | 20137 | 15550 | 1 |
| 4 | 8974 | 555 | \$5.81 | \$5.81 | 2/1/2024 | 5060 | Acme Inc. | 20134 | 15550 | 1 |
| 5 | 4607 | 555 | \$5.86 | \$5.86 | 7/1/2022 | 5060 | Acme Inc. | 20136 | 15550 | 1 |
| 6 | 15371 | 2085 | \$6.50 | \$6.50 | 6/1/2024 | 5835 | Acme Inc. | 20135 | 30850 | 1 |
| 7 | 7092 | 570 | \$6.55 | \$6.55 | 7/1/2023 | 5060 | Acme Inc. | 20134 | 15700 | 1 |
| 8 | 13603 | 412 | \$6.60 | \$6.60 | 12/1/2023 | 5705 | Acme Inc. | 20137 | 14120 | 1 |
| 9 | 9332 | 1916 | \$6.96 | \$6.96 | 3/1/2024 | 5060 | Acme Inc. | 20136 | 29160 | 1 |
| 10 | 22101 | 680 | \$7.56 | \$7.56 | 1/1/2024 | 6245 | Acme Inc. | 20136 | 16800 | 1 |
| 11 | 15264 | 2130 | \$7.68 | \$7.68 | 1/1/2024 | 5835 | Acme Inc. | 20136 | 31300 | 1 |
| 12 | 9632 | 506 | \$8.14 | \$8.14 | 4/1/2024 | 5060 | Acme Inc. | 20136 | 15060 | 1 |
| 13 | 20470 | 412 | \$8.75 | \$8.75 | 7/1/2023 | 6245 | Acme Inc. | 20136 | 14120 | 1 |
| 14 | 3010 | 555 | \$8.98 | \$8.98 | 4/1/2024 | 5050 | Acme Inc. | 20134 | 15550 | 1 |

Also generated is the Excel template that can be used to record audit results:

| | A | B | D | E | F | G | H | I | J | K | L | M | N | |
|----|--------------------------|---------------|-----------------|----------------|-------------|------------------|--------------------|-------------|---|-------------|----------------------|----------------------|-------------|------|
| 1 | Acme Inc. | | | | | | | | | | | | | |
| 2 | | Population | | | Sample | | | | Audit Results | | | Strata Validity Test | | |
| 3 | Strata | Pop. Mean | Pop.Total Value | Pop. Freq. | Sample Mean | Sample Std. Dev. | Sample Total Value | Sample Size | Amount Error | Error Ratio | Pop. Est. Error Amt. | Lower Bound | Upper Bound | |
| 4 | | | | | | | | | | | | | | |
| 5 | 0-49.99 | \$19.02 | \$192,150 | 10,101 | \$19.03 | \$12.77 | \$1,275 | 67 | \$25.50 | 0.020 | \$3,843.00 | 15.97 | \$22.09 | pass |
| 6 | 50-174.99 | \$91.67 | \$529,492 | 5,776 | \$91.09 | \$37.78 | \$11,204 | 123 | \$336.13 | 0.030 | \$15,884.77 | 84.42 | \$97.77 | pass |
| 7 | 175-399.99 | \$258.69 | \$727,690 | 2,813 | \$248.38 | \$103.46 | \$34,277 | 138 | \$856.93 | 0.025 | \$18,192.26 | 231.12 | \$265.65 | pass |
| 8 | 400-824.99 | \$548.66 | \$885,532 | 1,614 | \$558.59 | \$143.80 | \$89,934 | 161 | \$3,597.35 | 0.040 | \$35,421.29 | 536.38 | \$580.81 | pass |
| 9 | 825-1600 | \$1,108.68 | \$990,051 | 893 | \$1,106.40 | \$412.60 | \$227,918 | 206 | \$6,837.55 | 0.030 | \$29,701.54 | 1,050.06 | \$1,162.74 | pass |
| 10 | > 1600 | \$1,869.44 | \$856,205 | 458 | \$1,869.44 | \$633.62 | \$856,205 | 458 | \$23,973.74 | 0.028 | \$23,973.74 | | | |
| 11 | Total (Excluding Detail) | | \$3,324,917 | | | | \$364,608 | 695 | ↑ | | | | | |
| 12 | Total (Including Detail) | | \$4,181,122 | | | | \$1,220,814 | 1,153 | | | | | | |
| 13 | | | | | | | | | | | | | | |
| 14 | Error (Excluding Detail) | | | Std. Error(\$) | \$21856 | | | | This is where the Auditors enters audit results | Sample Ad | 0.031 | | | |
| 15 | Error (Including Detail) | | | | | | | | | Overall Rat | 0.030 | | | |
| 16 | | | | -1 Std. Error | \$81,187 | | | | | | | | | |
| 17 | | Sample Error: | | Mid-Point | \$103,043 | | Detail Error: | \$23,974 | | | | | | |
| 18 | | | | +1 Std. Error | \$124,899 | | | | | | | | | |

This Auditmetrics AI template has all calculations fully displayed which are either Excel functions or direct calculations. It is a valuable learning resource in understanding the underlying statistical process in estimating total dollar value that failed the audit.

Step 5: AuditPractice folder contents

| | | |
|---|--------------------------------|--|
|  | 1. ExcelTemplate2.xlsx | excel template audit results |
|  | 2. ExcelTemplate 1.xlsx | excel template documenting sample |
|  | 3. SampleData.csv | random sample csv text file |
|  | 4. SampleData.txt | random sample tab delim text file |
|  | 5. Test_population.txt | account to be audited tab delim text file |
|  | 6. Test_Population.xlsx | account to be audited excel file |

- We started with Excel file (6) that was derived from the account to be audited. The techniques for small business to create this type of file is discussed in the Springer book. Pay attention to pages 49-51 Appendix (page 111). Also For those who want to upgrade their relational data base skills (RDB), this Appendix's discussion of Microsoft Access is a good start. The Excel file (6) is converted to a tab-delimited text file (5) which enhances analytic efficiency.
- The next files (4 & 3) are two generated random sample text files. File 4 is a tab delimited text file. If there are regular monitoring audits, this file can be added to previous audits to build a file that can be eventually used for forecasting, as long as the same precision is used. File 3 is another text file but you notice it has the Excel tag. If you examine it using a plain text reader like notepad you will see a text file with variables separated by a comma. If you just click on the file, it will be read in by excel as a spreadsheet. This will give the capabilities of Excel.
- Files (2 & 1) are the software generated Excel template previously discussed that document the random sample and to record the sample results.

! Please Pay Attention to these Issues:

- 1. For some implementations of Windows there may be a long delay in generating an Excel template. The best approach for efficient operation is to open Excel first and leave it open in the background by minimizing it. Then open Auditmetrics.**
- 2. The small business learning version 6 is ideal for short term cashflow monitoring, short-term IRS tax credit deductions and customer feedback. This involves short term quarterly or monthly data.**
- 3. Multiyear forecasting requires the large volume capability of AI Pro 7 that can handle millions of transactions.**
- 4. Auditmetrics AI Pro 7 includes forensic accounting features and AI generated regression forecasts while the small business version only AI automates the process of selecting the random sample for the statistical audit.**
- 5. Analysis section formulas of the AI generated Excel templates are protected. If you want to access all Excel cells to cut and paste or do other editing then select “Review” at the top menu and then select “Unprotect Sheet”.**

The next step is to create an Auditmetrics dataset of your own

[2_GettingStarted.pdf](#)