11 January 2023 at 8:57 PM

Tableau Lecture-5

[Q1] Are there some states where some sub categories are profitable while others are not? [Adaptive Tooltip]

[Q2] Find Sub-categories with above average sales under each category and across years [Reference Line]

[Q3] Plot profit and sales per year, as we increase profits by x% [Parameters]

[Q4] Group customers of superstore by sales and profit [Clustering]

Survey on Onboarding Experience: https://bit.ly/3GvnOGl

📄 **Lec 5 Notes Tableau** - step by step Tableau instruction for the above screenshot

Q1: Are there some states where some sub categories are profitable while others are not?

Profit per state in Geo-map view with the tooltip providing subcategory wise breakup

Steps: LC is left click

Obj1: Plot the Geo-map of profit per state and colour code it with state-names clearly visible

[1] Load the 'Orders' sheets from Superstore Excel file as done in earlier lectures.

[2] LC+Pull Latitude (generated) to Rows
LC+Pull Longitude(generated) to Columns

[3] LC+Pull State to the plot—> Click on 49 unknown on bottom right—>Edit Locations—> Country=US —> Ok

[4] LC+Pull Profit onto "Color" in Marks pane

[5] LC on 4 dots next to 'State' on Marks Pane—> change it to Label to see the state names

Obj 2: Create a "SubCategoryProfitSplit" sheet

[1] Create a new sheet named "SubCategoryProfitSplit"

[2] LC+Pull Subcategory into Rows. LC+Pull Profit into Columns

[3] LC+Pull Profit onto Color in Marks Pane

Obj 3: Add SubcategoryProfitSplit into the map's tooltip

[1] LC on the Tooltip (in Marks Pane) in the "ProfitPerStateTooltip" worksheet.
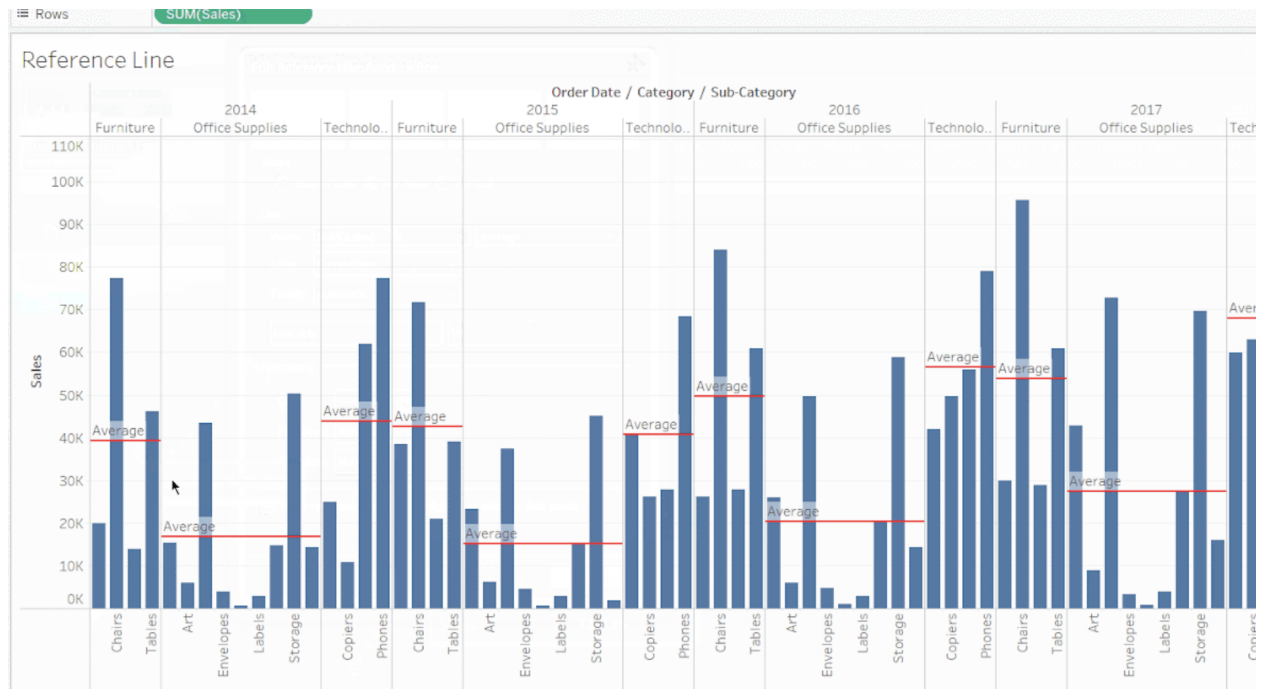
[2] Insert —> Sheets —> SubcategoryProfitSplit

[3] Checkout the tooltip as you move on the map

[Any insights you can draw from this?]

Obj 4: Change the size of the tooltip

[1] LC on Tooltip (in Marks Pane) —> Change maxwidth and maxheight as you need —> ok

Q2. Find Sub-categories with above average sales under each category and across years

Insights: In 2014, catg office supplies, binders and storages have above average sales

Obj 1: Let us get plotting

[1] Create new Sheet: "SubcategorySales". LC+Pull Order Date into Columns—> Observe how the plot is changing

[2] LC+Pull Category into Columns—> Observe how the plot is changing

[3] LC+Pull Sub-Catgeory into Columns—> Observe how the plot is changing

[4] LC+Pull Sales into Rows—> Make sense of the plot.

Obj 2: Add an average line for avg-sales across sub-categories for every category and across years.

[1] On the left tab, go to "Analytics" (Next to "Data")—> Custom —> LC+Pull Reference Line to the plot -> you see 3 options—> Choose "Pane"
- Opt1: Table : Do you want 1 ref line for the whole table
- Op2: Pane: Do you want 1 ref line for each pane
- Opt3: Cell

[2] Window opens -> Value = sum(sales) -> you want "Average" -> Under "Formatting"—> Under "Line" —> Dotted line -> Change color if you like
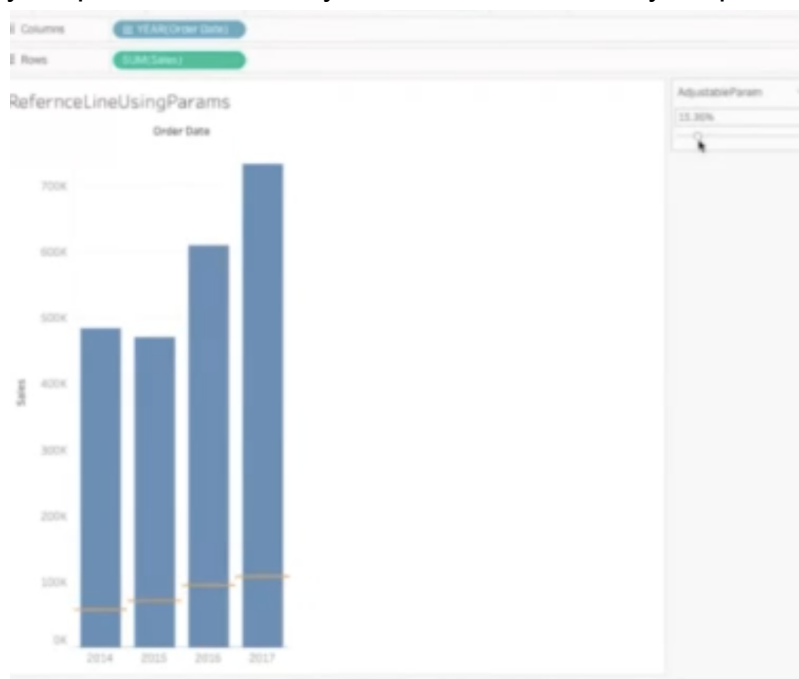
[3] If you want to show the value on the reference line : RC reference line on the view -> edit -> under "label"-> click " value"

[Any insights you can draw from this?]

****

Q3 : Plot profit and sales per year, as we increase profits by x%

Your profit line should keep changing as you change the parameter for %profit. I.e if your profit increased by x% how much would your profit be

Obj 1: Plot Sales per year

[1] Create a sheet named: "RefernceLineUsingParams"

[2] LC+Pull Sales into Rows. LC+Pull Order Date into Columns
Make it a barchart

Obj 2: Create a Parameter to adjust the profit

[1] LC on down-arrow at the top left of the Data-pane that is placed next to the search bar.

[2] Create Parameter—> Name=AdjustableParam; Display Format —> Integer; Range—> Min=1, Max=100

[3] Observe a new parameter created in the Data pane —> RC—> Show parameter

Obj 3: Create a AdjustedProfit using AdjustableParam and add it to the plot

[1] Create Calculated Filed —> Name = AdjustedProfit—> Formula: sum(profit) + ([AdjustableParam]*sum(profit)/100)

[2] LC+Pull AdjustedProfit to the Marks pane (detail)

[3] Analytics—> ReferenceLine —> Cell—>Value = AGG(AdjustedProfit)—> SUM --> Line—> Change Color

[4] If you want to show the value on the reference line : RC reference line on the view -> edit -> under "label"-> click " value"

[5] As you change the AdjustableParam, see the reference lines changing.

****

[4] Group customers of superstore [Clustering]

Insights: We can generally say red ones are giving higher profit. Orange ones are giving medium sales and profit and blue is low sales and low profit

Obj 1: Plot Sales and Profit per customer

[1] Create a sheet named:" CustomerClusters"

[2] LC+Pull Sales into Columns.

[3] LC+Pull Profit into Rows.

[4] LC+Pull Customer Name into Detail(Marks Pane)

[5] RC on the plot—> View Data—> Check if data is per customer

Obj 2: Create clusters automatically

[1] Analytics (in left tab , next to data in data pane)—> LC+Pull Cluster onto the plot

[2[Notice two clusters created automatically

[3] RC on Clusters[Marks Pane)—> Describe clusters

[Any insights you can draw from this?]

Obj 3: Create 3 clusters instead of 2

[1] RC on Clusters (Marks Pane) —> Edit Clusters—> Number of Clusters=3

[2] RC on Clusters(Marks Pane)—> Describe clusters

****

Trendlines

Q. Does profit increase or decrease with sales? Whats the relationship between discount and profit ?
- ● What would be the shape of the pattern?

Steps:
1. **Create new sheet "Profit Vs Discount"**
2. **Drag profit to rows**
3. **Drag discount to columns**
4. **RC on sum(discount) [green pill] -> click on dimension (cause it was earlier measure, you dont want to add up %s, and you want to consider 10% discount, 20% discount etc as kind of categorical)**
5. Sum(Profit) doesnt make sense, cus for certain discount %s it will show sum(profit) is less -> thats probably cause less items were sold with that discount so its not a fair comparison. So lets do profit% instead (sum(profit)/sum(sales)) instead for a more solid analyses
Even avg(profit) wont work cause its averaged on the number of orders which could depend on how many different items were bought that were high prices or low prices for that discount%
6. **Make sum(profit) as avg(profit)** (for demo purpose) -> We see the trend is decreasing first and then increasing
7. **Click "analytics" (in left tab , next to data in data pane) -> Drag "trend line" to the plot -> Linear**
   a. The options are linear, logarithmic, exponential, polynomial, power
   b. Linear will give you one option
8. **Try polynomial and see which is a better fit**
9. If you see an error like actuals numbers are flat but trend line is growing , you can adjust
10. **RC on trend line -> edit all trend lines -> try different degrees**
11. **Go to analytics on top tab -> trend lines -> describe trend models to get a detailed description of the model**

Forecasts

Q. Has sales increased or decreased over time?
   Can we predict the future sales?
Steps:
1. **Drag order date columns -> make it month-year combination**
2. **Drag sales to rows**
3. **Go to analytics on top tab -> Drag forecast to the view**

4. You can change the duration of the forecast by:
5. **RC on the forecast -> click forecast options -> Under exactly you can change it to 2 years**
6. You cant predict a single point with accuracy , so you want to build a range around it, the light blue shaded area around the line is the confidence interval

Q. Can we some stats for each year in a dashboard (min, max, avg sales etc)