

PIVOT TABLE AND DATA NARRATIVES

Summarize and Navigate data using Pivot Tables

Apply Story telling techniques to bring value to your findings

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Previously in Data Analytics

Summarizations and Statistics



STEP BY STEP GUIDE



The diamonds dataset has 10 variables:

- Price: price in US dollars (\$326-\$18,823)
- Carat: weight of the diamond (0.2-5.01)
- Cut: quality of the cut (Fair, Good, Very Good, Premium, Ideal)
- Color: diamond color, from J (worst) to D (best)
- Clarity: a measurement of how clear the diamond is (I1 (worst), SI1, SI2, VS1, VS2, VVS1, VVS2, IF (best))
- x: length in mm (0-10.74)
- y: width in mm (0-58.9)
- z: depth in mm (0-31.8)
- Depth: total depth percentage = $z / \text{mean}(x, y) = 2 * z / (x + y)$ (43-79)
- Table: width of top of diamond relative to widest point (43-95)

STEP BY STEP GUIDE

- ▶ Create a pivot table by clicking PivotTable on the Insert ribbon.
Make sure you have a cell selected in the diamond data to pre-populate the range.
- ▶ Verify that the Table/Range auto-selected is the diamonds data. If not, you can change it before moving on.
- ▶ Decide where you want to put the pivot table. Let's create a new worksheet for this example (default).
- ▶ Click OK.

STEP BY STEP GUIDE

Pivot tables have four primary components:

Filters

What data should we include *at all* in our pivot table?

Rows

What *unique data values* do we want to have as rows in our table?

Columns

What *unique data values* do we want to have as columns in our table?

Values

These are the values that will be in the cells of our table. To create them, we will have to tell Excel how we want them aggregated.

STEP BY STEP GUIDE

- Average price per color:

Drag “color” to Rows.

Drag “price” to Values.

To fix the average price: click “i” next to “Sum of price” in Values.

Change “Summarize by” to “Average”.

This will properly take the average, but let’s make sure our formatting is correct. These averages are dollar amounts, so click “Number...” and format as currency.

STEP BY STEP GUIDE

Guided practice continued:

If we want to calculate average price *per color and per cut*, drag “cut” into Rows.

For every color, we now see the price per that color and each cut.

What if we wanted cut and then color? Change the order and see the results.

This is great, but it would be much easier to parse and compare this data if the colors were down the rows and the cuts were across the columns...

Move “cut” to the Columns.

STEP BY STEP GUIDE

Guided practice continued:

- Average price per color and cut for the top three best clarities:

For this, the structure of our pivot table is going to remain the same, but we need to *filter* some of the data out of the calculations.

Move “clarity” to Filter.

Notice that a drop-down for clarity has been added above the pivot table. Use the drop-down to filter out only VVS1, VVS2, and IF.

STEP BY STEP GUIDE

Guided practice continued:

- Question about our dataset itself: what is the number of diamonds by cut, color, and clarity?

Move cut, color, and clarity to Rows.

Change Average of price to Count of price. Reformat to a number.

When doing a Count, the variable used for the Values cell can often be any of them... as long as they have values of some kind. Think of it as counting the number of values for a given column. Since the table is a rectangle, this also gives you the number of observations.

STEP BY STEP GUIDE

Slicers little known trick to make your pivot tables rock!



Pivot tables and Data Narratives

INDEPENDENT PRACTICE: USING PIVOT TABLES

INDEPENDENT PRACTICE



- Practice the functionality of Pivot tables over your AirBnB Dataset.
- Review your prompt
- Begin approaching some of the questions with Pivot tables

PIVOT TABLES AND DATA NARRATIVES IN EXCEL

DATA NARRATIVES

We believe **X**. We're examining **Y** to determine if it a) supports the claim, b) refutes the claim or c) is inconclusive.

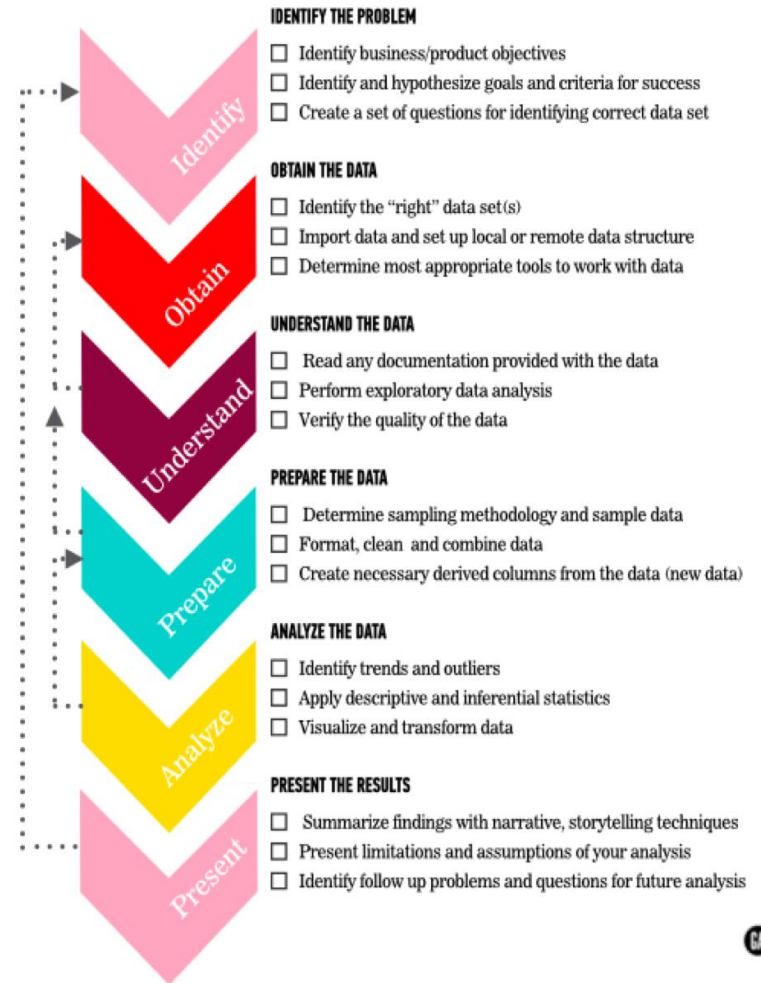
We are hoping to accomplish **X**. We're examining **Y** as measured by **Z** to determine if there appears to be a relationship/opportunity.

PROBLEM

APPROACH

SOLUTION/NEXT STEPS

ANALYTICS WORKFLOW



KPI



KEY
PERFORMANCE
INDICATOR

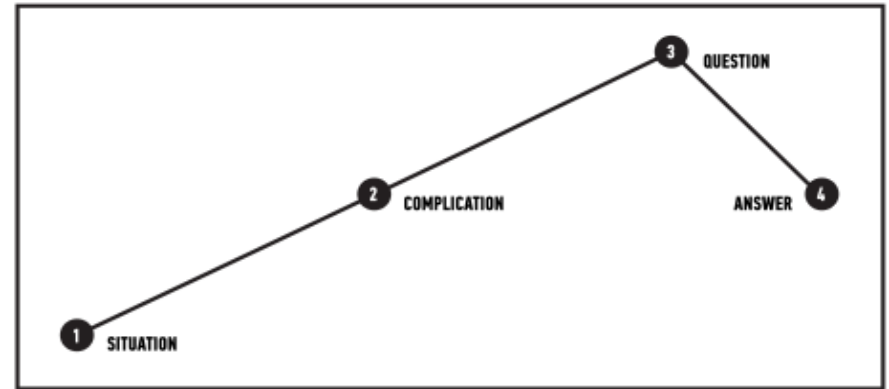


Pivot tables and Data Narratives

Developing narratives

The traditional narrative arc is a linear story, consisting of four elements:

Situation	Complication	Question	Answer
Explains where we are now.	Creates tension in the story you're telling; triggers the Question you will ask.	Asks what we should do now given the Complication.	The Answer to the Question is the substance of your presentation.

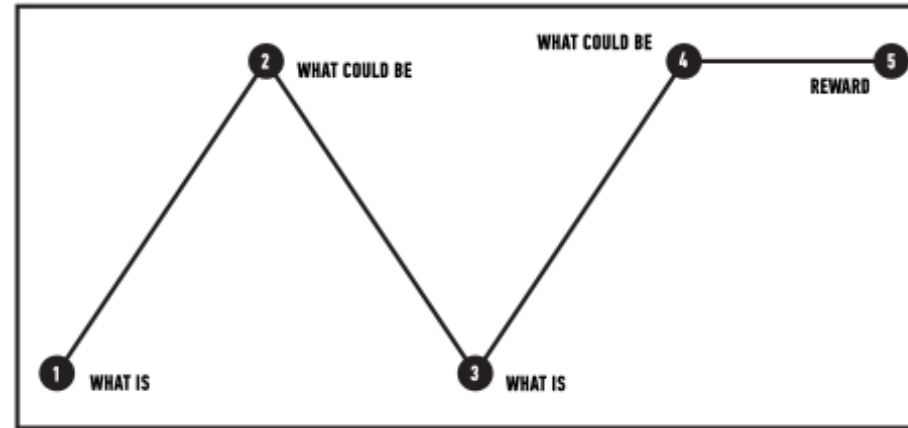


- As you can see, this pattern maps pretty closely to our Story Map:
 - Situation to setting
 - Complication to problem
 - Answer to resolution

Developing Narratives

The "What is vs. What could be" is a non-linear story, consisting of three elements:

What Is	What Could Be	Reward
The current undesirable situation.	A utopian future where the original problem of "what is" no longer exists.	The future situation that could exist if we all believe in it. This is your call to action.



- Here your findings identify “What Is.”
- Your motivation, and your selling point to your audience, is “What Could Be.”
- Your next steps will allow the “What Could Be”
 - to become a reality, leading to this “Reward.”

Pivot tables and Data Narratives

Developing Narratives

PRESENTATION OBJECTIVES What does your presentation need to accomplish?		PRESENTATION CONTENT How will your presentation fit both needs?
AUDIENCE SEGMENTS What describes your audience & their enrollment?	AUDIENCE OBJECTIVES What does your audience need from your presentation?	

Filling out this presentation canvas can ensure you have achieved your goal, which should always be to convey what you think is important while also meeting the needs and expectations of your audience.

Pivot tables and Data Narratives

Q & A

*If we have data, let's look at data.
If all we have are opinions,
let's go with mine.*

-Jim Barksdale, Prior CEO Netscape

Conclusion

Pivot tables are a powerful way to add filters, values and aggregates to your data sets.

Data is more than just numbers tying it to a story line that is compelling, it is about connecting with your audience.



Pivot tables and Data Narratives

EXIT TICKET

CLASS : PIVOT TABLES AND DATA NARRATIVES

QUESTION: Describe 1 data narrative technique

