

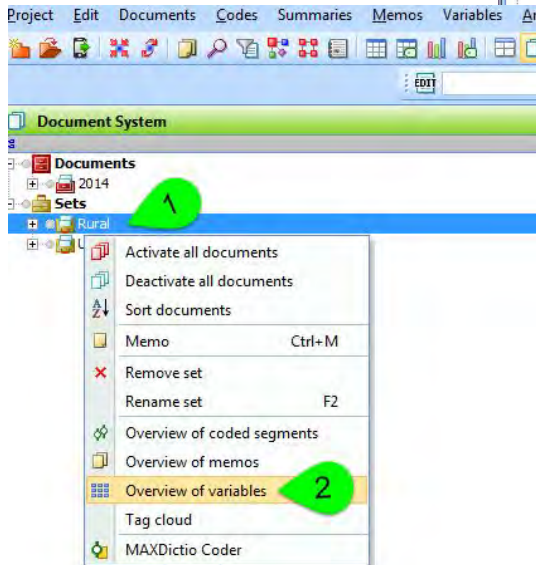
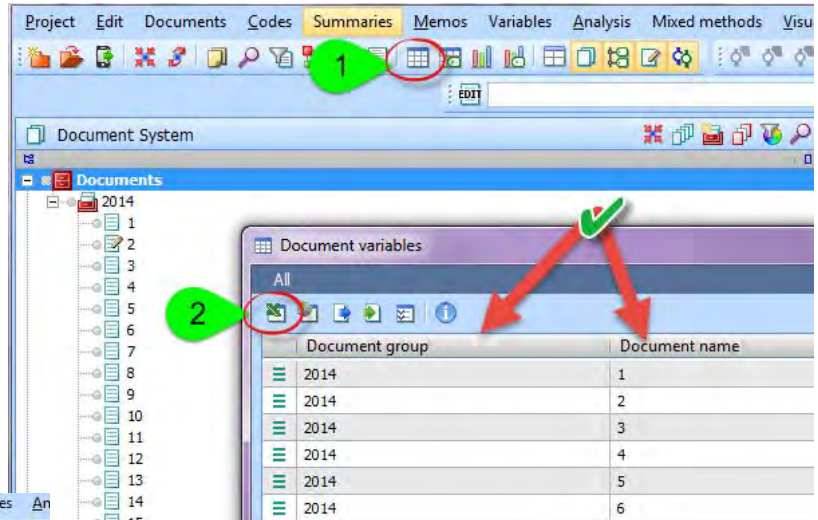
In this guide you will learn how to pull a random sample from a MAXQDA dataset, using the random cell function in Excel. In this process you will learn how to export and re-import variables from MAXQDA. The process in Excel can also be applied to data from other Qualitative Data Analysis software packages.

Step 1 - Exporting the Document Variables from MAXQDA to Excel

First, you'll need to export your document variables from MAXQDA into Excel.

Scenario 1: A Random Sample from the whole data set. If you want to randomly sample from a whole data set, click on the Document Variables button on top of the tool bar (1).

The Document Variables window will pop up. Click on the upper left button to export the table into Excel. The file will automatically open.



Scenario 2: A Random Sample from a data subset. If you want to randomly sample from a subset of your data, you can export subsets of document variables. In this example, we've created a subset that holds all 2014 data from rural areas.

To export only the variables of a subset of data, either right-click on a **document group** folder or **document set** (1). Now, select 'Overview of Variables' (2). From here, again click on the button on the top left of the pop-up window to export into Excel (see Scenario 1 image above).



HINT: Make sure you don't select one of the rows in the Document Variables Window; if you do so, you'd only export the one row you selected. Also make sure that the first column contains the Document Group, and the second column contains the Document Name information - this will be important later.

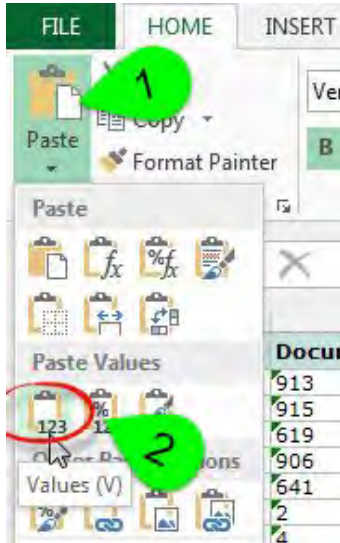
Step 2 - Assigning Random Numbers to Cases in Excel

In this second step, you'll have Excel assign a random number to each of your documents. Excel will then be able to highlight the cases with the highest or lowest random number - those will constitute your random sampling.

1. Find the column you want to use as a reference (we used the column "Programming/Support Unit" since we wanted to pull data based on these subsets. If you just pull one random sample from the excel file, the reference point would be typically the "Document Name" column). Create 2 columns next to your reference column. *To do so, right-click on the column letter, and choose 'insert'.* Name the new columns "random number" and "ranked random number".

Programming/Support Unit	Random Number	Ranked Random Number	ReportYear
9;#4-H Youth Development			2014
9;#4-H Youth Development			2014
15;#Community, Natural Resources, and Economic Development			2014
13;#Agriculture and Natural Resources			2014
13;#Agriculture and Natural Resources			2014
9;#4-H Youth Development			2014
9;#4-H Youth Development			2014
9;#4-H Youth Development			2014
7;#Family Living			2014
9;#4-H Youth Development			2014
9;#4-H Youth Development			2014
7;#Family Living			2014
7;#Family Living			2014

2. In the "random number" column, select the first cell that is in a row containing data. Simply type **=RANDBETWEEN(1,10000000)** and hit Enter. This command creates a random number between 1 and ten million (or whatever range you choose). Because random numbers are calculated and assigned by Excel separately, there may be two or more cells with the same number. By increasing the range of random numbers, this possibility is reduced. Feel free to adjust this number based on your sampling size - but ten million should be fine for qualitative samplings between 10 and 500 cases.
3. Now click in the lower-right corner of the cell containing the first random number (1); holding the left mouse button down, drag a frame all the way down your spreadsheet, until you reach the last row that contains data (2). This will apply the same formula to all the other cells in this column; effectively you added a random number to each case in your study.



4. Select all the cells holding random numbers in the “Random Numbers” column and hit CTRL-C to copy the values.

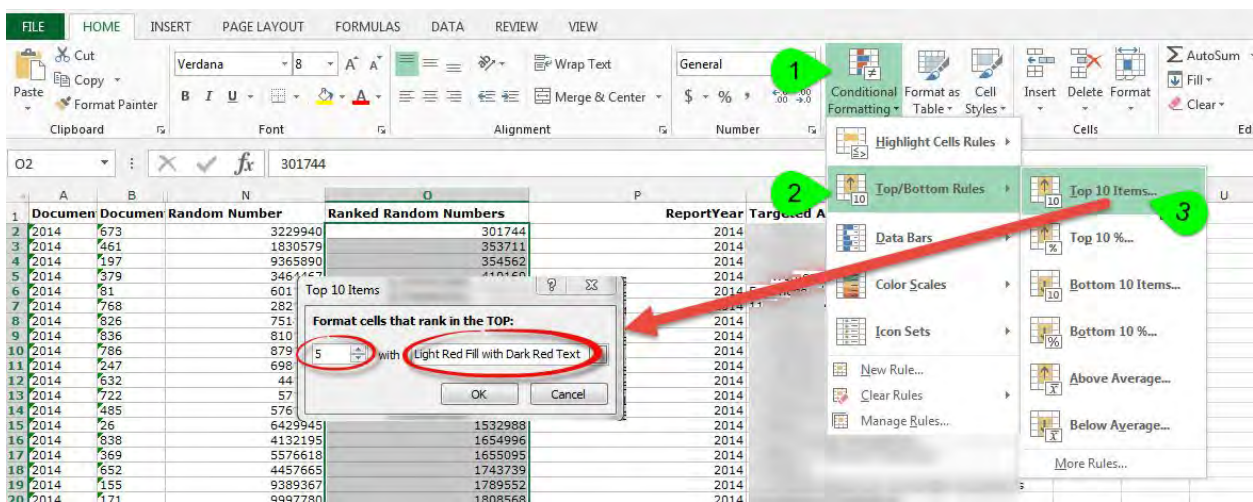
5. Click on the top row of the “Ranked Random Numbers” column. Click on “Paste” in the left corner of the Home Tab in Excel and select “Values”. Pasting like this will retain the originally generated random numbers. (The RAND function in Excel re-generates numbers every time the worksheet is calculated, so if you did not preserve values your numbers would constantly change).

Now, we have attached a randomly generated number to each case. The next step consists in sorting the cases by this number.

Step 3 - Identifying the Random Cases - For Small Samples

1. Select “Conditional Formatting” from the toolbar (1), select “Top/Bottom Rules” (2) and then select “Top 10 items” (3). A window will appear with the option to change how many cells you rank. For instance, to pull 5 entries based on the random numbers, you would change the number from “10” to “5”. Now, Excel will highlight cases based on the highest randomly assigned numbers.

HINT: If you have only a few cases that you want to sample (5-10), it is easiest simply write down which cases have been selected based on your randomly assigned numbers. Otherwise, follow this last section of the guide.



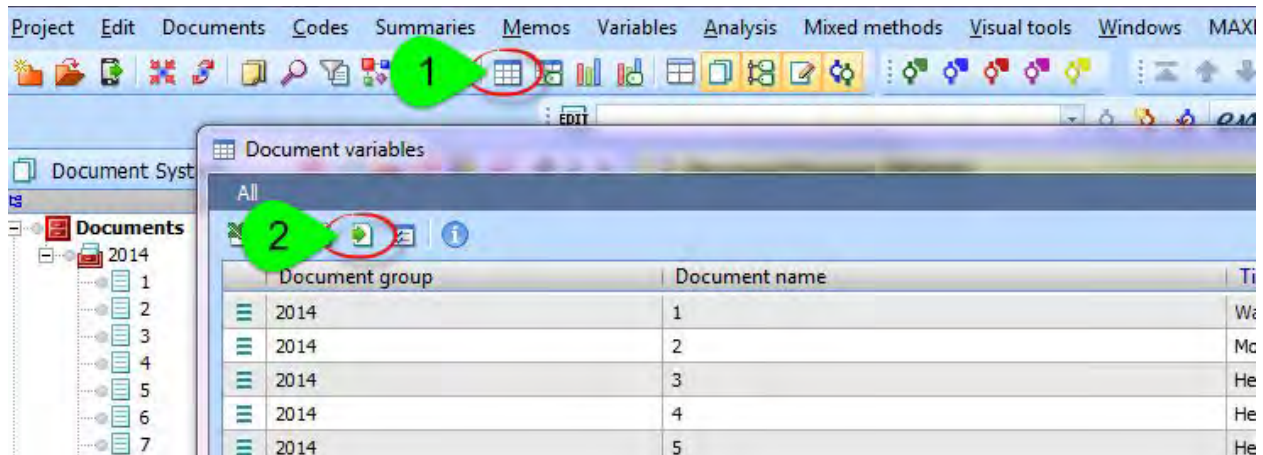
HINT: You should save this document - you can later come back and expand the random selection in case you need to pull more cases.

Step 4 - Identifying the Random Cases - For Large Samples

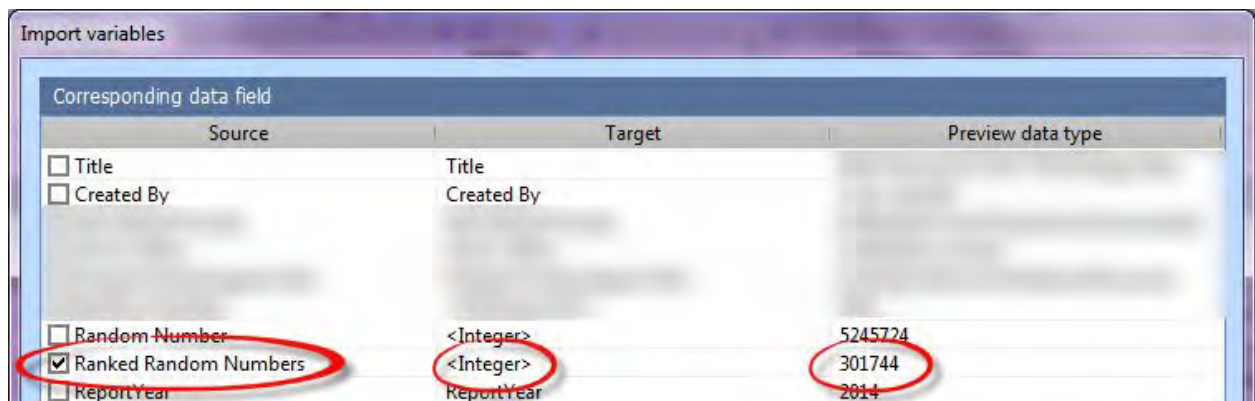
Step 4a) - Re-Import Random Numbers into MAXQDA Dataset

It is more efficient to re-import the randomly assigned numbers into MAXQDA if you want to pull more than a handful of random cases. As a result, you will be able to use the 'Activate by Document Variable' function in MAXQDA to pull your samples.

1. Make sure to save and close the Excel file you worked on in earlier steps.
2. In your MAXQDA project file, open the Document Variables window (1) and select the button that triggers the import dialogue (2). Now, select the file that includes your random numbers.



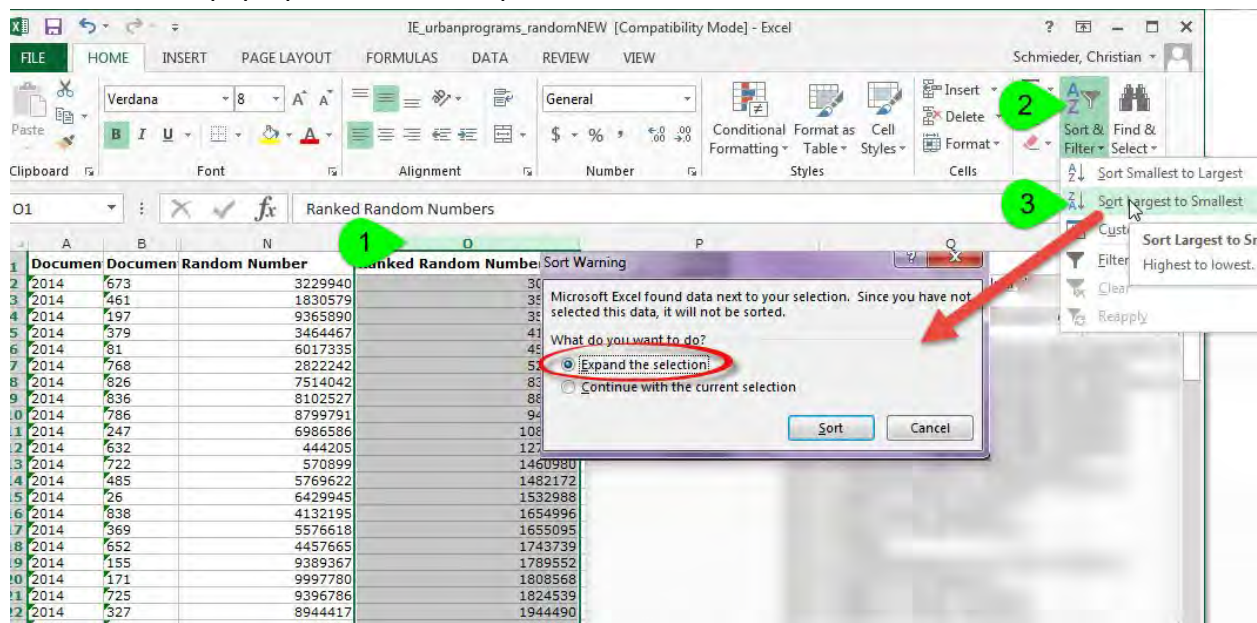
3. In the following dialogue, the program asks you which variables you would like to import. De-select all of them, except the "Ranked Random Numbers". Make sure they show up as an <Integer>, then click on the 'Import' button.



Step 4b) - Find your cutoff value

Now, you can use the 'Activate by Document Variable' function in MAXQDA to pull your samples. For example, let's say you want to pull 50 random cases from your dataset. Because you have random numbers attached to your cases, you can use the top 50 numbers to pull a random sample.

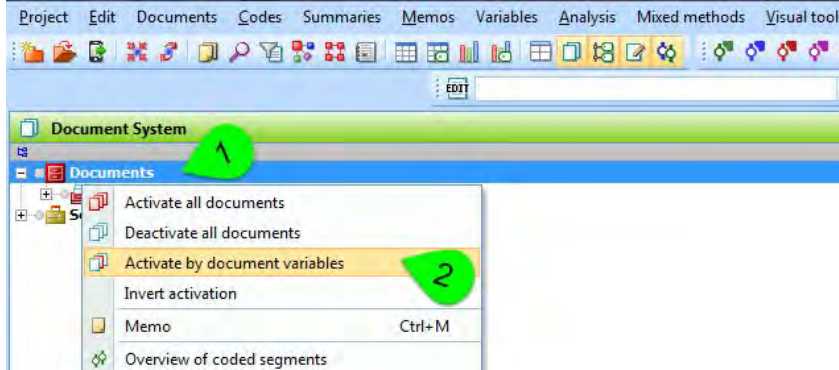
First, go back to your Excel sheet with the random numbers. Select the column "Random Ranked Numbers" by clicking on its alphabet letter (1). Now select "Sort and Filter" in the home tab (2) and sort from largest to smallest number (3). IMPORTANT: Make sure that you leave the selection in the pop-up window on "Expand the selection".



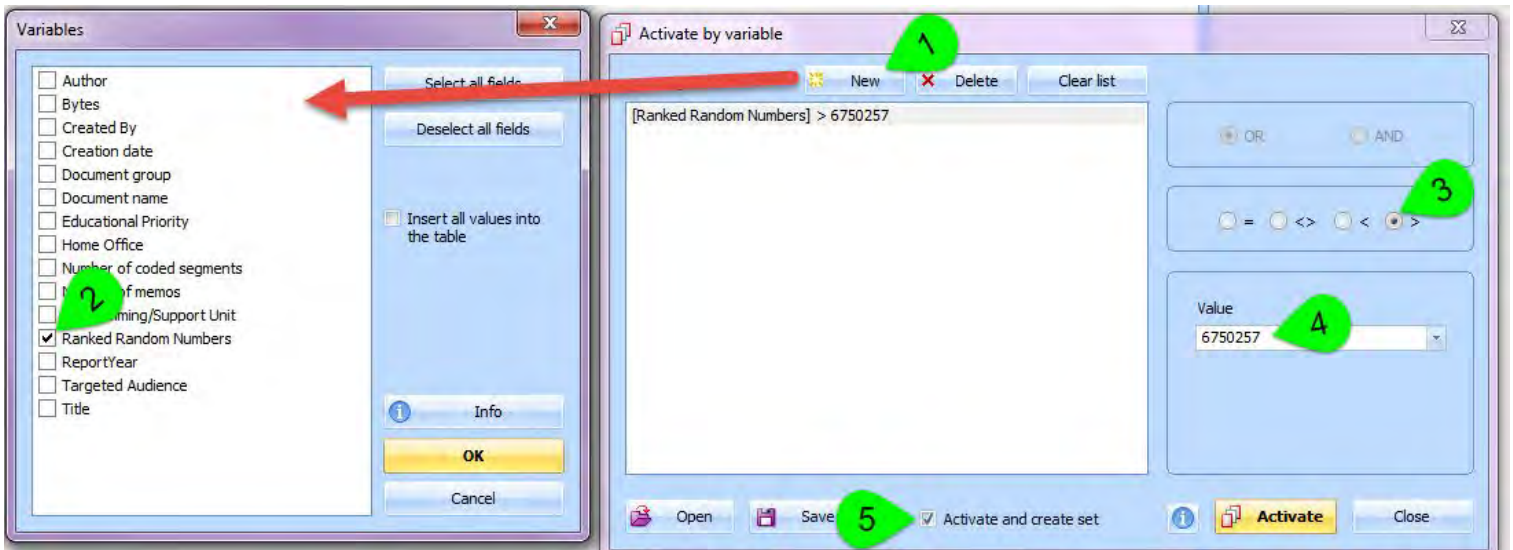
Now, scroll down to row number 52 - it contains the 51th-largest record sorted by random number. Write down that number (in our case it was 6750257)

Step 4b) - Activate your random cases (finally!)

Back in MAXQDA, enter the 'Activate by Document Variable' window: Right-click on 'Documents' (1), then choose 'Activate by Document Variable' (2)



Create a new variable for the formula (1), select "Ranked Random Numbers" in the pop-up window (2), and click OK. Now change the equation symbol to 'larger than / >' (3). Type in the number you wrote down earlier that signified the 51th highest random number (4). This way, only the 50 records with a higher random number will be activated. Lastly, check the 'Activate and create set' option (5). This way you won't have to fill in this formula again to see your random sample.



Now, you have a list of 50 random pieces of data in your set:

Documents	12796
2014	12796
Sets	14096
[Ranked Random Numbers] > 6750257	712