

Lesson 06 Demo 01

Calculated Fields

Objective: To demonstrate how to create a calculated field for the profit ratio and use the field to show profit ratio for different segments, regions, categories, and sub-categories

Tools required: Tableau Desktop

Prerequisites: None

Note: Download the **superstore-excel.xlsx** datasets from the Reference Materials section of the LMS

Note: What is Profit Ratio?

Profit Ratio is the ratio of Profit by Sales, where profit is expressed as a percentage of sales in % terms.

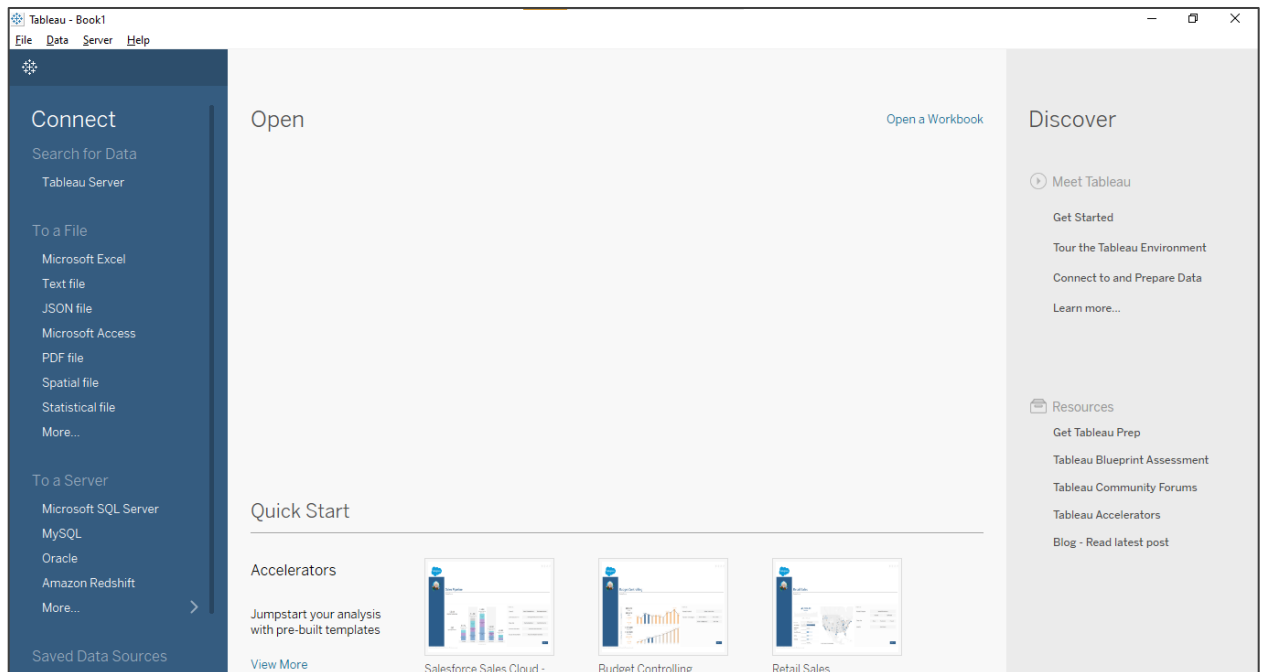
Profit Ratio = Profit/Sales

Steps to be followed:

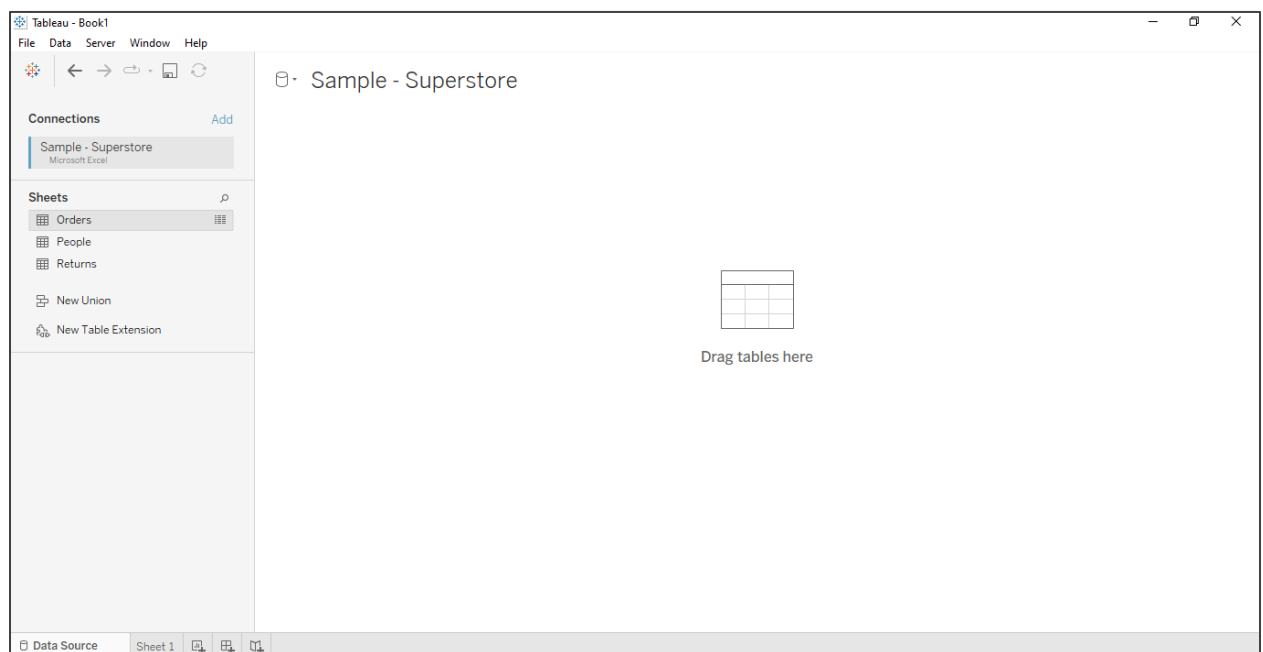
1. Import the **Sample-Superstore** dataset
2. Preview the data
3. Create a calculated field for the profit ratio
4. Use the calculated field in visualization to create charts
5. Analyze the profit ratio at different levels

Step 1: Import the Sample-Superstore dataset

- 1.1 Open a new Tableau Book and click on **Microsoft Excel** under the **To a File** section



- 1.2 Choose the file **Sample-Superstore** from your local drive. Select the Excel file and click **Open**. Tableau will load and establish a connection with the file.



Step 2: Preview the data

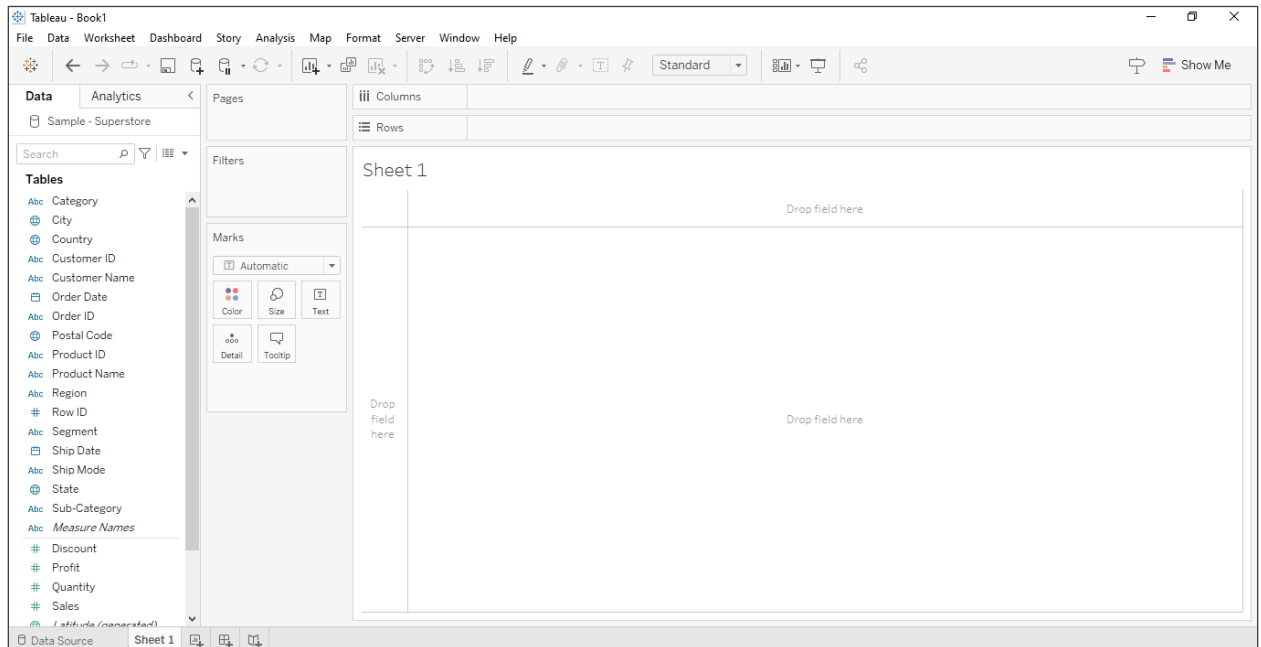
- 2.1 Drag **Orders** to the preview pane to view the data. The data will be loaded into Tableau. You can see the different column names that are available.

The screenshot shows the Tableau interface with the 'Orders (Sample - Superstore)' data source selected. The left sidebar shows the 'Connections' pane with 'Sample - Superstore' (Microsoft Excel) and the 'Sheets' pane with 'Orders', 'People', and 'Returns'. The main preview pane displays the 'Orders' table with 21 fields and 9994 rows. A 'Need more data?' message is visible, suggesting to drag tables to relate them. The bottom of the interface shows the 'Data Source' tab and a 'Sheet 1' tab.

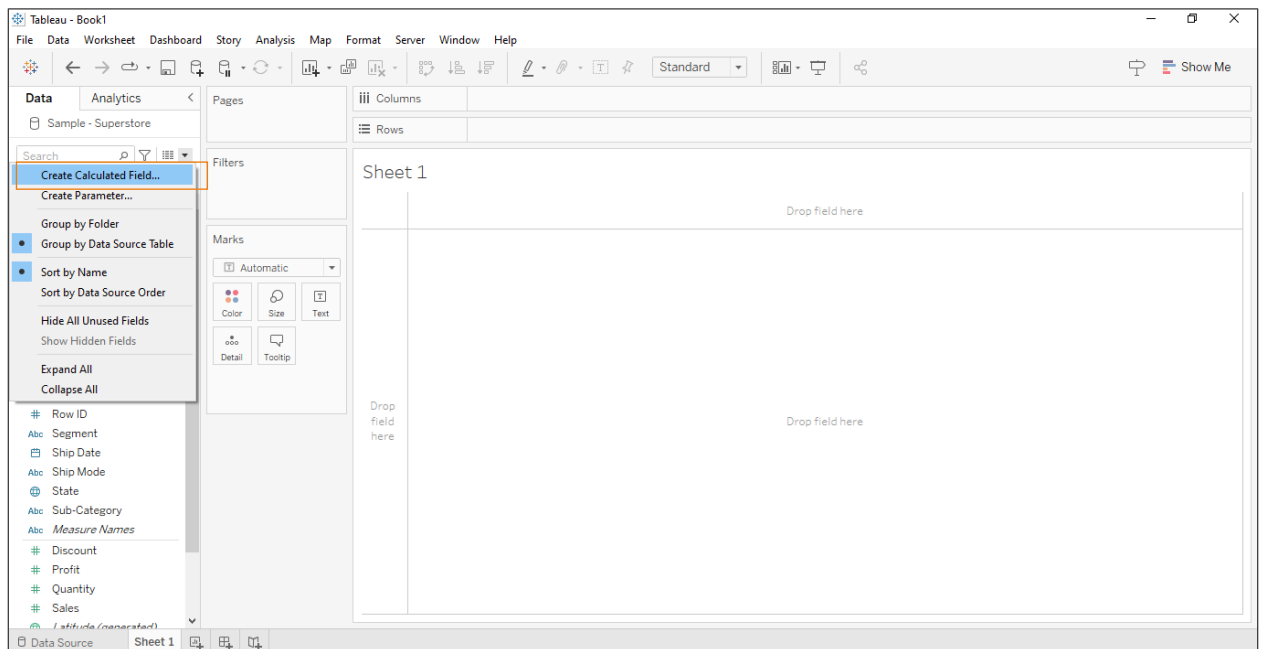
#	Orders	Orders	Orders	Orders	Orders
Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID
1	CA-2016-152156	2016-11-08	2016-11-11	Second Class	CG-12520
2	CA-2016-152156	2016-11-08	2016-11-11	Second Class	CG-12520
3	CA-2016-138688	2016-06-12	2016-06-16	Second Class	DV-13045
4	US-2015-108966	2015-10-11	2015-10-18	Standard Class	SO-20335
5	US-2015-108966	2015-10-11	2015-10-18	Standard Class	SO-20335

Step 3: Create a calculated field for the profit ratio

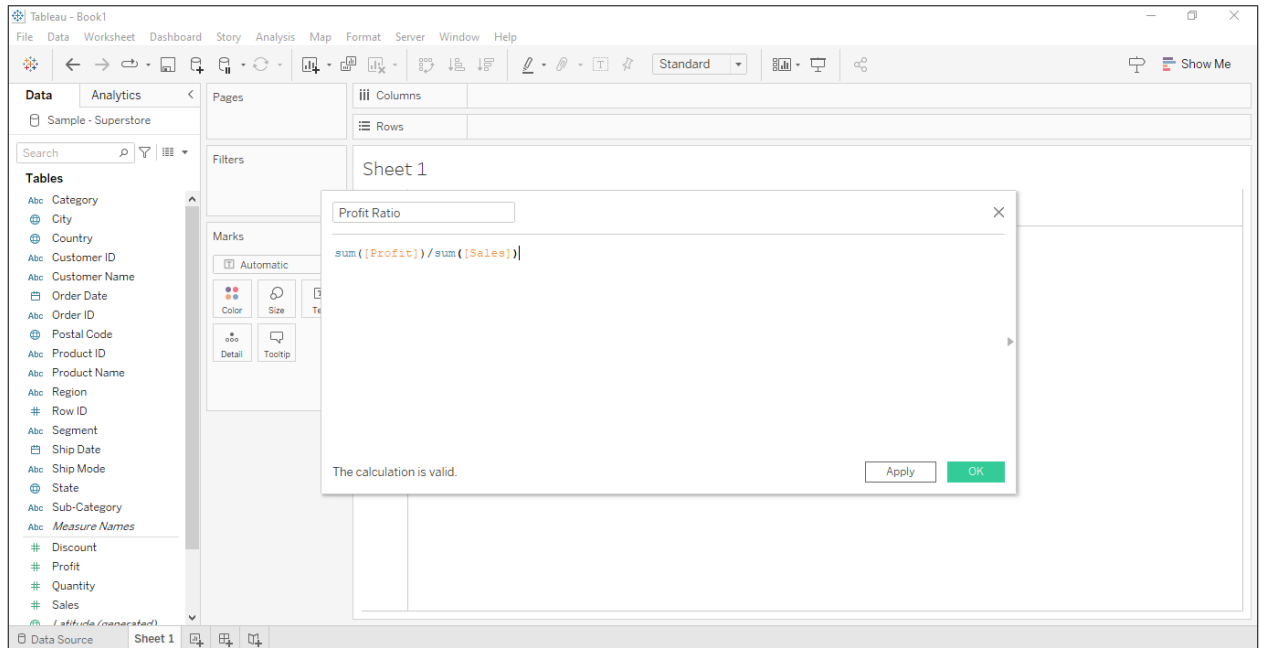
3.1 Click on Sheet 1 to open the workspace



3.2 Right-click on the dropdown on the **Data** pane and click on **Create Calculated Field**

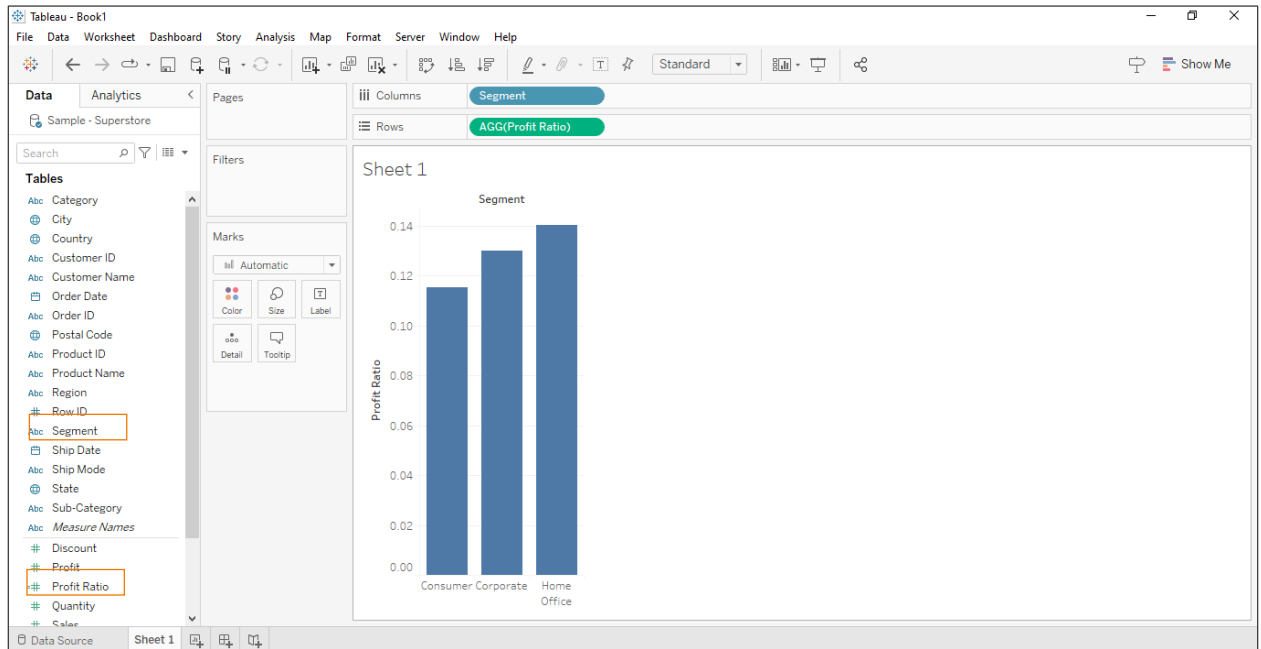


3.3 Name the calculation as **Profit Ratio** and write the calculation as **SUM([Profit])/SUM([Sales])**. Click on **Apply** and **OK**.

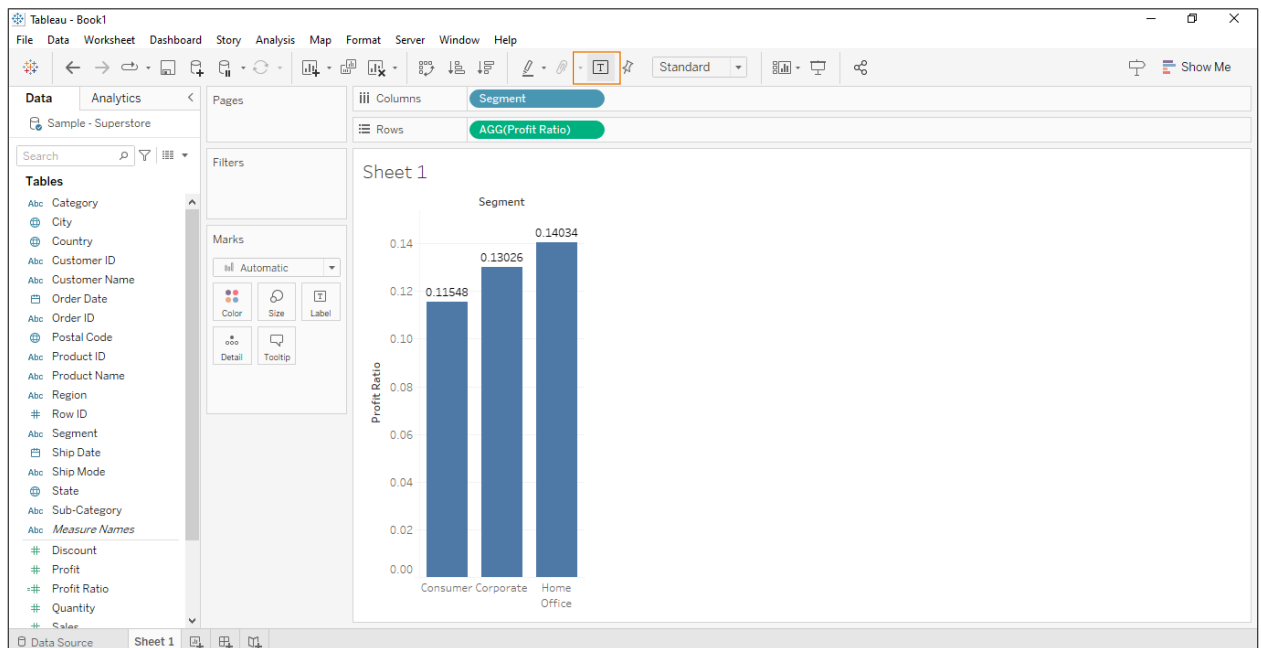


Step 4: Use the calculated field in visualization to create charts

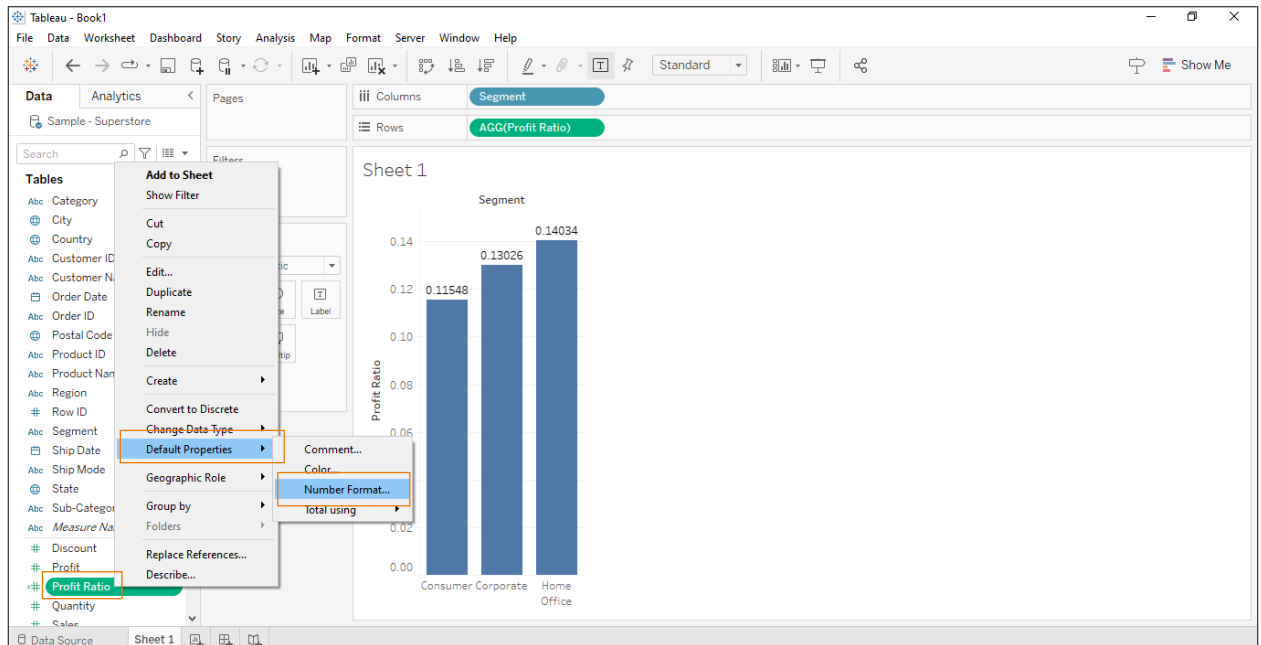
4.1 Drag **Segment** dimension into the **Columns** field and **Profit Ratio** measure into the **Rows** field



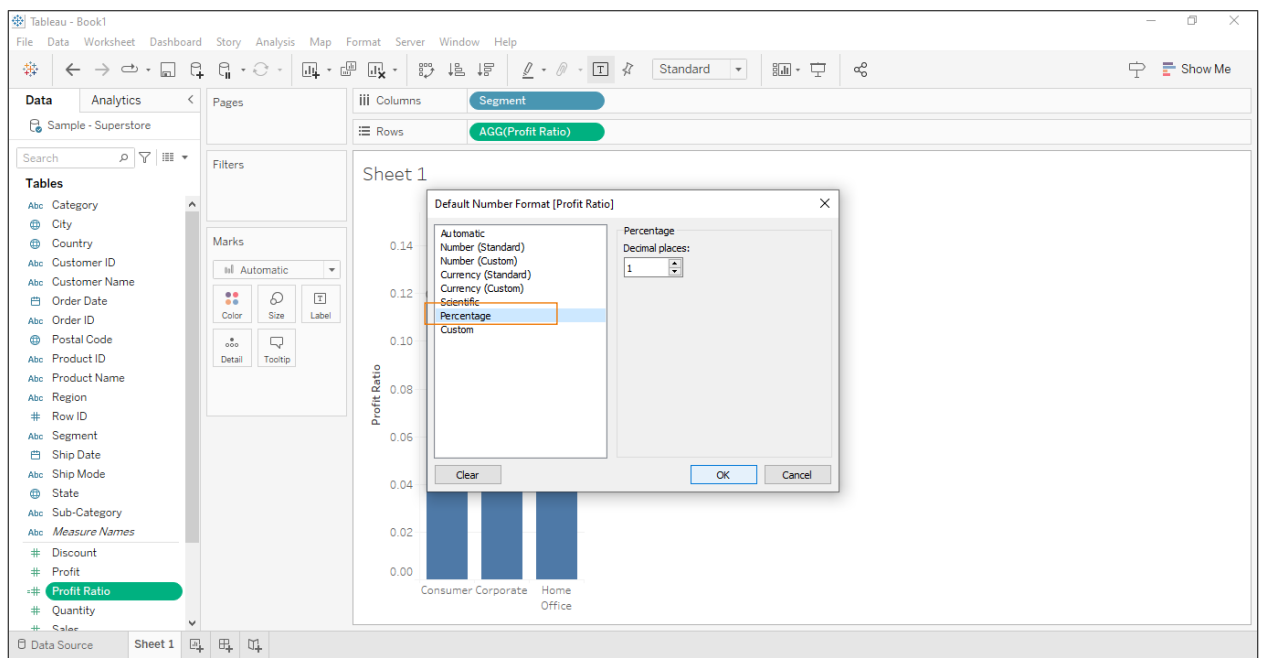
4.2 Click on the **Show Mark Labels** shortcut in the menu



4.3 Right-click on the **Profit Ratio** measure and then click on **Default Properties** and select **Number Format**



4.4 Now, select **Percentage** as the default number format and choose the decimal place as 1. Click on **OK**.

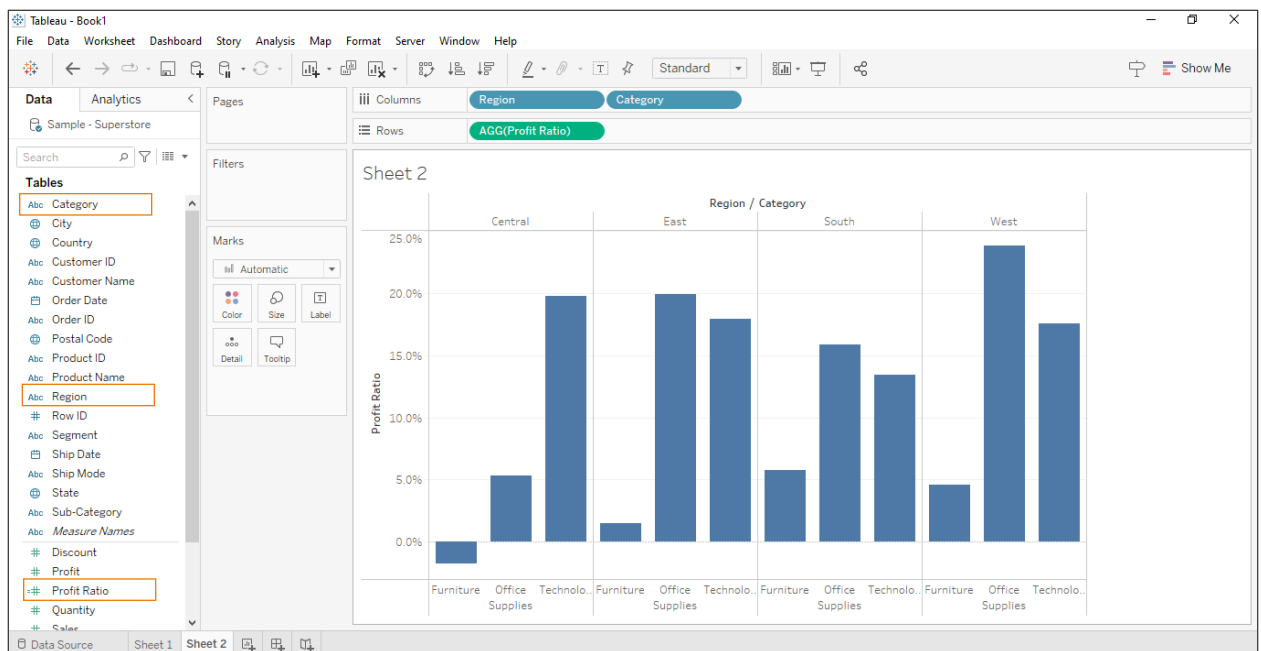


Note: Profit Ratio for other dimensions (levels)

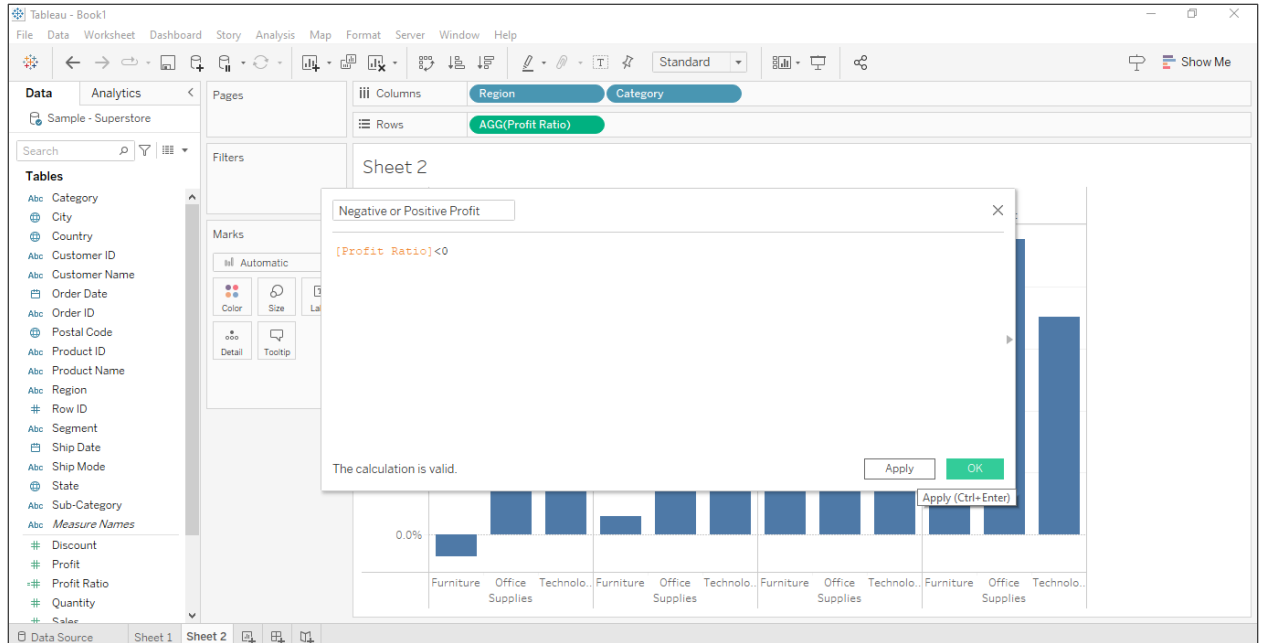
Once you have created a calculation, you can use it within the same Tableau file in other sheets and new sheets also.

Step 5: Analyze the profit ratio at different levels

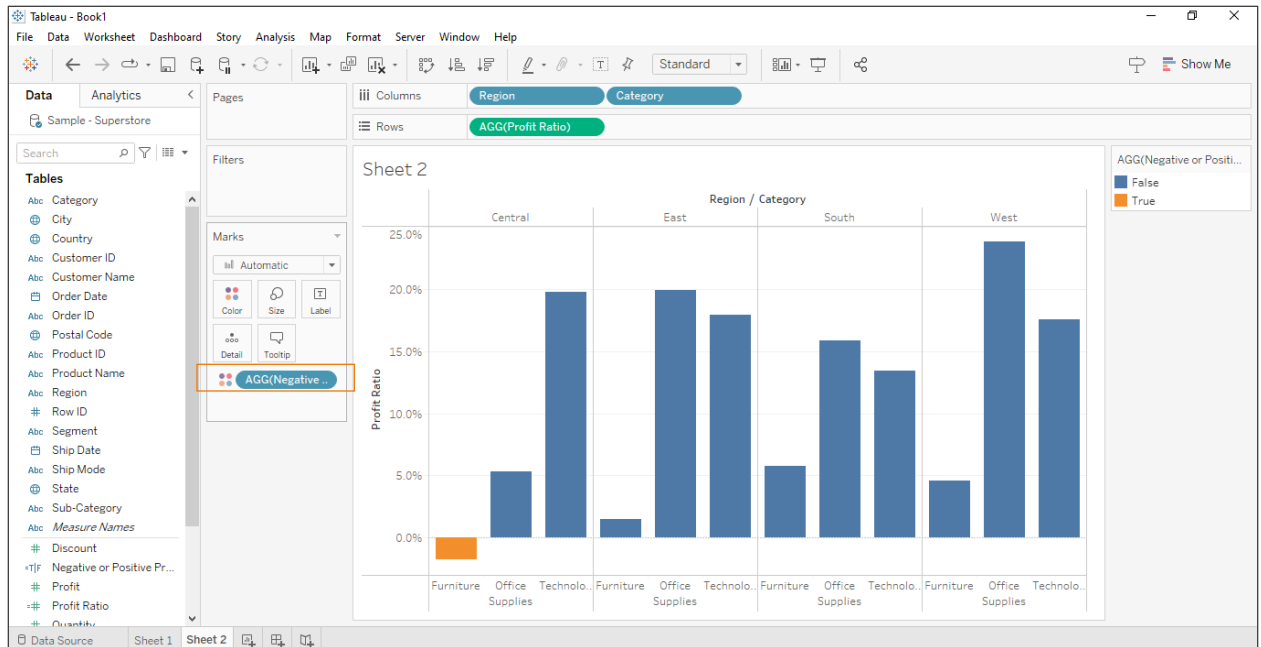
- 5.1 Open a new sheet. Bring **Region** and **Category** to the **Columns** field and **Profit Ratio** to the **Rows**, respectively.



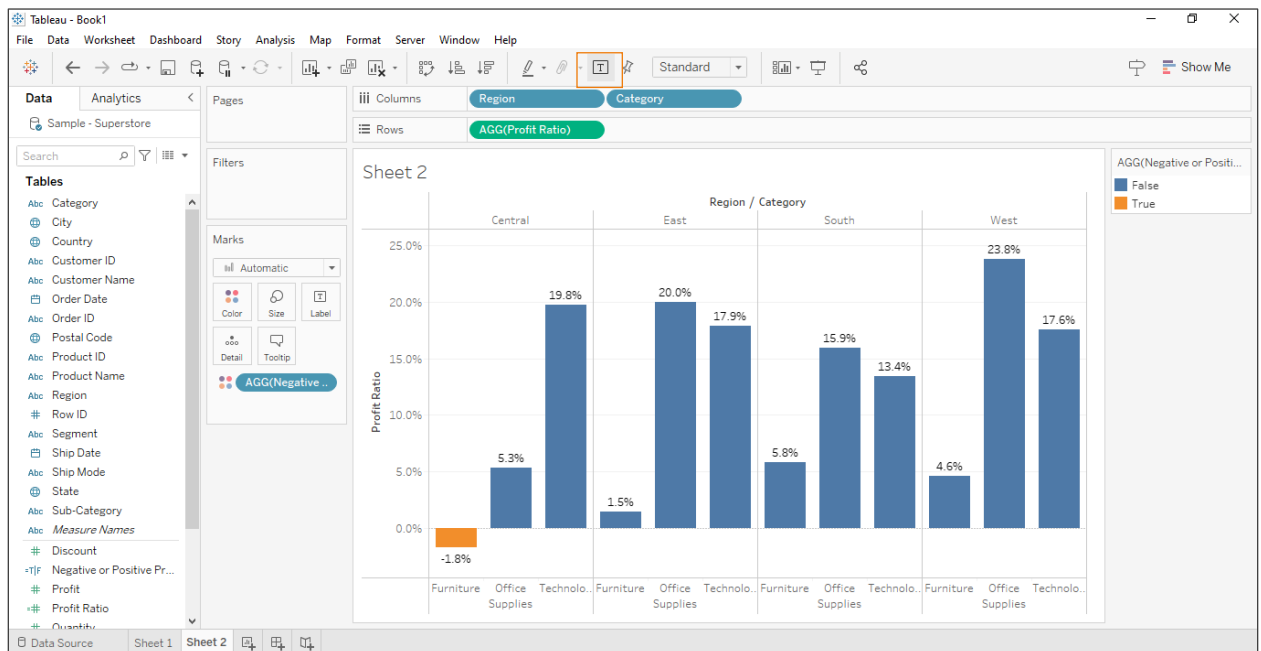
5.2 Follow Step 3 to open a new calculated field and name it as **Negative or Positive Profit**. Then, add the calculation **[Profit Ratio]<0**.



- 5.3 Drag **Negative or Positive Profit** onto the **Color** tile in the **Marks** card. Now, the chart will appear as shown below. The negative bars are highlighted in different colors.



- 5.4 Click on **Show Mark Labels** on the menu to add labels



With all these steps, you will be able to create a calculated field for the profit ratio and use the field to show profit ratio for different segments, regions, and categories and sub-categories.