## Session 5 – Exercise 1-4 Week 5: Visual Analytics | Pre-attentive Attributes

### Intro

### Examples of the Types of Visualizations in Tableau and how to improve them.

### Tableau Public

* + - <https://public.tableau.com/app/profile/kevin.flerlage/viz/TheTableauChartCatalog/TableauChartExamples>
  + Viz.wtf
    - <https://viz.wtf/>
  + Spurious Correlations
    - <https://www.tylervigen.com/spurious-correlations>

### Ineffective Visuals and How to Improve Them.

### How have navigation button, reset button, visual cues on the dashboard.

### De-Cluttering

### False Narratives and Data Storytelling

### Topics covered

* 4 different scenarios
  + Comparing and Ranking Categories
  + Comparing Parts to Whole
  + Viewing Correlation
  + Viewing Data over time

### To Do

* Modify existing visualizations to a better visual experience.

### Instructions

Open “Visual Analytics PGR110 - Session 5 - Starter” to find 4 existing scenarios.

### Scenario 1 - Sales and Profit by Sub-Category

1. Create a new sheet.
2. Use data source “Super Store.”.
3. Create a horizontal bar chart, using sum of “Sales” to build a bar chart, split by “Sub-Category”.
4. Highlight the unprofitable with orange (using “Profitable?” on color), the rest with light grey.
5. Adjust title, use the color legends to identify if the profit is negative or positive.
6. Save the workbook.

Chart, bar chart

Description automatically generated

### Scenario 2 - Regional Population by Age Range

1. Create a new sheet.
2. Use data source “World Indicators”.
3. Create a stacked bar, using “Region” to split the measures, use average for “% Population 65+”, “% Population 15-64” and “% Population 0-14”.
4. Region on Rows, drag one of the measures above to Columns, change to Average.  
   Add the next measure as indicated below (also Average)
5. Make sure “Measure Values” and “Measure Names” are triggered. Hint: Add one measure to Columns, then add the next to the same axis.
6. Chart

   Description automatically generated
7. Then “Measure Values” are added to Columns by Tableau and the last measure can be added to the “Measure Values” box (under Marks Card), change to Average.
8. Add “Measure Values” to Label.
9. Add sum of “Population Total” to the tooltip, adjust the text in the tooltip to this dynamic version:
10. 
11. Save the workbook.

**Chart, bar chart

Description automatically generated**

### Scenario 3 – Movie Data

*View One*

1. Create a new sheet.
2. Use data source “Movie Data”.
3. Create a scatterplot with sum of “Budget ($m)” and “Audience score %”.
4. Add “Genre” on color and “Film” on detail.
5. Add a linear reference line (from “Analytics” pane)
6. Adjust title and tooltip.
7. Save the workbook.

### Chart, scatter chart Description automatically generated

*View two*

1. Duplicate View One
2. Remove Genre from color, add it to columns.
3. A picture containing chart

   Description automatically generated

### Scenario 4 - Monthly Sales by Segment

1. Create a new sheet.
2. Use data source “Orders”.
3. Create a sparkline/line graph, using sum of “Sales” for each “Segment”, viewed over time (“Order Date”, month continuous).
4. Add “Order Profitable?” on color.
5. Adjust Axis, change from “Automatic” to “Independent axis range for each row or column”.
6. Edit the Sales Axis, remove the header (the numbers).
7. Edit the Date Axis, show tick marks for each year.
8. Adjust title and tooltip.
9. Save the workbook.

Chart, line chart

Description automatically generated