Increasing Real Estate Management Profits: Harnessing Data Analytics
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How to Get Started Making your Watershed Dashboard

Your goals for this week are to:

(1) Replicate your Excel Watershed financial model in Tableau
(2) Design parameters that allow you to test the impact of your model assumptions on the output of your model
(3) Make all the graphs you want to have on your own dashboard, with the exception of the jittered map, which you will learn how to do next week

To achieve these goals, we suggest you take the following steps:

Step 1: Replicate your Excel model in Tableau using the original assumptions (Lesson 2). To do this, import the data you think are important from Excel. We recommend that you import the data in the most raw form you can, and plan on implementing every formula you entered as a column of your Excel spreadsheet as a separate Tableau calculation that will create a new measure. Make a parameter for each of your model assumptions. Then make the new calculations/measures you need, and reference the appropriate parameters in your formulas when you would otherwise enter the raw values of your assumptions. In addition to any other calculations you create, make sure that you have one measure for each of the following metrics:

- Yearly Cash Flow (Conversion Year)
- Yearly Cash Flow (After Conversion Year)
- Yearly Profits (Conversion Year)
- Yearly Profits (After Conversion Year)

Since these measure names represent the equivalent of columns in your data set, these calculations will yield separate values for each individual property in your data set. Filter out all the properties that are not "profitable" according to your chosen "cut-off." Make a bar graph for each of the metrics listed above to aggregate all the profitable properties. Do you end up with the same number of profitable properties as you found in your Excel model (there are a couple ways you can find this out in Tableau…do you remember how?)? Do the numbers depicted in your bar graphs add up to the same aggregate numbers you found in your Excel spreadsheet? If not, check all your calculations and parameter values. If so, you are ready for the next step!

Step 2: Replicate the Excel model you made in Tableau using a new set of assumptions (Lesson 2). Make a new set of parameters that can be manipulated independently from the parameters that contain the original assumptions, and make a new set of calculations to reference these parameters. At minimum, you should end up with 8 separate calculated fields: 4 that calculate the metrics listed above using parameters that contain the original assumptions, and 4 that

calculate the metrics listed above using parameters that you intend to change dynamically during your sensitivity analysis. Having both sets will allow you to compare the results of a model that uses new assumptions to the model that uses the original assumptions.

Next, make a new worksheet that has a bar graph for each of the metrics listed above that uses parameters you intend to change during your sensitivity analysis. Enter some new assumptions into this dynamic parameter set. Do you end up with the same number of profitable properties in your model as you get if you change the same assumptions in Excel? Do the numbers depicted in your bar graphs add up to the same aggregate numbers you found in your Excel spreadsheet? If not, check all your calculations and parameter values. If so, congratulations, most of the hard work is done! You are ready for the next step!

Step 3: Combine the bar chart that uses the original assumptions with the bar chart that uses dynamic assumptions (Lesson 3). Watch the video "Bar in Bar Graphs in Tableau" to find out how!

Step 4: Make any other graphs that you think will be useful for interpreting your sensitivity analysis (Lesson 3). Include at least one graph that shows you information about individual profitable properties. Watch the video "Histograms in Tableau" to find out how to make a histogram.

Step 5: Incorporate all the graphs you have made into one dashboard that you will use for your sensitivity analysis (Lesson 3). This dashboard does not have to be pretty, but the graphs do have to be correct, because next week you will use the dashboard to answer quiz questions that assess the outcomes of your model when you change multiple assumptions.

Next week you will also learn how to add a jittered map to your dashboard, and will have time to format your dashboard so that it will be appropriate to show to Watershed executives.

Have fun, and make sure to help each other out along the way!