

Summary – Day 8

- **Groups:**

- Group is a feature in tableau by which one can combines multiple values of the same dimension in some attachment-like icon.
- Sometimes there can be numerous values for a dimension. Carrying out visual analytics over such a number of dimension values may not be feasible as it may not convey any useful insights.
- However, a combination of different dimensions values based on some similarities between them can allow us to create groups that one can use for analysis.
- These groups will convey insights in a much better manner than what the individual dimension values would have otherwise conveyed.
- The Group in Tableau is thus a very useful feature.
- In order to carry out comparative analysis of different product brands, one may have to focus on creating the group of each brand i.e. apple, Samsung, xerox etc.
- Groups are always statis in nature and are not likely to change the moment data changes.
- We need to manually edit the group and make necessary changes in case the data changes.
- Groups can be made for dimensions and measures. Right click on dimension/measure and select Create → Group

- **Bins:**

- Tableau bins are containers of equal size that store data values corresponding to or fitting in bin size.
- Bins group a set of data into groups of equal interval or size making it a systematic distribution of data.
- Bins are always created on the continuous measures.
- Bins are very useful in data analysis as they provide a systematic data range that helps organize information better and discover patterns easily.
- Typically, it is used to create the histograms in tableau. For example, one needs to find sales transactions (COUNT(Sales)) have happened between specific sales values i.e., 0-100, 100-200 etc.

- Here bins means the group of measure value such as 0-10, 10-20, 20-30 etc. and bins size means maximum-minimum value in any bin i.e. 10 in this example.
- In order to create the sales bins, right click on sales and select Create → Bins

- **Hierarchy:**

- In the context of data, hierarchies are a logical arrangement of relevant unique attributes in a data set. Hierarchies arrange data fields in a level, for instance, a Geography hierarchy would have a region, country, state, city, area levels. Or, a Time hierarchy has a year, month, week, day as its levels.
- By creating hierarchies in Tableau, one sets the data on different levels of detail and organize it. Tableau can automatically create hierarchies by detecting relevant fields or one can create custom hierarchies.
- By default, the hierarchy is created by tableau on any date dimension. The hierarchy is shown below.
 - Year >> Quarter >> Month >> Day
- As per the requirement one needs to create the custom hierarchy of some set of dimensions.
- In order to create the hierarchy for location consisting of Country, Region, State, City, right click Country → Hierarchy → Create Hierarchy → Give name (Location)
- Right click on other dimensions → Hierarchy → Add to Hierarchy → Location

- **Sets:**

- Sets in Tableau are used to create subsets of data based on certain conditions defined by the user.
- For example, a set can be created for having a subset data of top 10 customers with the highest sales.
- Types of Sets:
 - **Fixed Set:**
 - ❖ The values/members in the fixed sets do not change when the underlying data changes.
 - ❖ Fixed set consists of fixed values.
 - ❖ The General tab provides an option for a user to select one or more required values from the list.
 - ❖ The selected values will be considered when the set is being computed. Also, if needed, a user can select Use All option to consider all values always even when new values are being added or removed.
 - ❖ Any set has two outputs i.e. IN and OUT.
 - ❖ IN set includes the values in the set whereas OUT set consists of values other than values considered in IN set.
 - **Dynamic Set:**
 - ❖ The values/members in the dynamic sets get changed when the condition changes.
 - ❖ Dynamic set can be created either by condition tab or top tab.
 - ❖ If the condition changes or top 10 limit changes the customers then the chart consisting of this set will change.

- ❖ The members for which condition is true will be included in IN set while others are considered in OUT set.

- **Parameters:**

- Parameter is a feature in tableau used to dynamically change the values in the chart based on user interaction.
- User can either type in / select the value from the parameter box in order to change the values in the chart.
- Example:
 - User may have a requirement to see the sub-category wise sum of sales and wanted to analyse it by selecting YTD/QTD/MTD option.
 - In such a case one needs to create the parameter consisting of YTD/QTD/MTD values and then need to write the appropriate calculation for each value shown in parameter.
- Parameters are always single-select. User can't select multiple values in parameter.
- Steps:
 - Create Parameter.
 - Mention the name and data type of parameter.
 - If data type only and List radio button is selected then we can add the string/text values.
 - Same thing goes for numbers and dates.
 - Once parameter is created then right click and select Show Parameter.
 - You will see parameter getting shown on right hand side by default.
- Parameters can be used in below features.
 - Filters: To find the top or bottom values based on user input
 - Sets: To find the top or bottom values based on user input
 - Bins: To change the bins size based on user value
 - Reference Lines: To change the reference value, hence reference line position, based on user value.