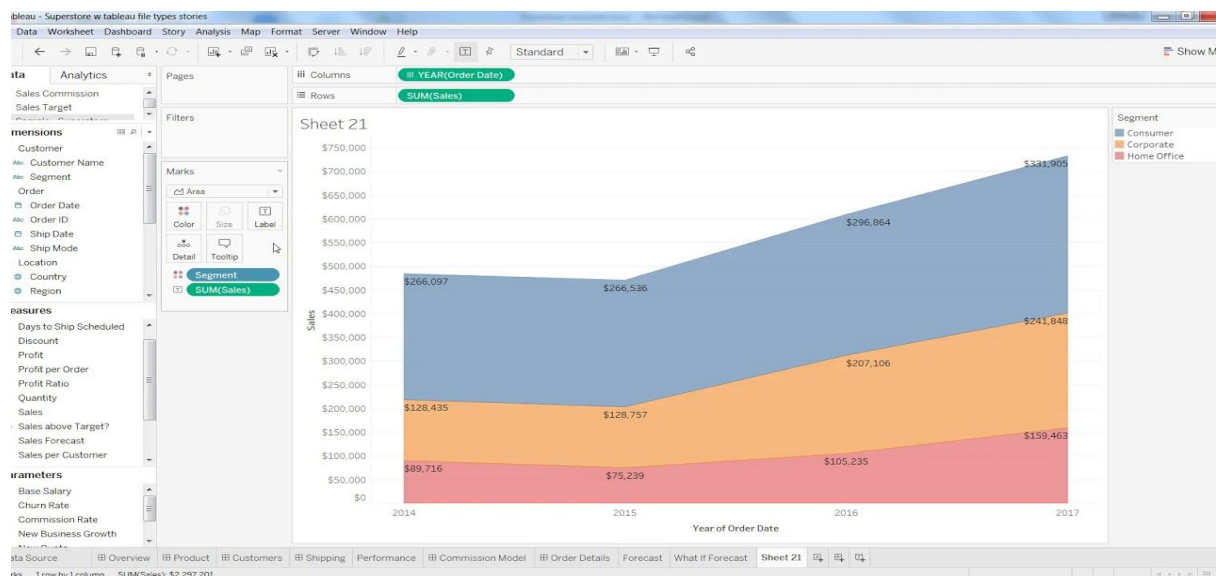# TABLEAU

Day 25

Area Chart

From the perspective of visual elements, the **area chart** fills the area between the plotted line and the axis. It is an extension of a line chart.
Both the line chart and area chart is used for time series data, they both show continuity across a dataset and they are good for seeing trends, rather than individual values.
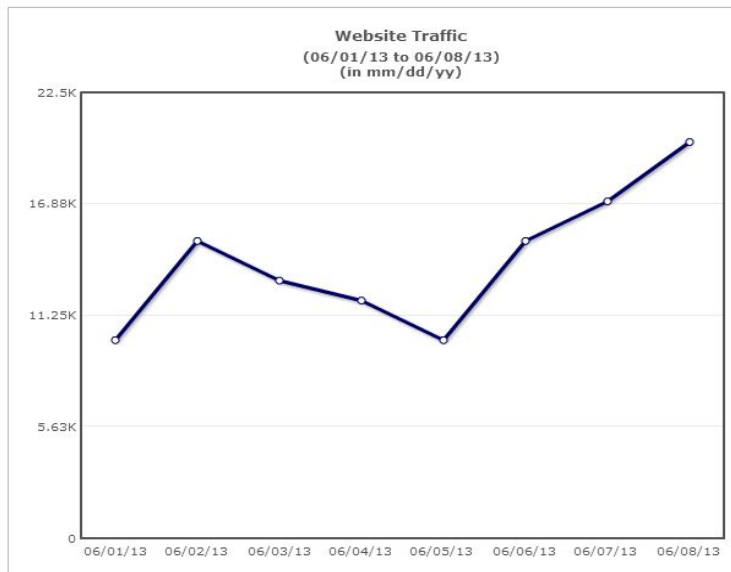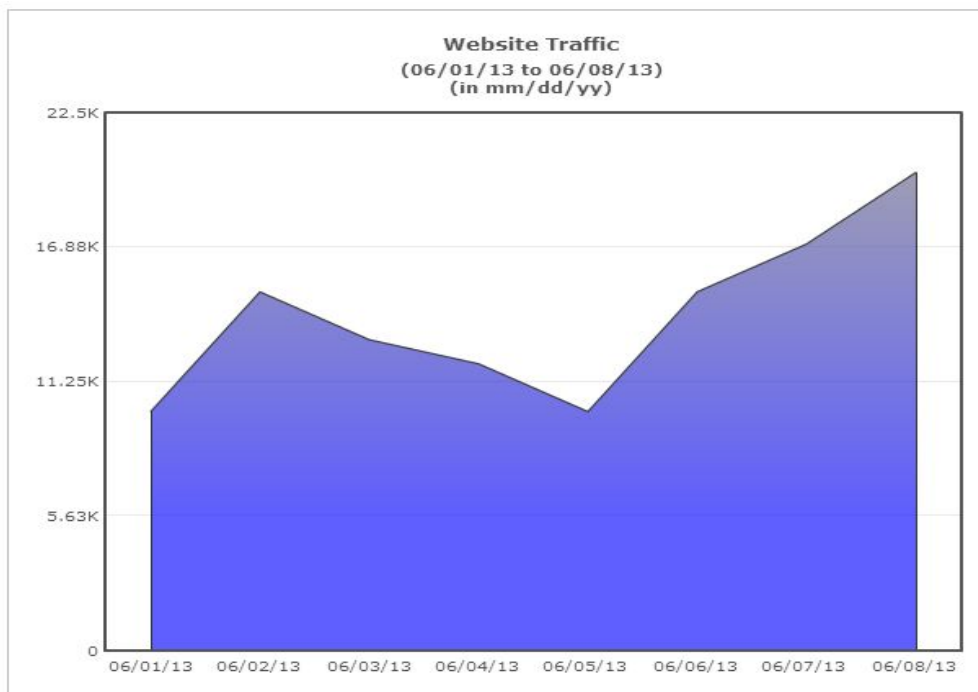

Line charts vs Area charts

When to use these charts?

- Line charts use lines to represent the trend whereas area charts use areas to emphasize the volume.
- Line charts are usually for observing trends over a certain period of time. The Y-axis shows numeric values and the X-axis represents the key measurements. Line charts are clear and easy to understand since you can see the specific trend for the individual data group.
- Area charts have a pattern similar to line charts. However, the space between each line and the X-axis is filled with a certain colour. Area charts are ideal for indicating a change among different data sets.
- A line chart connects discrete but continuous data points by using straight line segments. It is effective in facilitating trend analysis. An example of the

application of line charts in real life: Check the trend for profits and other business factors.
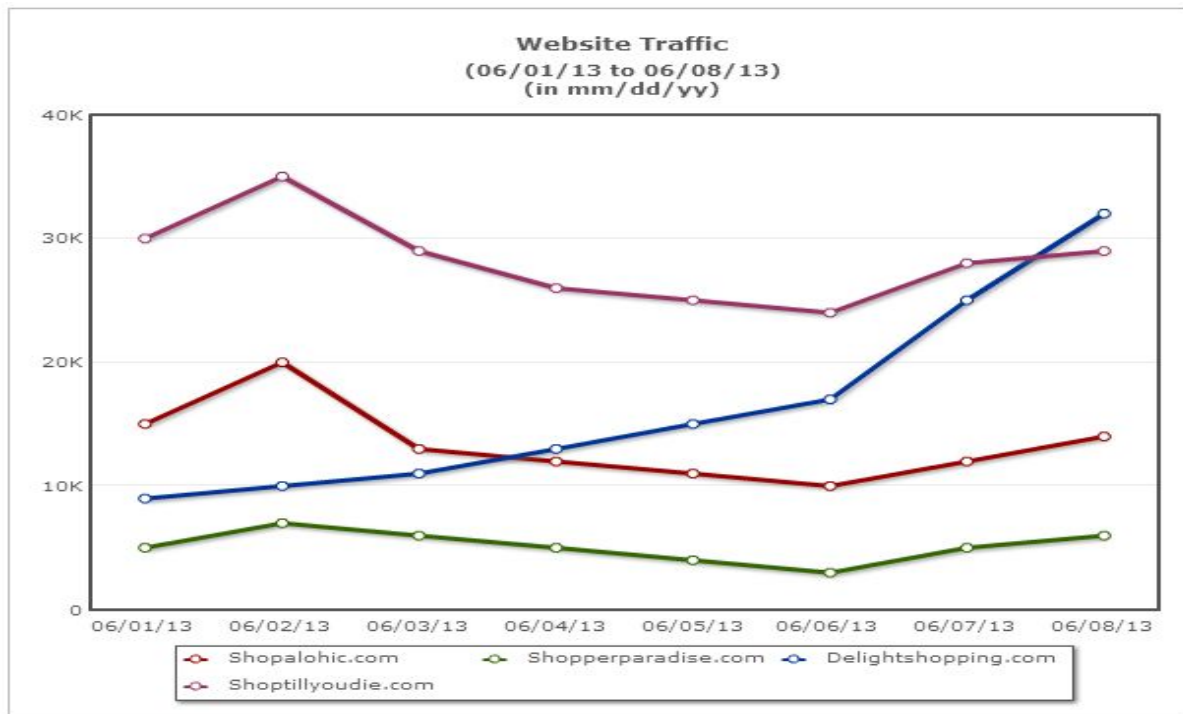

- An area chart does the same except that the area below the plotted line is filled with colour.

**When there are multiple data sets**

Line charts can easily be used to display multiple data sets.

Website Traffic
**(06/01/13 to 06/08/13)**
(in mm/dd/yy)

However, in area charts, we cannot show multiple data sets clearly as the upper layer hides the layers below. This is known as **occlusion.** This becomes especially bad when you have more than two data categories.

Website Traffic
(06/01/13 to 06/08/13)
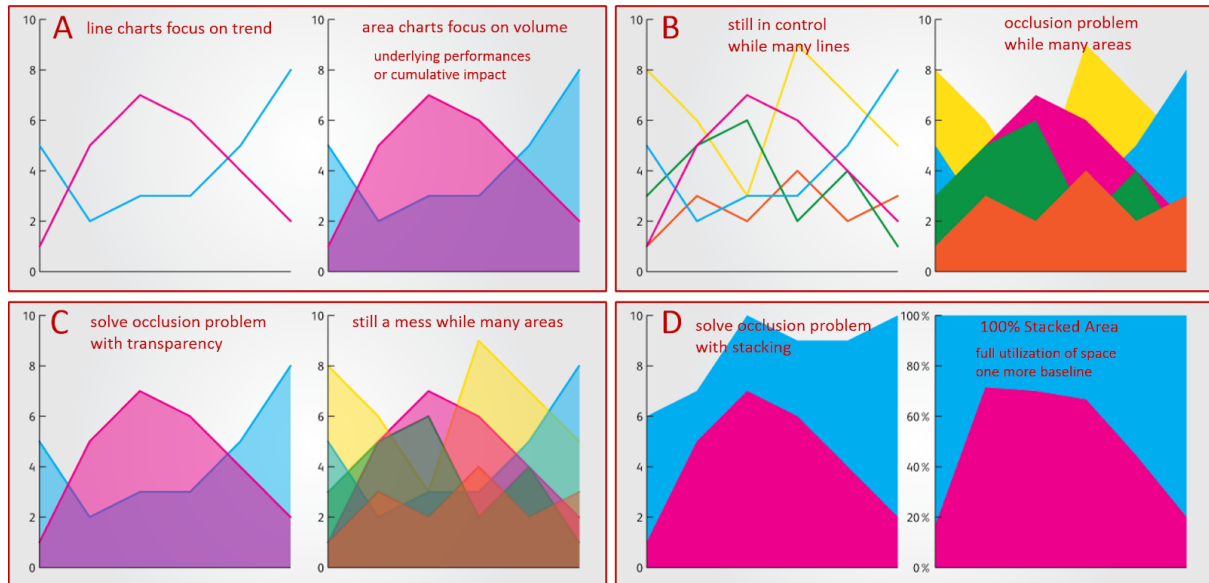**(in mm/dd/yy)**
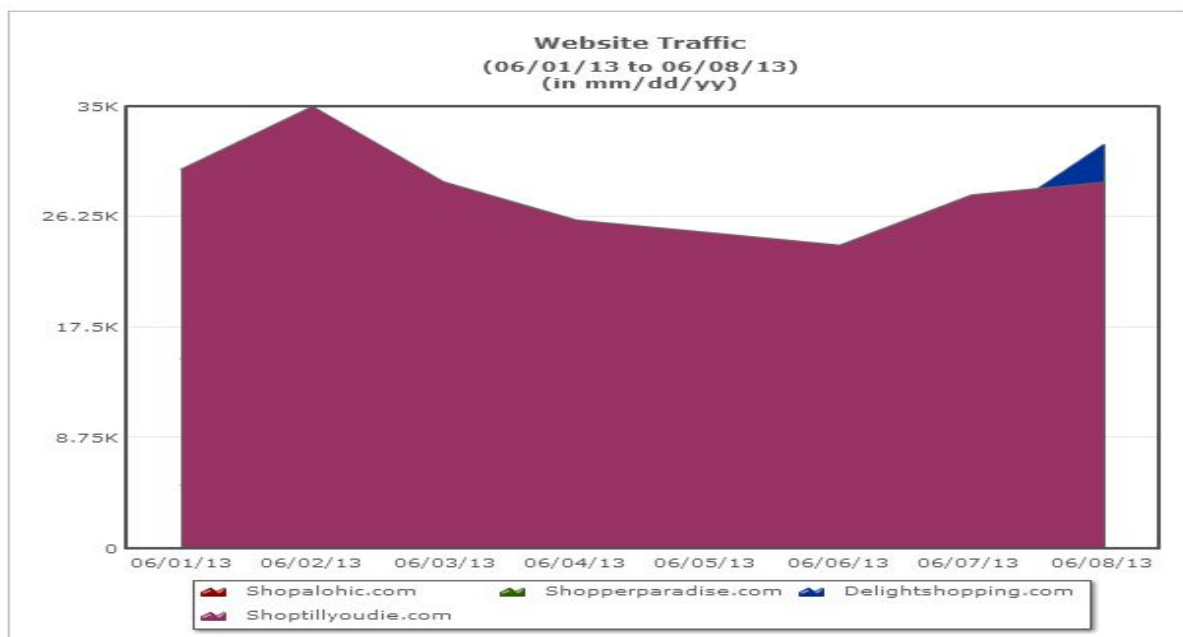
The problem of occlusion can be minimized by increasing the transparency of the different layers, but nonetheless it persists.
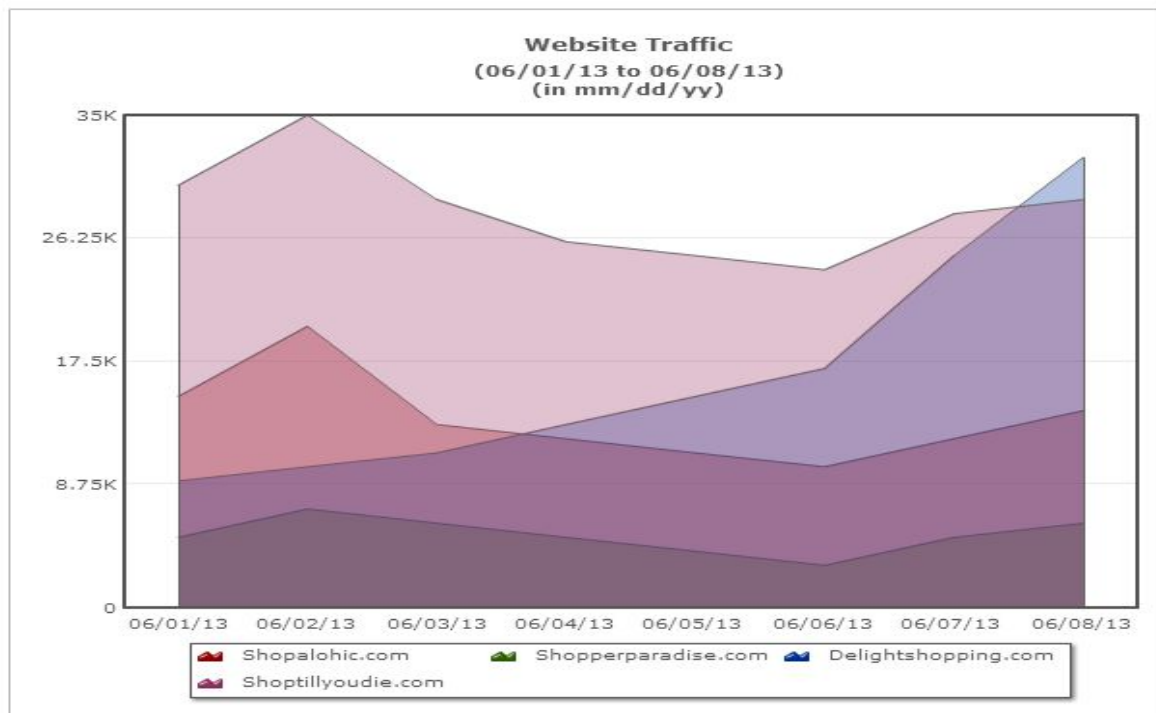
Increasing transparency works best up to two or three data sets.
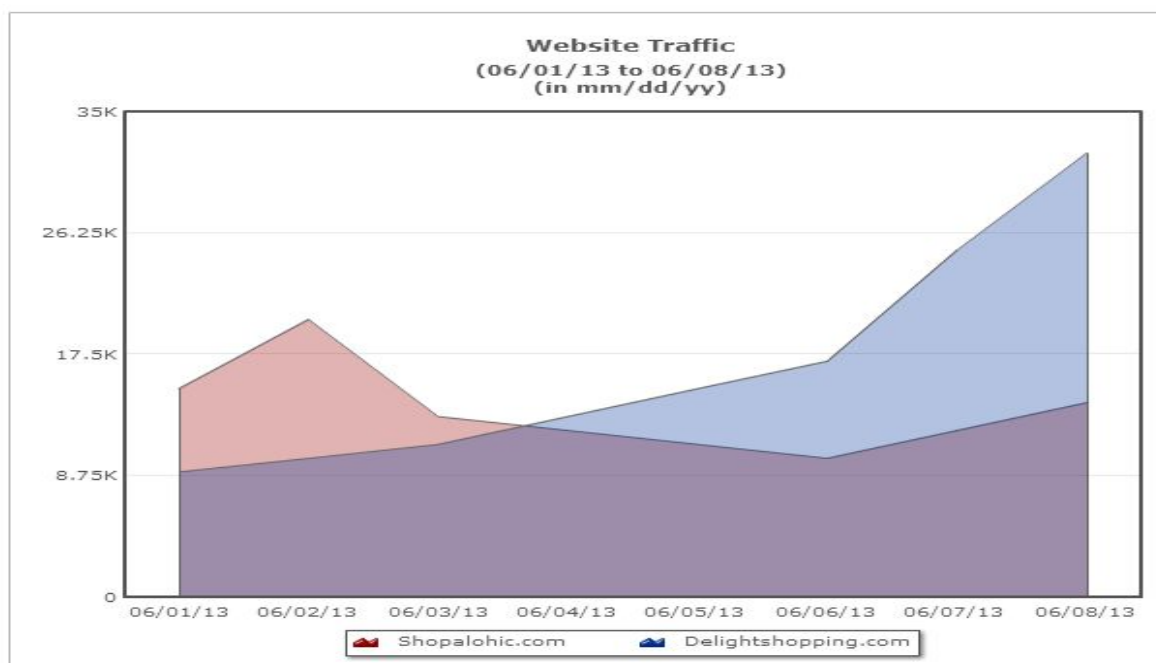
Conclusion:

The **part-to-whole** relationships are a simple relationship in the data; mathematically, this relationship is equivalent to percentages. This means if the data is percentages, the part-to-whole relationship exists, but even data that isn't represented as a percentage can have a part-to-whole relationship.
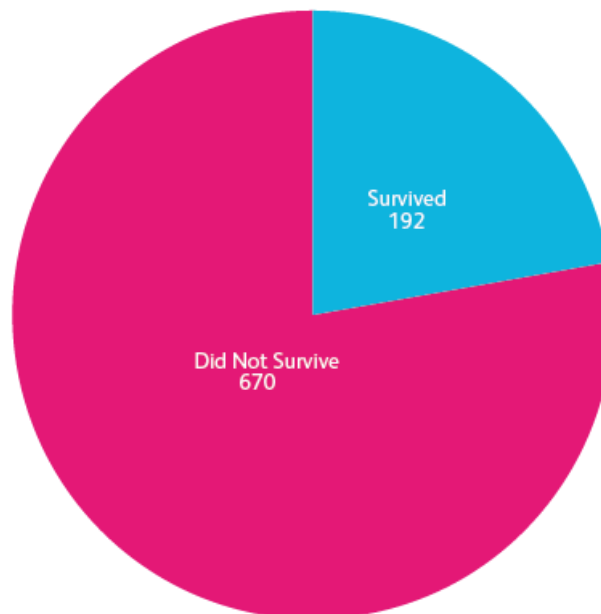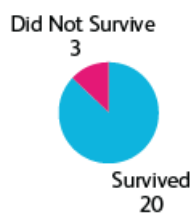
How to create an area chart in Tableau?
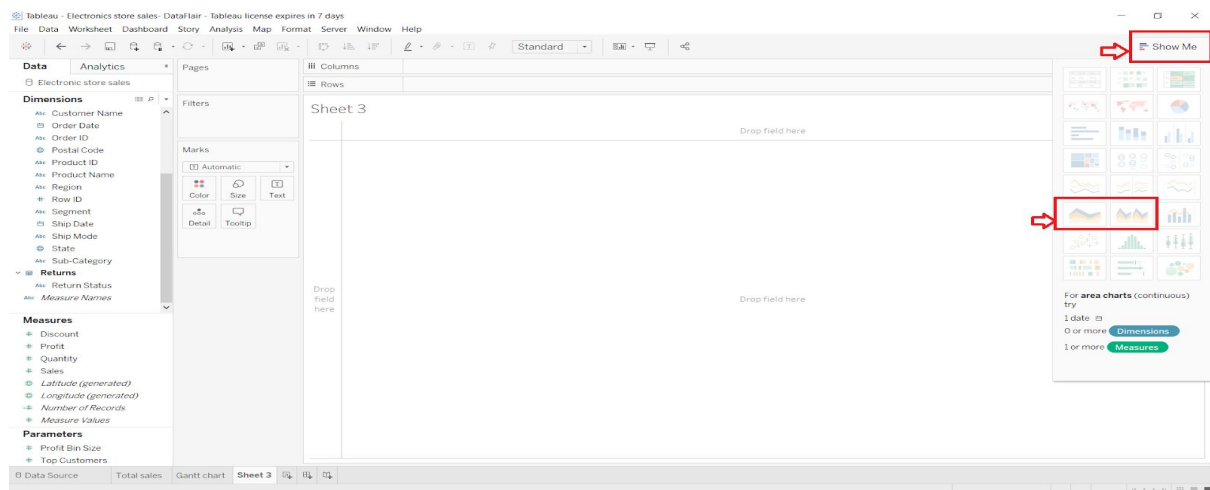
Step 1: Open Visualization Pane in Tableau

Open a new sheet in a Tableau workbook. Here, on the left side, you'll find a list of the dimensions and measures from the connected *data source*. At the right-most side, we have a visualization pane. You can hide or show this pane by clicking on the Show Me option. In this pane, you'll find two options for area charts that is Area charts (Continuous) and Area charts (Discrete).
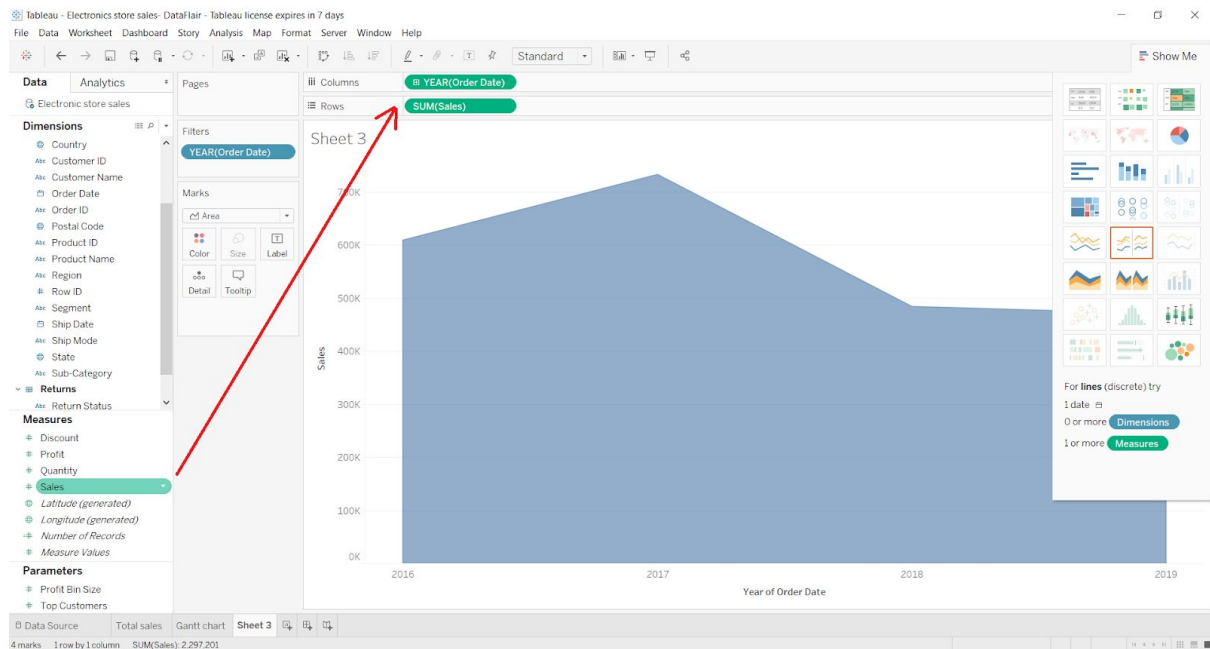

Step 2: Select Area Chart in Visualization Pane

As we know, Tableau recommends using a date field for making an area chart. So, we start by dragging a date dimension to the Columns section. Go to the visualization pane and select Area charts (Continuous) option in case it is not selected.
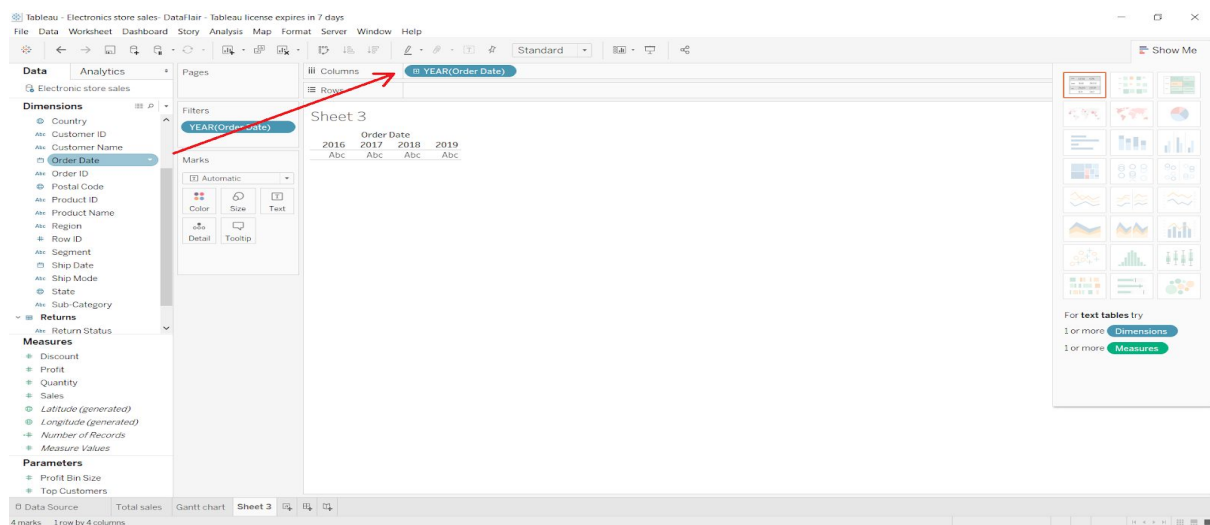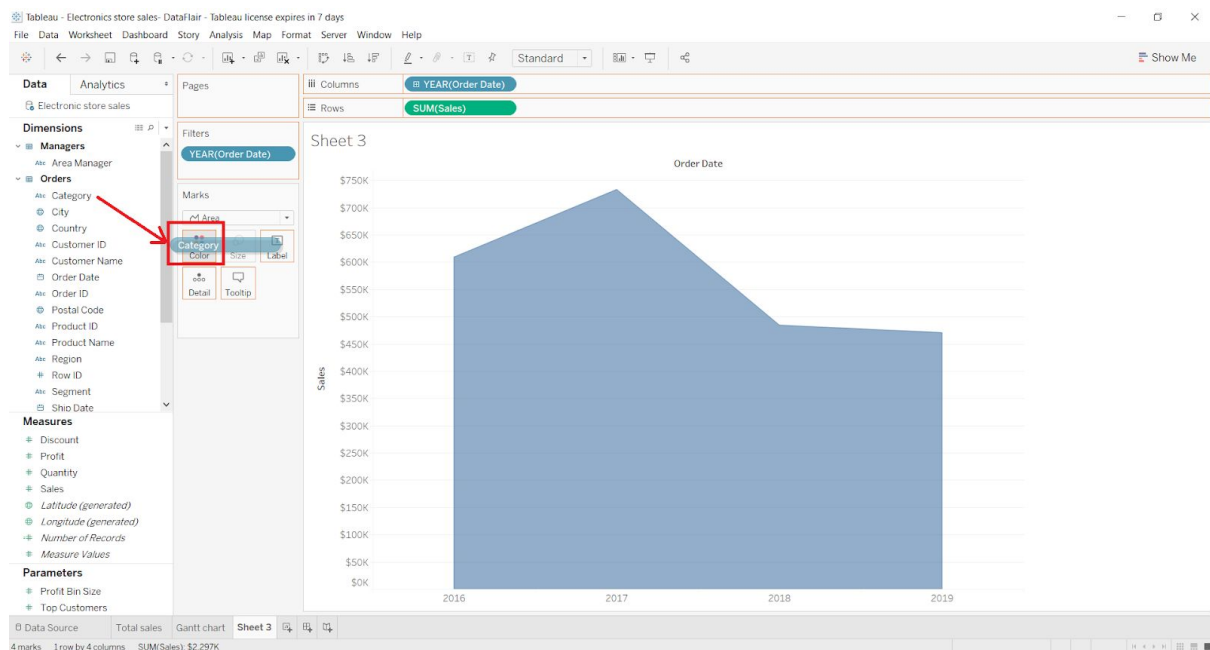
Step 3: Add Measure

Next, we'll drag and add one measure (Sales) to the Rows section.

## Step 4: Add Dimensions to the Colors Box

Now, we'll add one more dimension (Category) to the Colors box of the Marks pane. This will add category-wise colors into the chart and represent each category with distinct colors.

Step 5: Basic Area Chart Creation

This creates a basic area chart where the chart is divided into three colour zones of three categories which are Cameras, Laptops, and Mobile Phones. The x-axis or column axis shows four years that is 2016 to 2019. Whereas, the y-axis or row axis shows the scale for total sales.

This area chart shows the total sales for three categories of products indicated by blue (*Cameras*), yellow (*Laptops*) and red (*Mobile Phones*) over a period of four years.
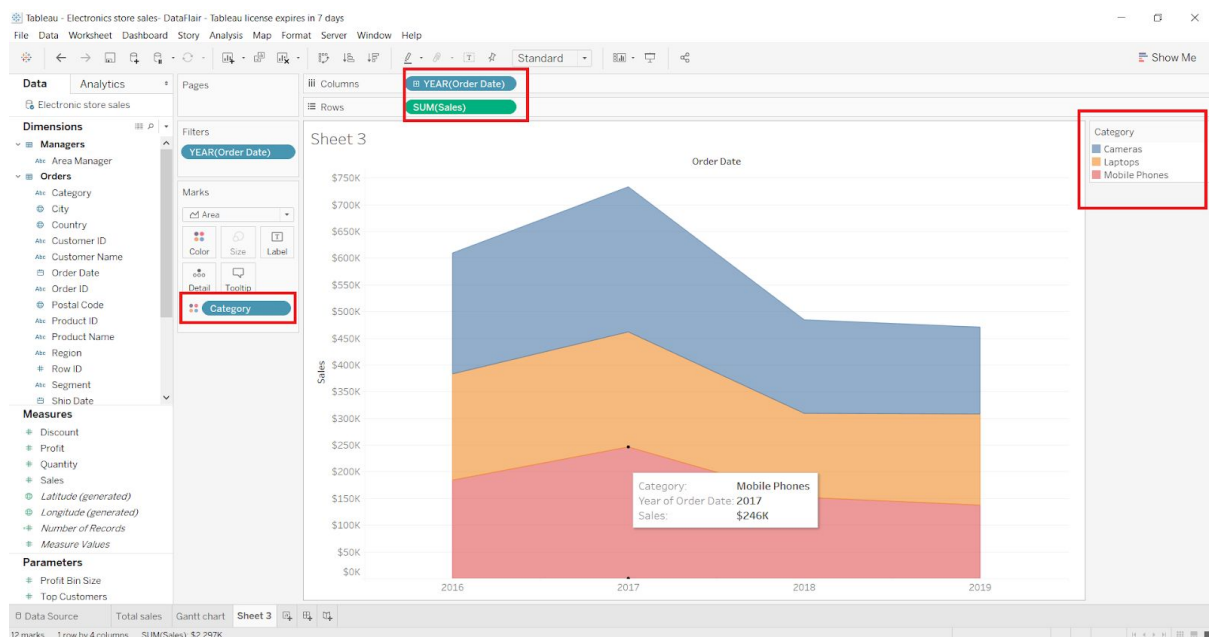

Step 6: Make Basic Area Chart more Detailed One

We can also make this simple area chart in Tableau a more detailed one by adding another dimension (*Sub-category*) into the Details box in Marks pane. This will add thin lines of sub-category items like OnePlus, iPhone, Samsung, etc. in the category of Mobile Phones to give a detailed visual representation of sales data. Hover your cursor on the area segments to read the details pertaining to it.
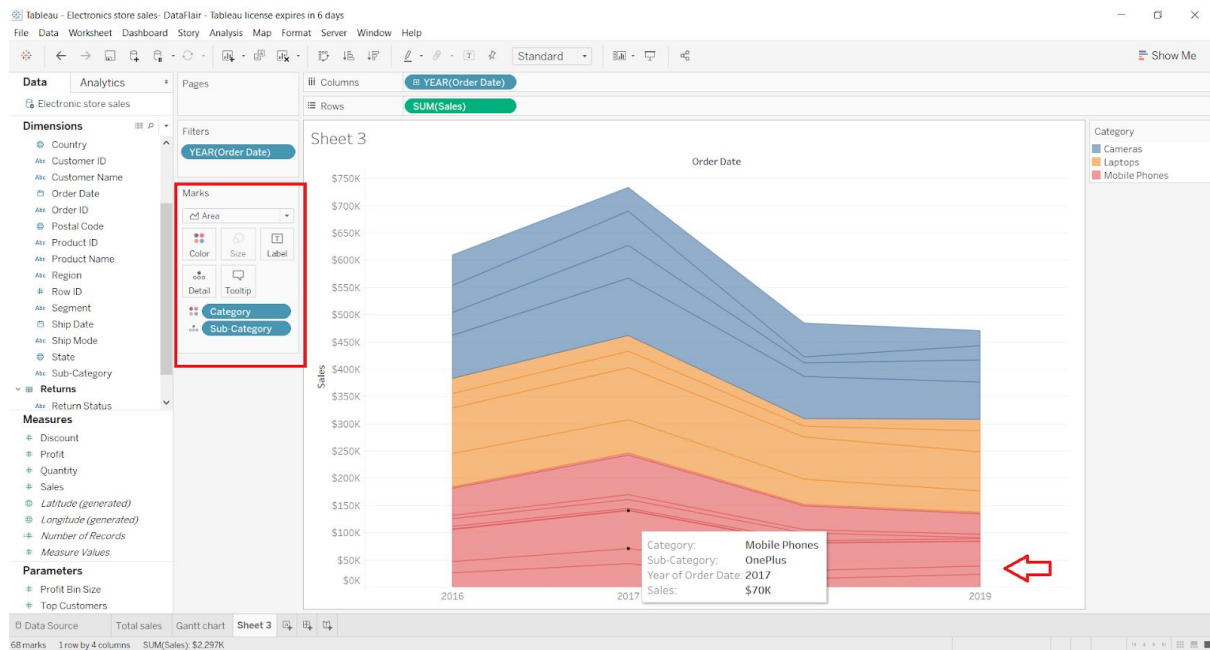
Step 7: View Discrete Area Chart

Now, let us also have a look at how does the other type of area chart that is, the discrete area chart. For this, we go to the visualization pane again and select the Area charts (discrete) option.
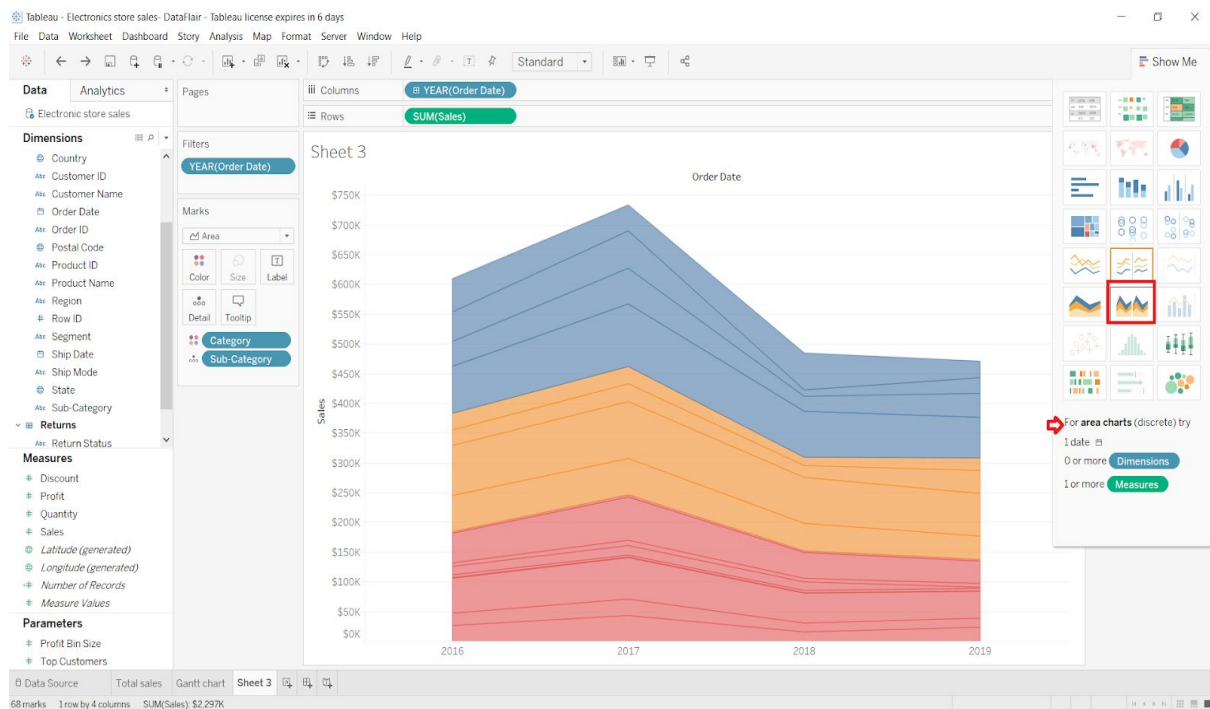
Step 8: Conversion of Continuous Area Chart into Discrete Area Chart

This will instantly change out the continuous type area chart into a discrete type. As you can see in the screenshot attached below, the discrete area chart divides the chart space into three sections and show separate charts for the three categories.
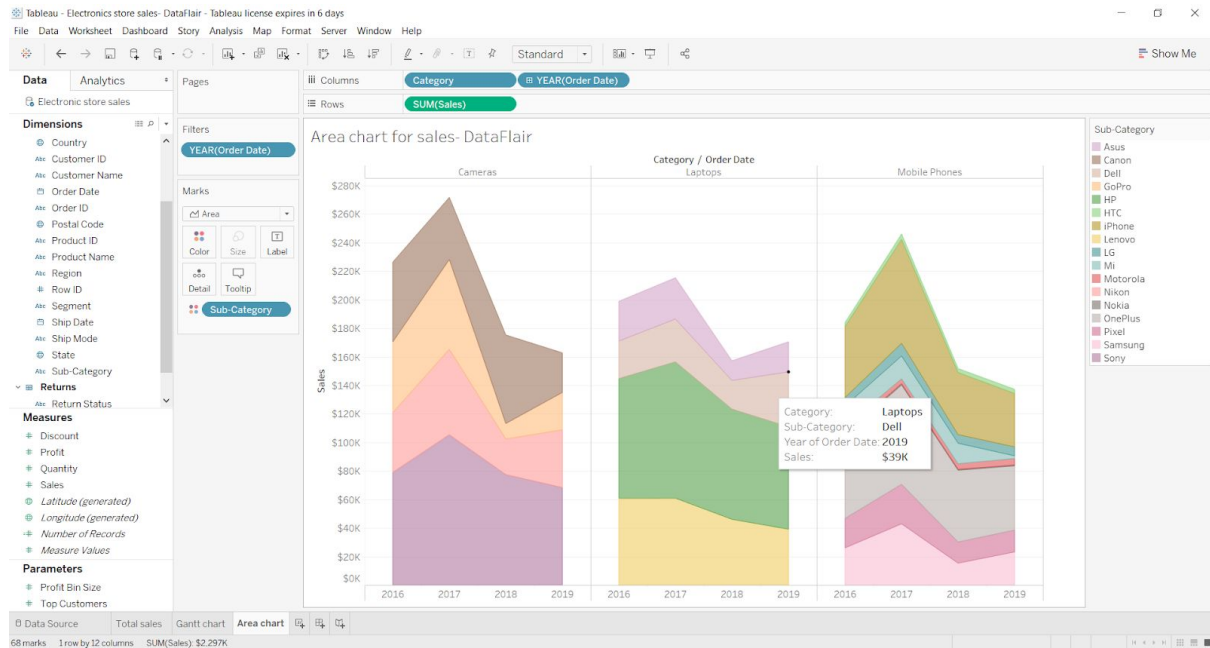
Will continue with the stacked area charts.

Happy learning, happy coding!