Lesson 04 Demo 06
Parameters with Measure and Calculation

Objective: To demonstrate dimension organization, parameter setup for measure selection, and interactive data visualization in Tableau

Tools required: Tableau Desktop

Prerequisites: None

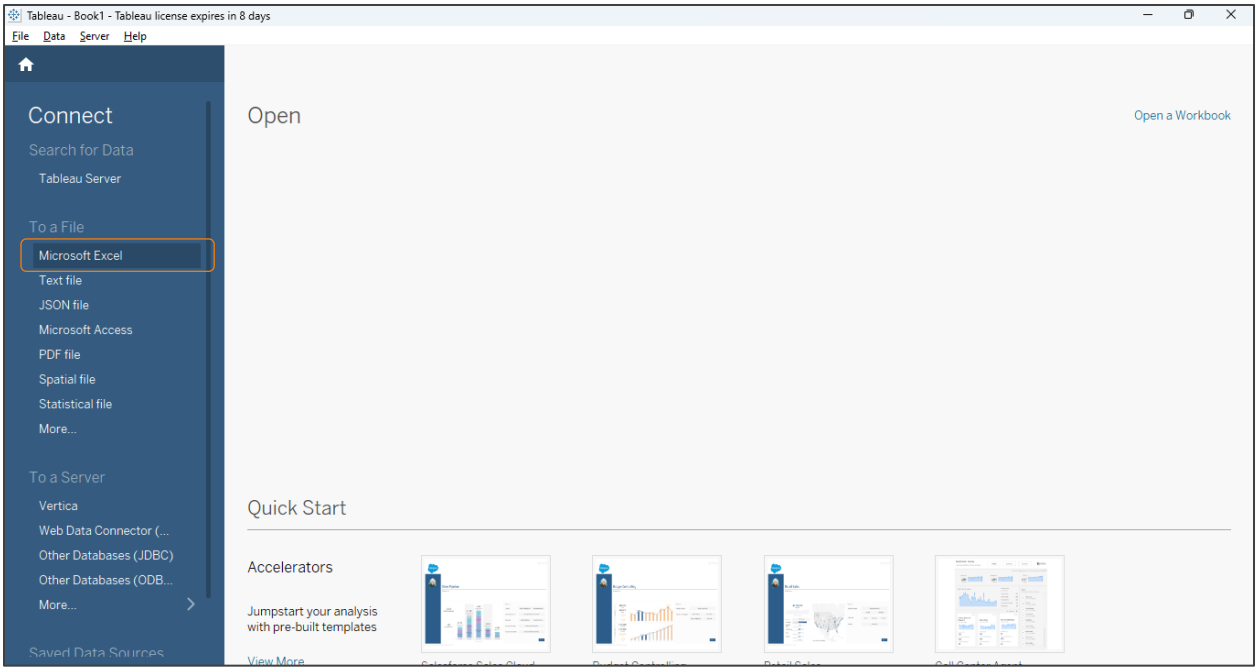
Note: Download the **Sample - Superstore-2017-2020.xlsx** dataset from the Reference Material section of the LMS

Steps to be followed:

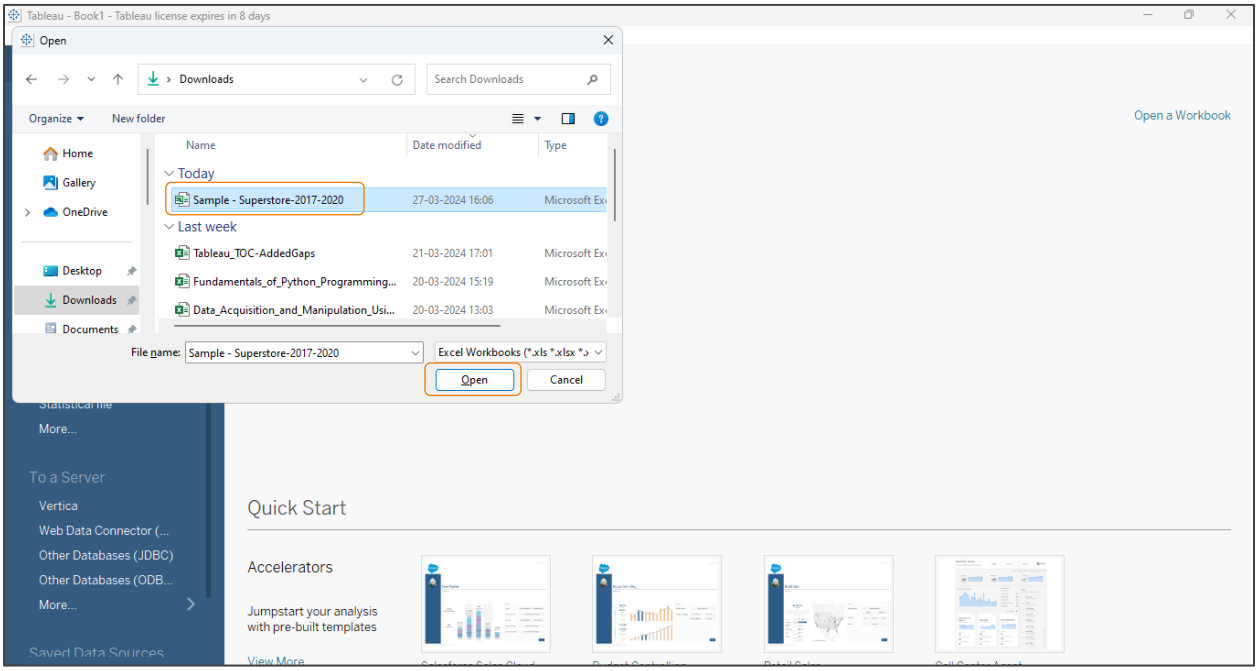
1. Import the Excel file
2. Drag Segment and Category to Column shelf
3. Create a Parameter to select the measure
4. Show Parameter control and move it below the Marks card
5. Create a calculated field and perform the below calculation

Step 1: Import the Excel file

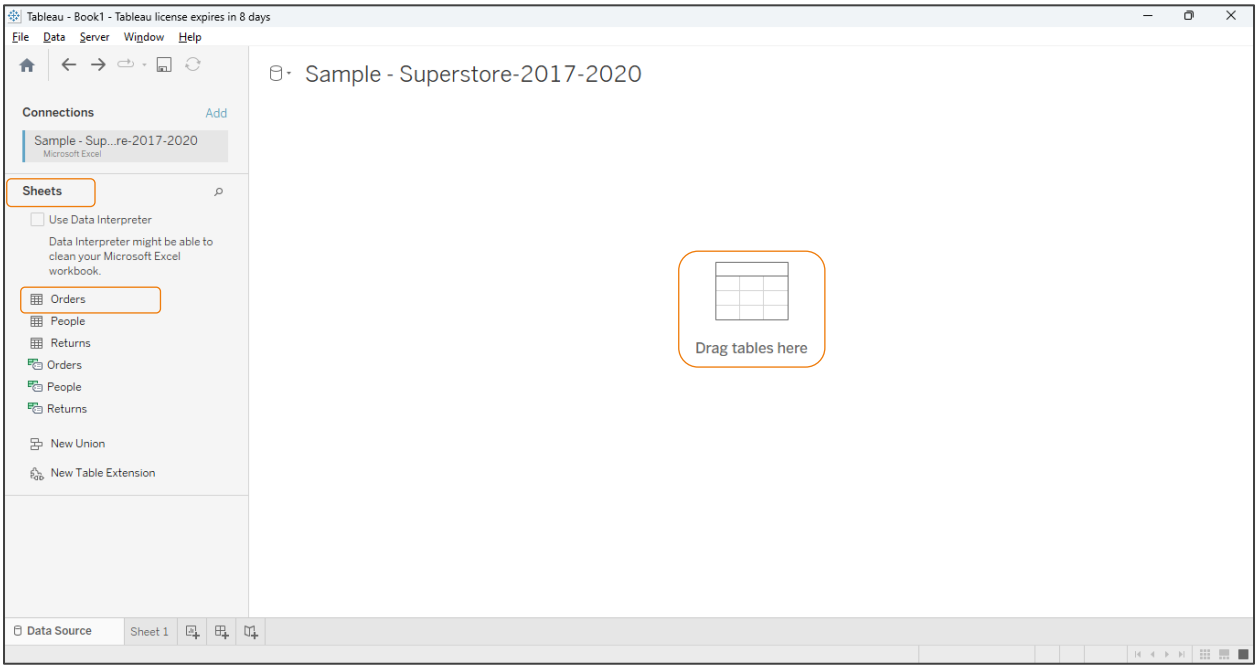
1.1 On the Tableau home page, click on the **Microsoft Excel** option



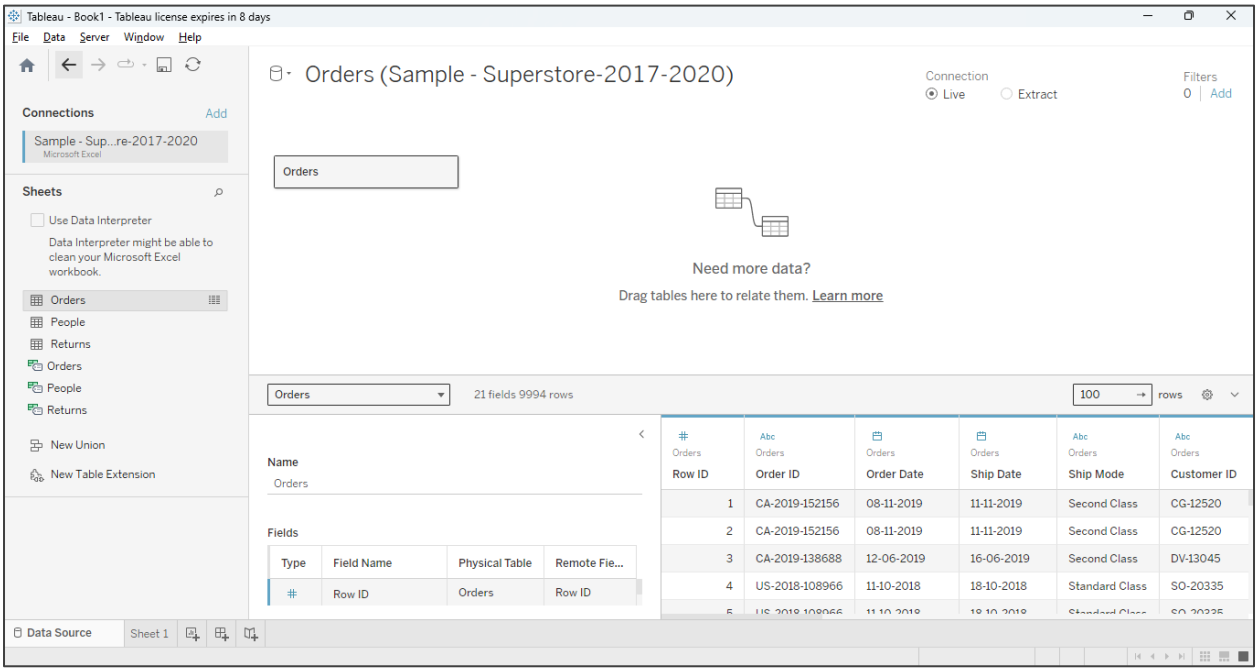
1.2 Select the **Sample - Superstore-2017-2020** file and click on **Open**



1.3 After opening the Excel file, drag and drop **Orders** from **Sheets** to the center of the Tableau home page at **Drag tables here**

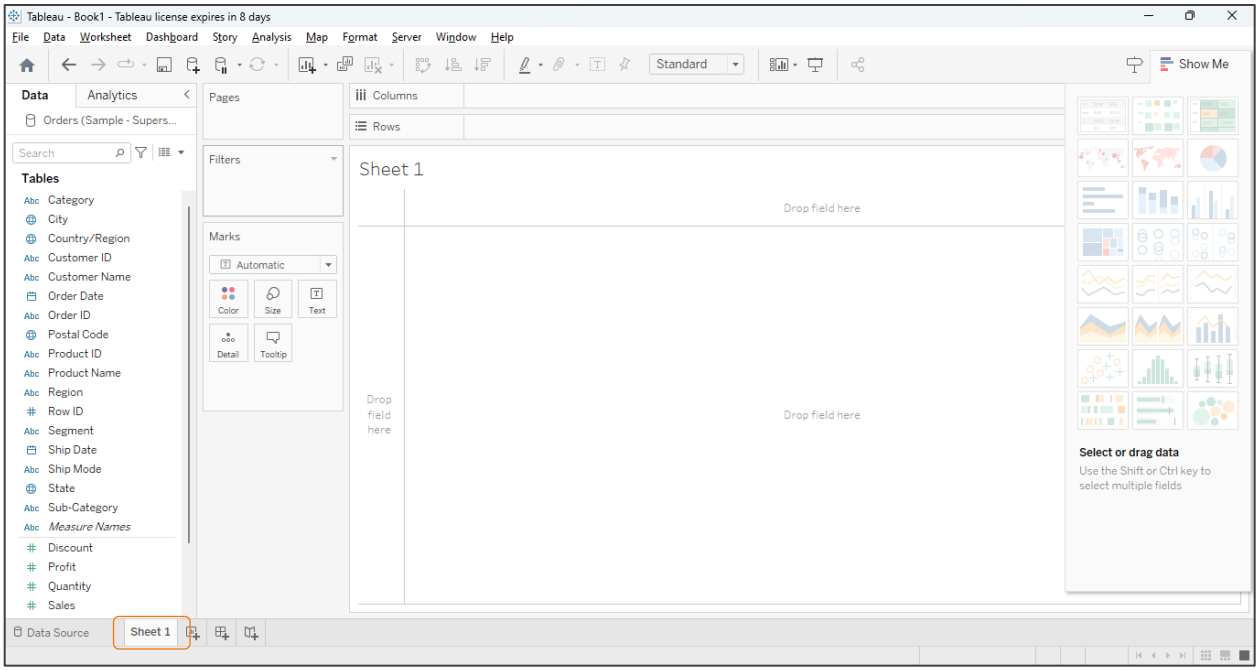


The final look will appear as below:

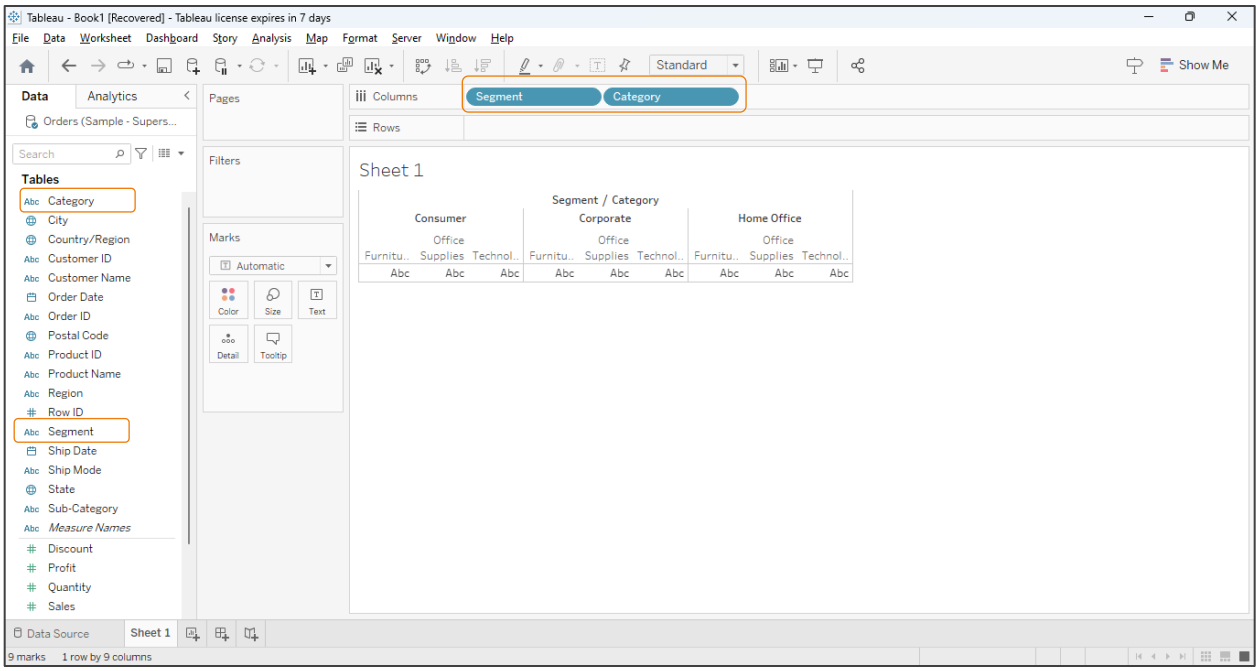


Step 2: Drag Segment and Category to Column shelf

2.1 Click on **Sheet 1** to open a new sheet

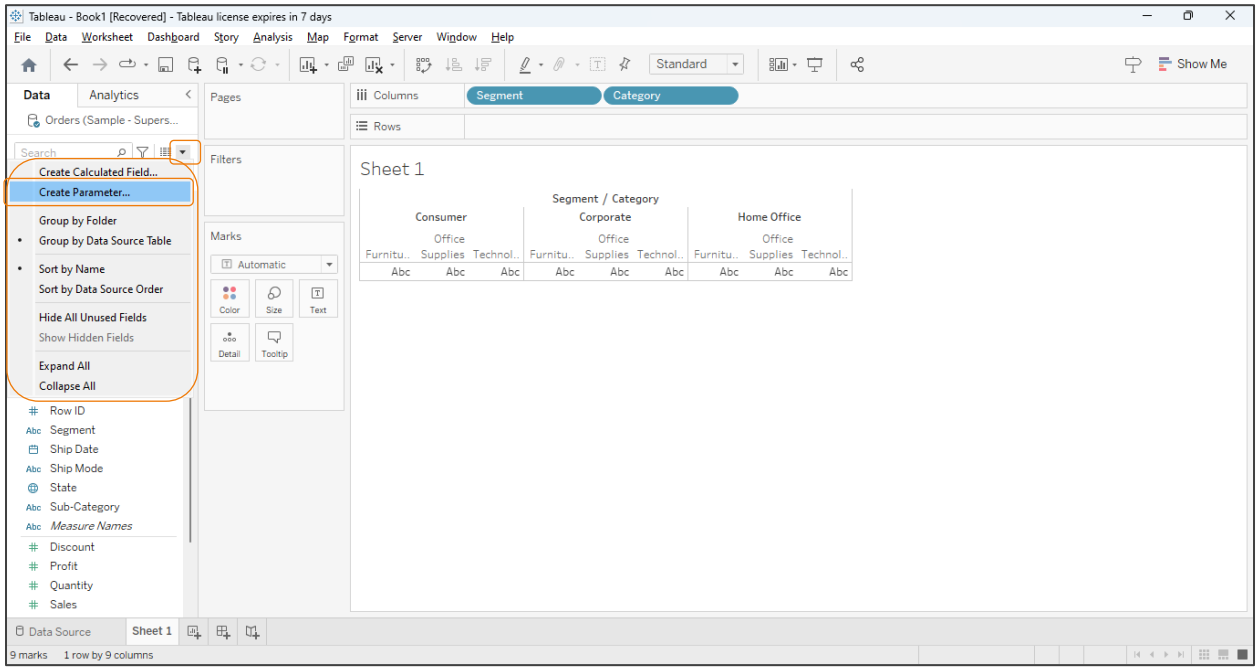


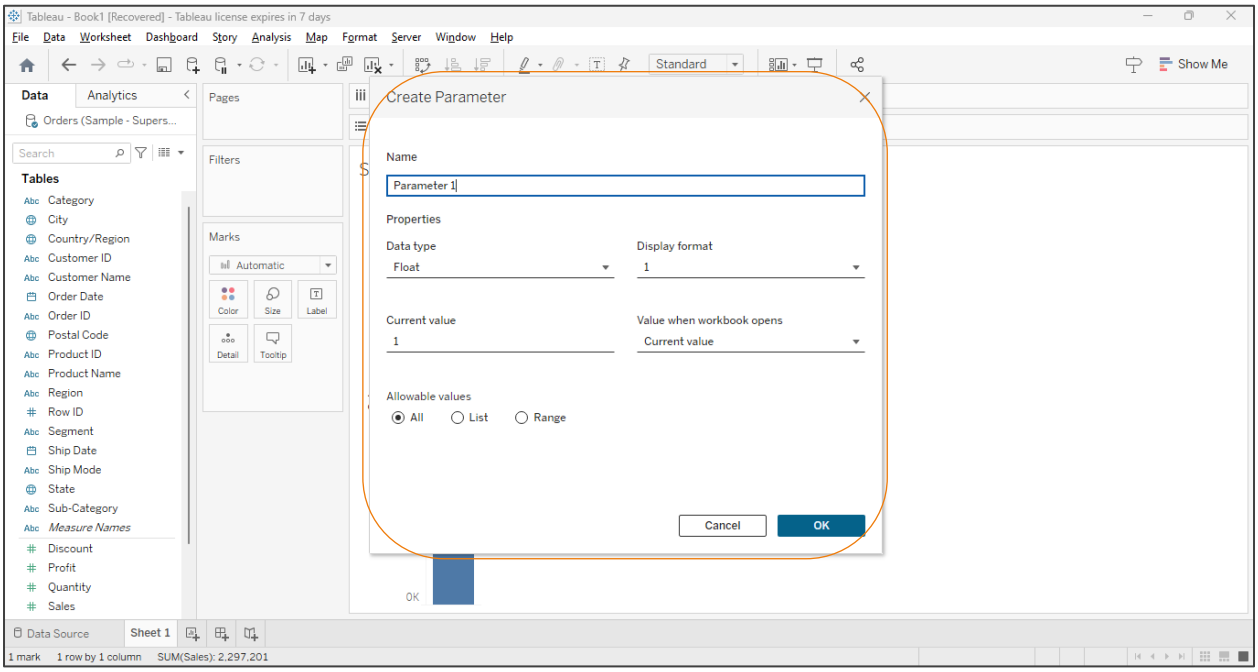
2.2 Drag and drop **Segment** and **Category** to Column shelf. The chart will look as shown below:



Step 3: Create a Parameter to select measure

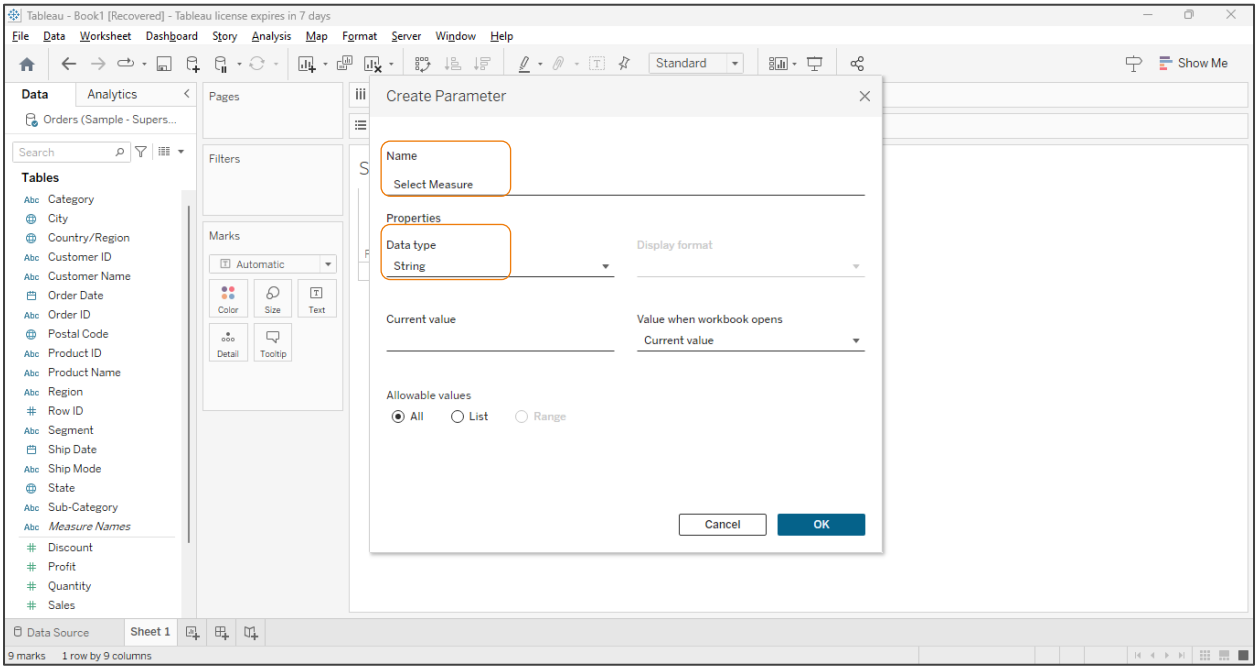
3.1 Click on the downward icon below the **Data** pane on the left side of the home page and click on **Create Parameter**. A new tab **Create Parameter** opens.



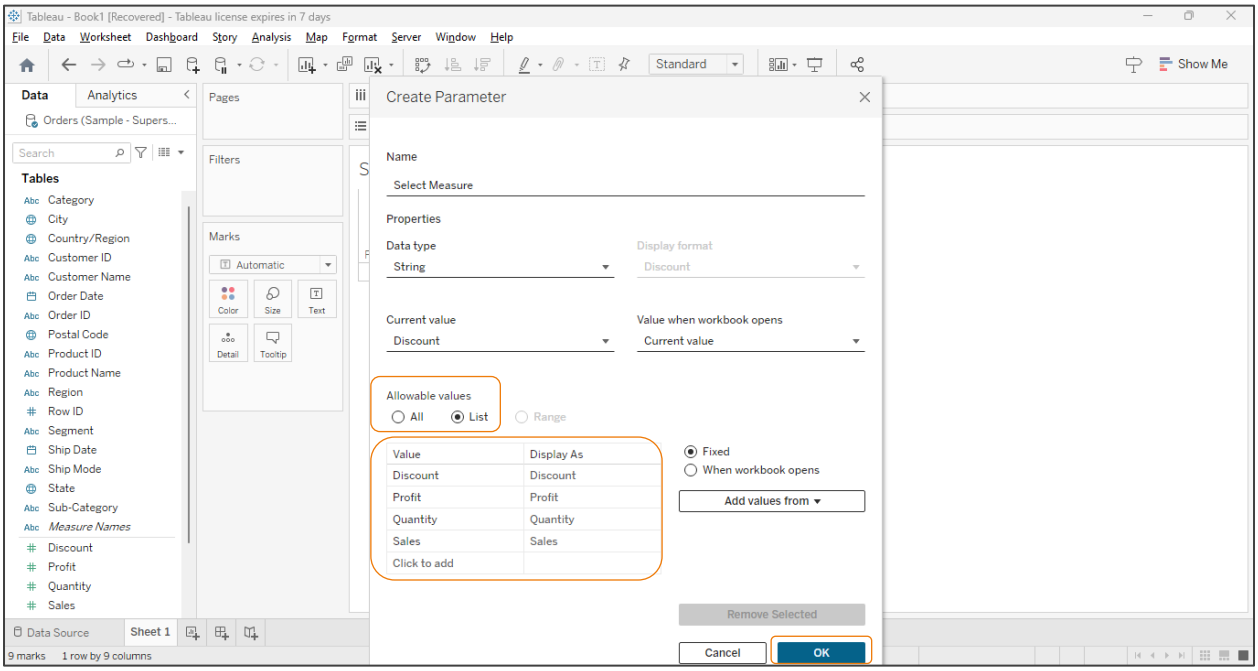


3.2 Change the following details in the **Create Parameter** tab:

- Set **Name** as **Select Measure**
- Set **Data Type** as **String**

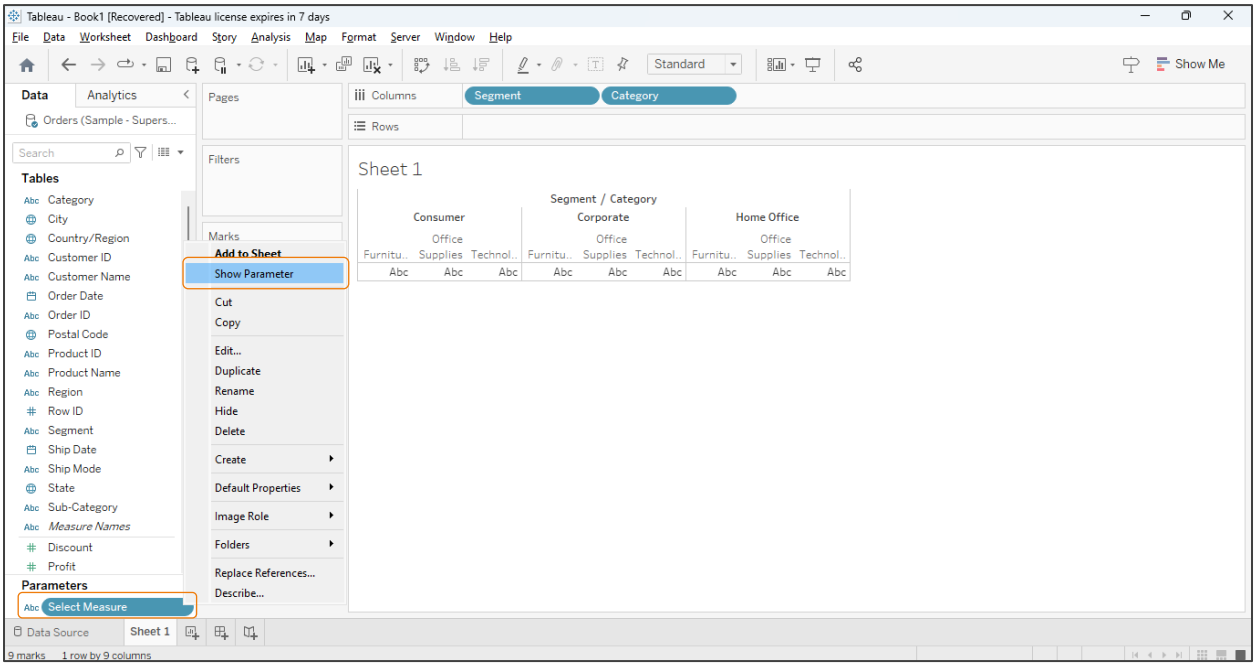


- Select **Allowable values** as **List** and put the dimensions **(Discount, Profit, Quantity,** and **Sales)** in the **Value** section as shown below and then click on **OK**

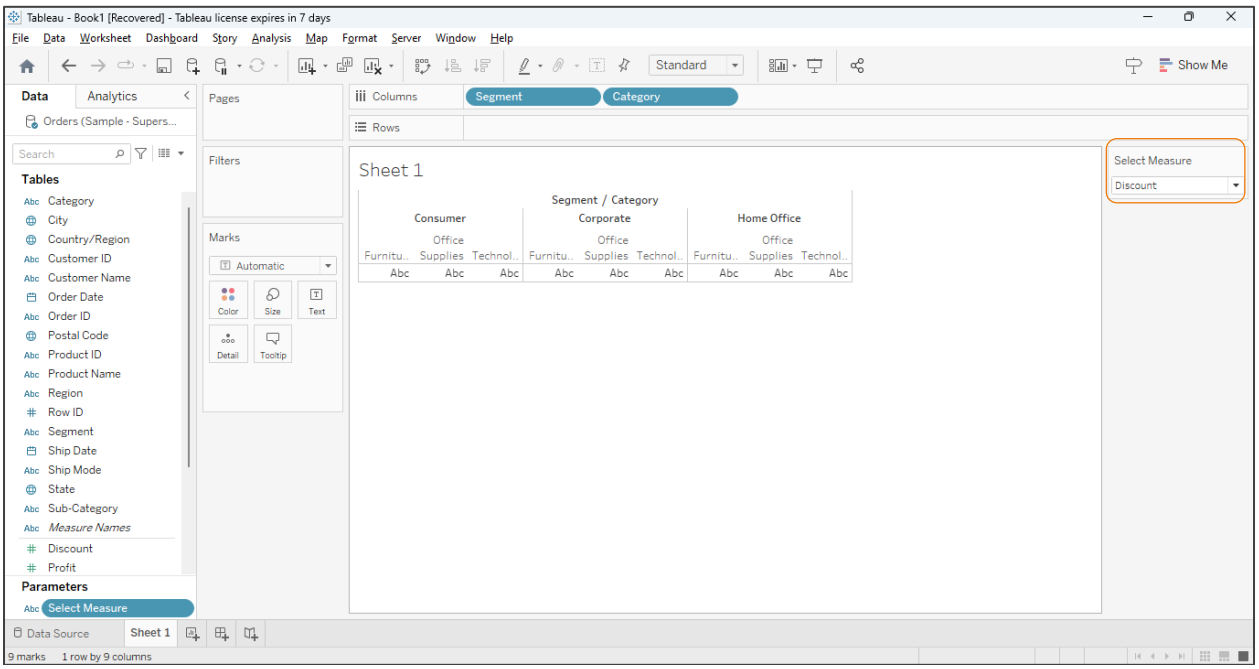


Step 4: Show Parameter control and move it below the Marks card

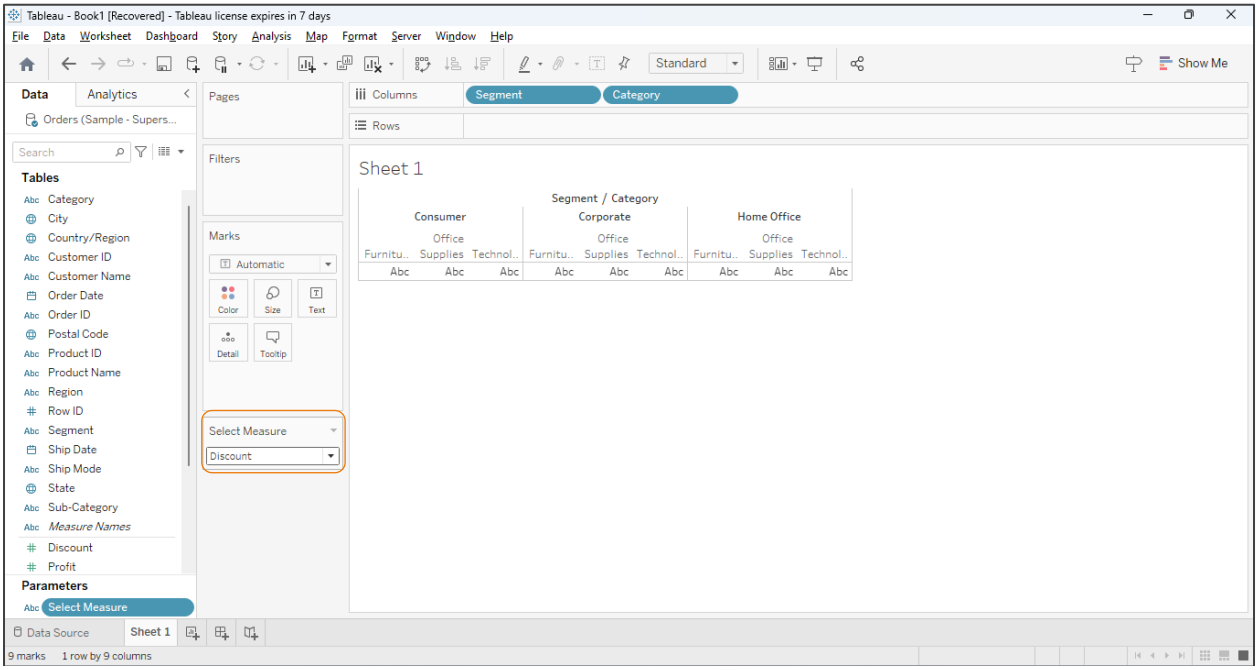
4.1 From **Parameters** at the left-bottom side of the home page, right-click on **Select Measure** and click on **Show Parameter**



A new box **Select Measure** is created. The result will appear as below:



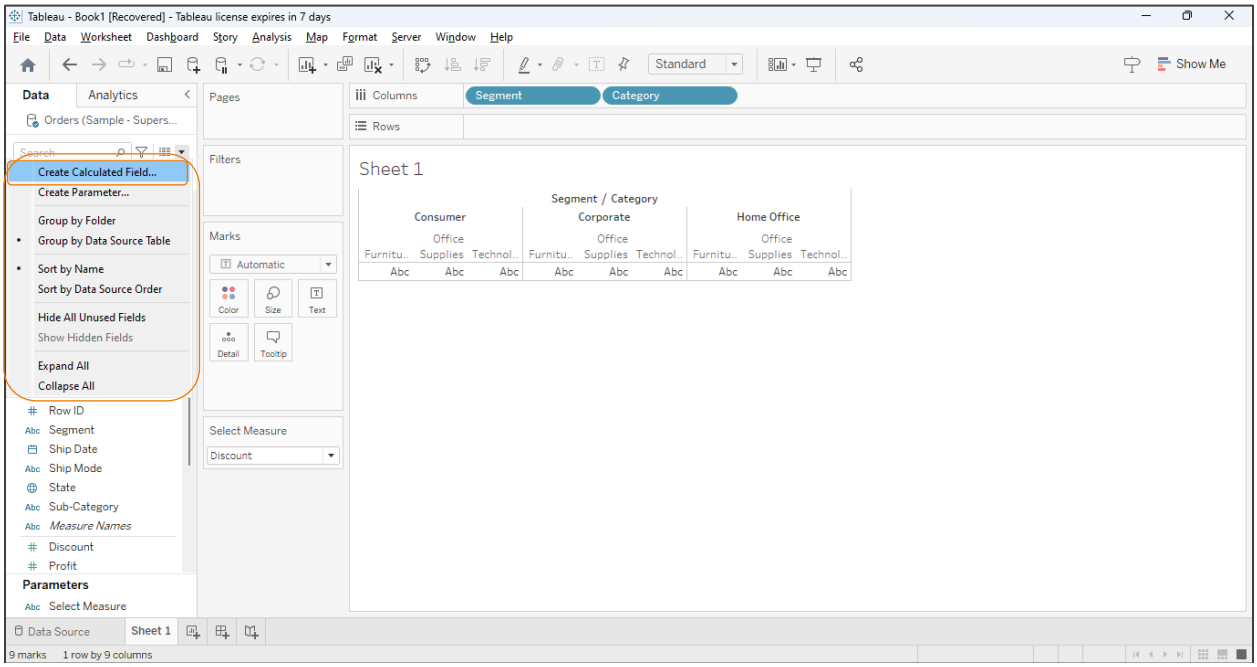
4.2 Drag and drop **Select Measure** below the **Marks** card (containing items like color, size, and label)



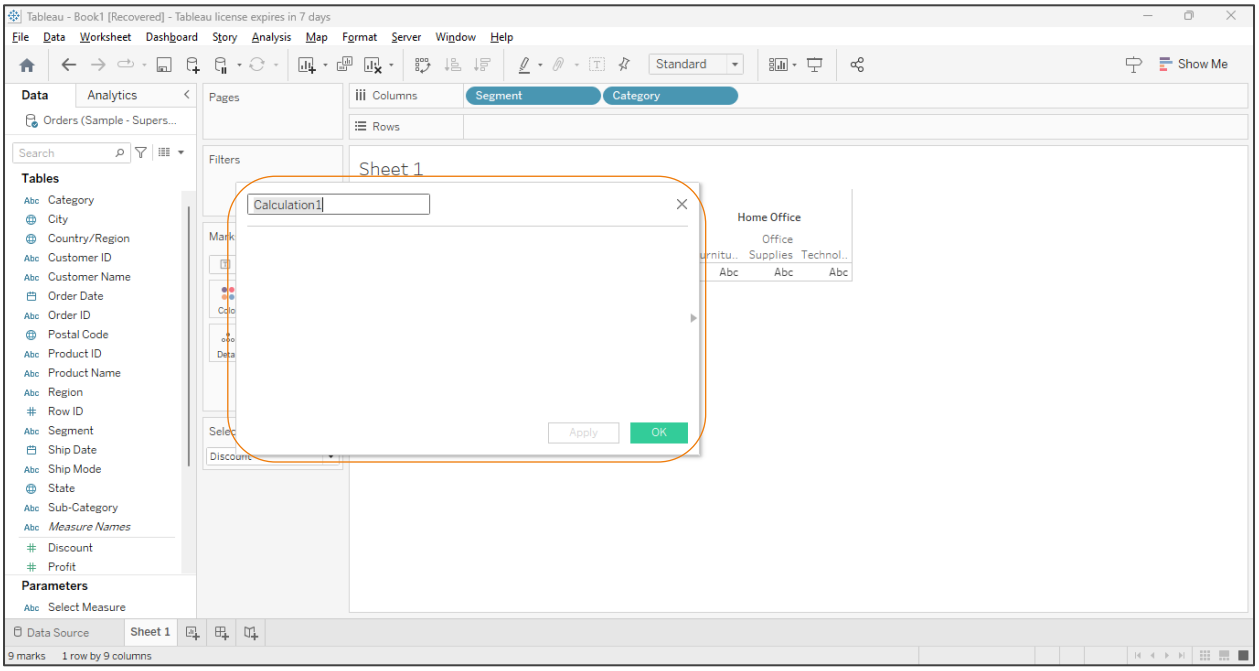
Note: This Parameter is inactive now and must be connected to the chart to be able to show the Dimension in the chart. For this, we need to create the calculation as below.

Step 5: Create a calculated field and perform the below calculation

5.1 Click on the dropdown of the **Data** pane and click on **Create Calculated Field** option

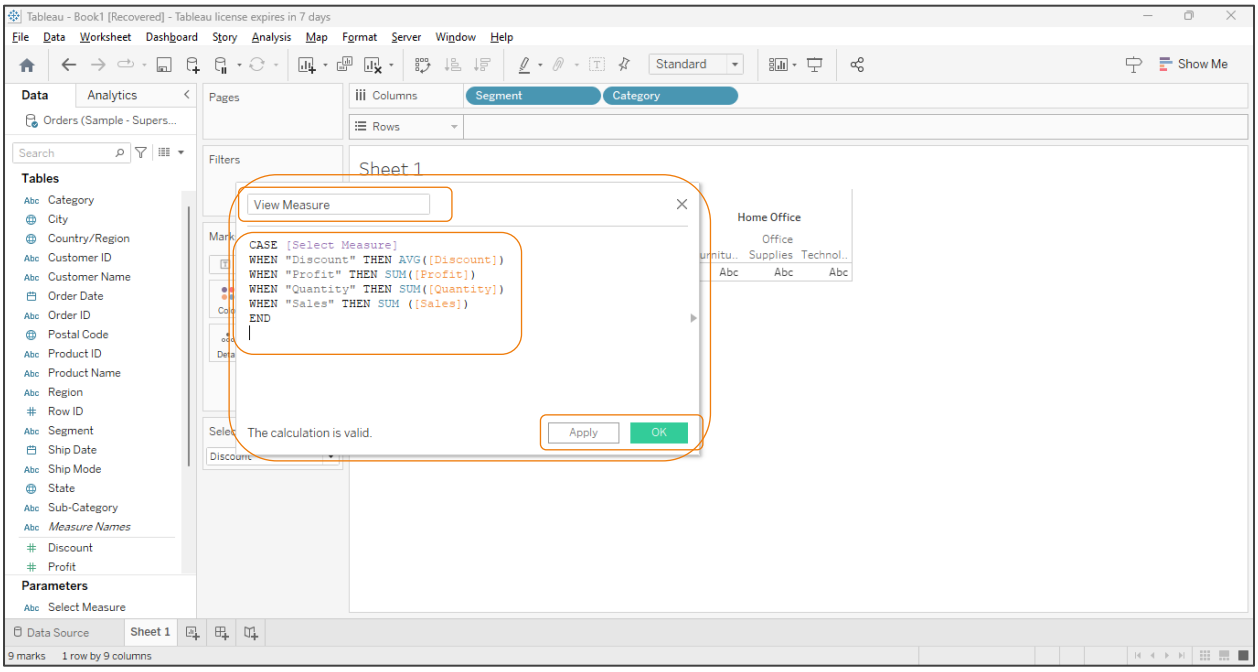


A new tab will open and appear as below:

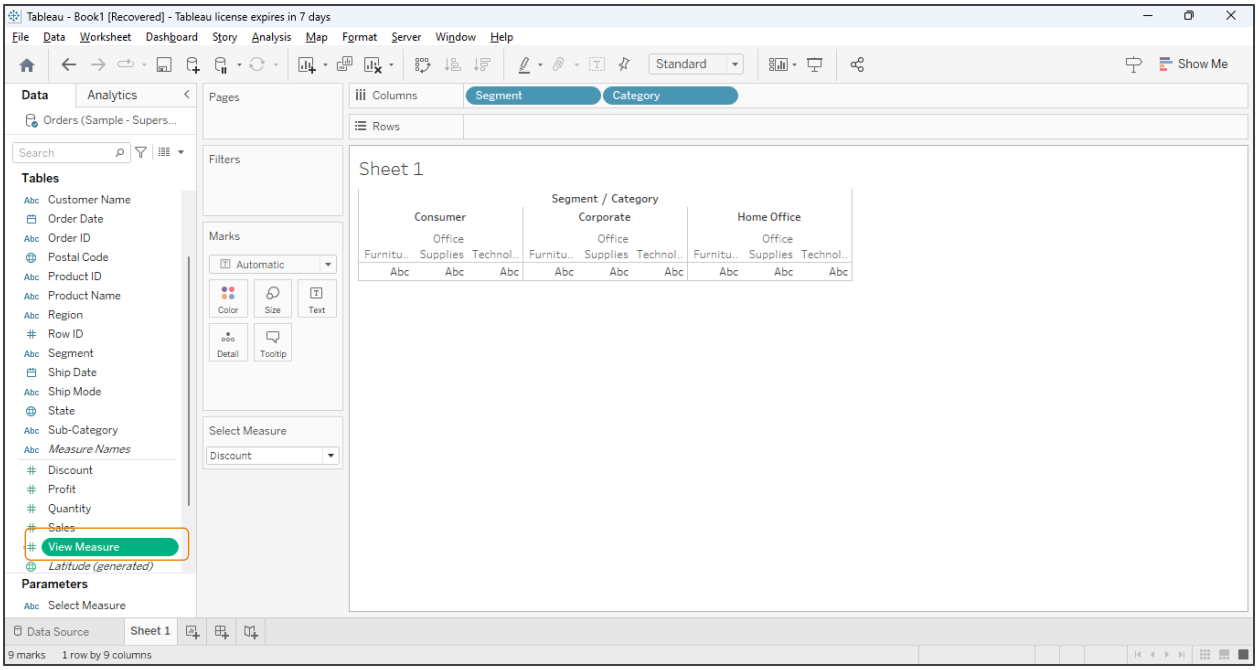


5.2 Put the name of the tab as **View Measure** and write the calculation as shown below:

```
CASE [Select Measure]
WHEN "Discount" THEN AVG([Discount])
WHEN "Profit" THEN SUM([Profit])
WHEN "Quantity" THEN SUM([Quantity])
WHEN "Sales" THEN SUM ([Sales])
END
```



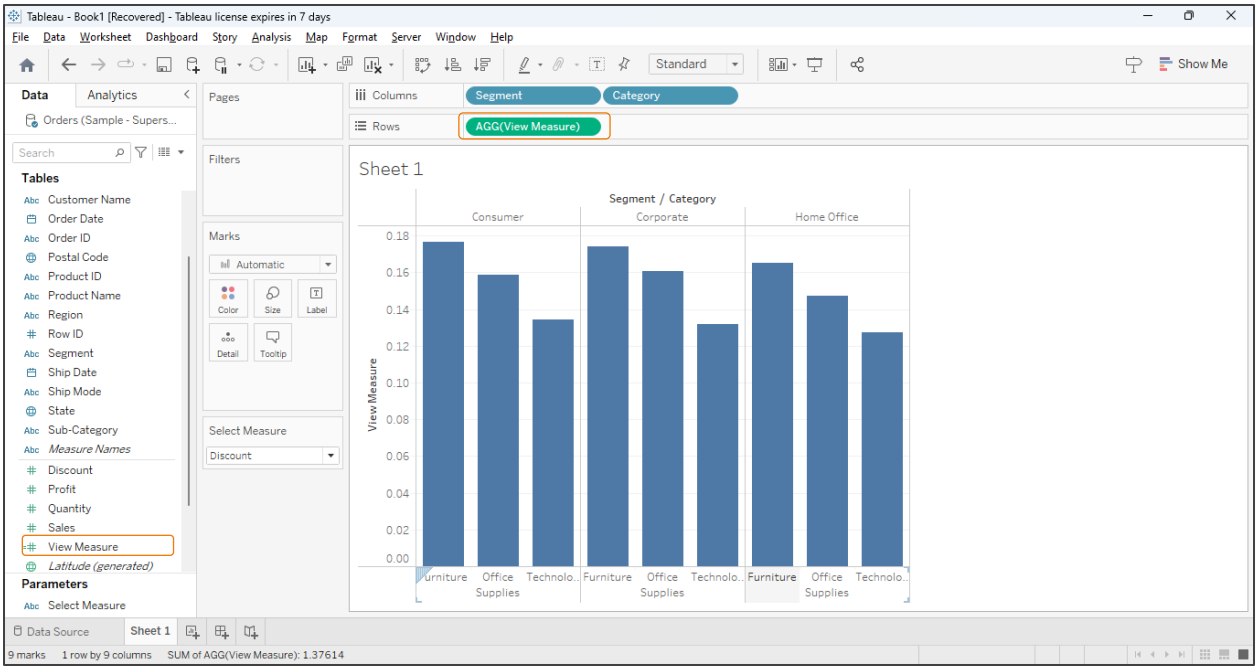
5.3 Click on **Apply** and **OK** from the previous step. A new calculation **View Measure** is created.



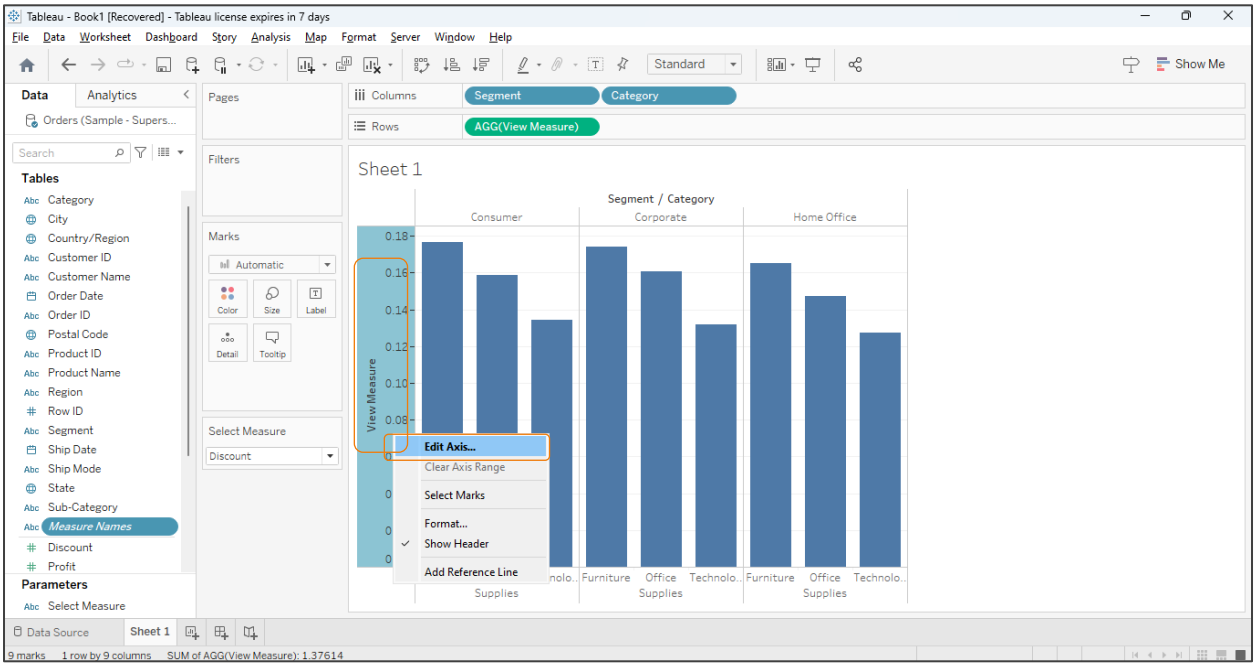
Note:

- With this calculation, we can control the Measures that are visible in the visualization with the Parameter.
- We have added aggregation in the calculation along with Measures as the Aggregation that goes well with Discount is AVG. For other Measures, SUM Aggregation goes well. If aggregation is not added to the calculation, the SUM aggregation gets applied with all the Measure. This will distort the view when Discount is selected from the Parameter as SUM(Discount) does not give the correct picture.

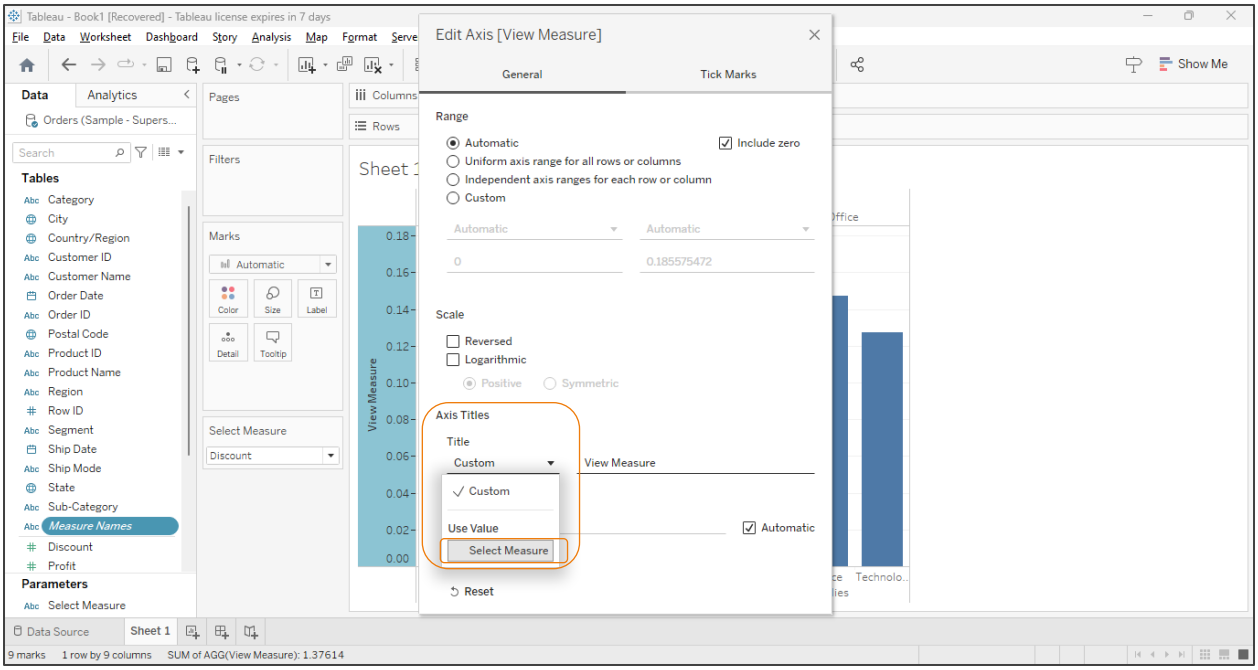
5.4 Drag the **View Measure** calculation into **Rows**



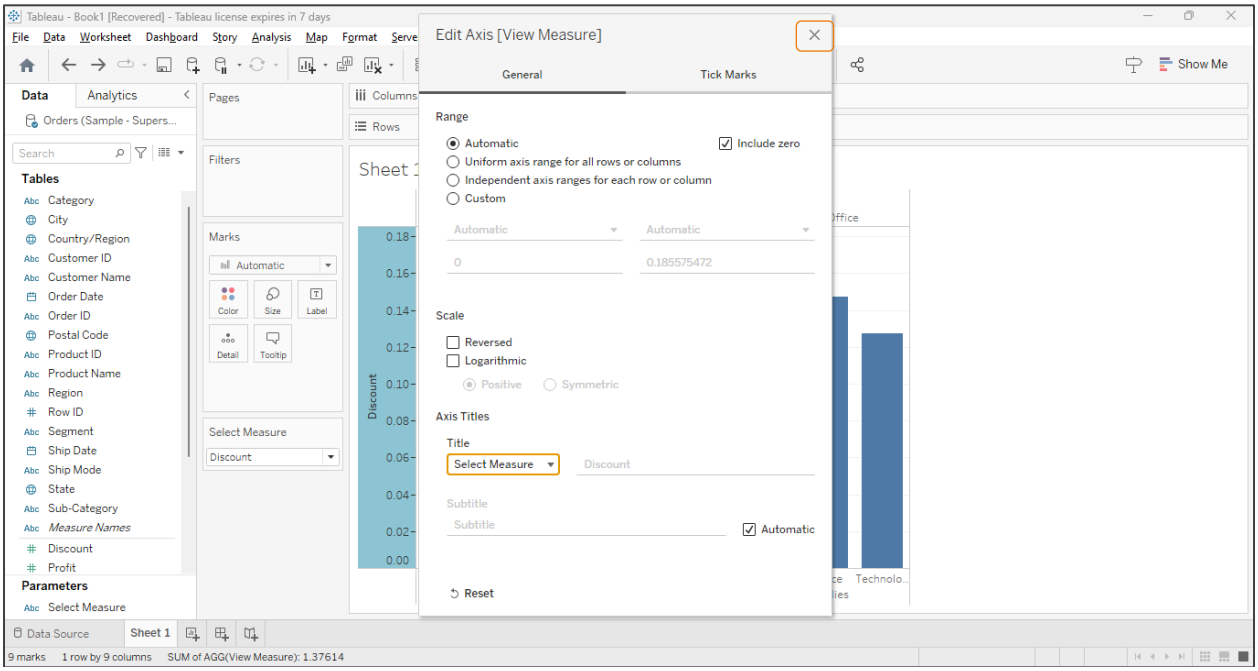
5.5 In the vertical column of **Sheet 1**, right-click on the **View Measure** and click on **Edit Axis** to customize its name on the Axis

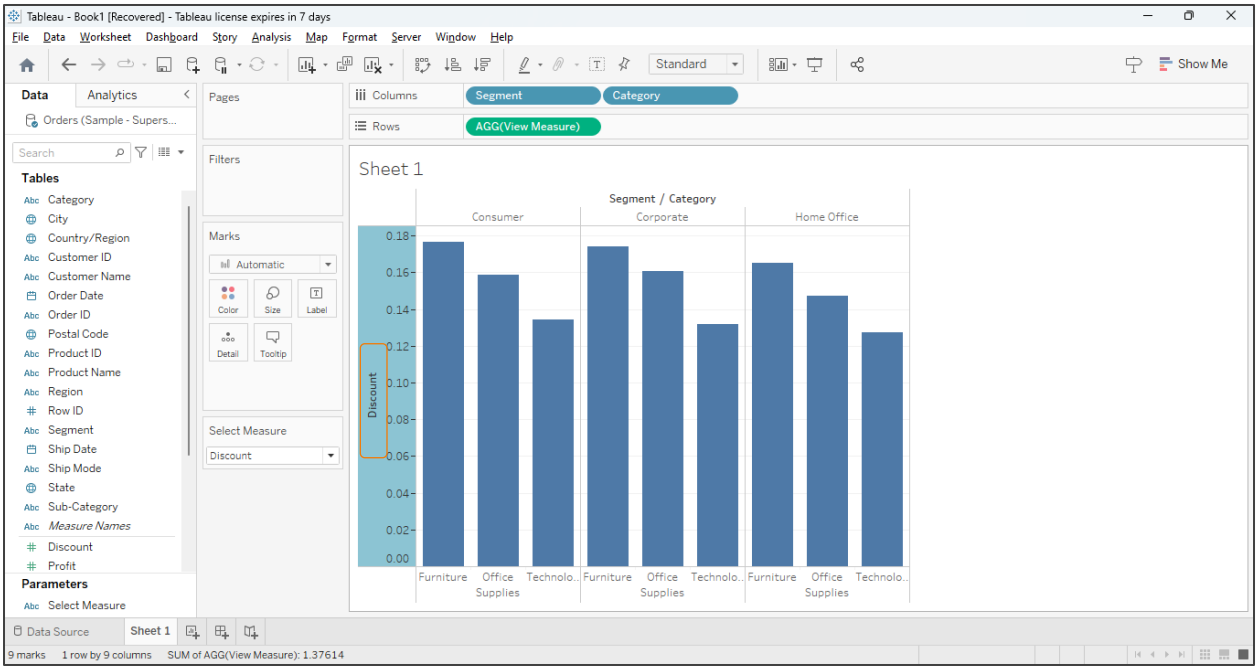


5.6 After clicking on **Edit Axis**, the given window opens. Select the parameter as **Select Measure** from the **Axis Titles.**



5.7 After clicking on **Select Measure**, click on the cross icon. The vertical axis name changes to **Discount.**





With this, you have successfully organized dimensions, set up parameters for measure selection, and created an interactive data visualization in Tableau.