

Lesson 07: Charting Beyond Basics Transforming Data into Visual Masterpieces

Overview

In this exercise, you will explore the creation of a Pareto chart using Tableau. The Pareto chart is a valuable tool for identifying the most significant factors among a dataset, aiding in prioritization and decision-making. By analyzing sales data, you can extract insights that can empower you to make strategic business decisions.

Instructions

- Work through all tasks individually or within your group
- Divide your time evenly among the tasks to ensure a comprehensive understanding
- Utilize the provided **Sample – Superstore.csv** to enhance your problem-solving abilities

Tasks

You have recently joined the analytics team at Walmart, known for its diverse product offerings. As a junior data analyst, you have been assigned a task by your senior colleague to perform a Pareto chart analysis on the company's sales data for the past quarter. Your senior analyst will use your findings to derive insights and make recommendations for optimizing sales strategies and inventory management.

1. Set up the workbook and prepare the dataset

- Open Tableau and connect to the **Sample – Superstore.csv** file
- Click on the **Sheet1** tab to begin working on a new visualization
- In the **Data** pane, locate the **Sub-Category** field
- Drag and drop it onto the **Columns** to represent the different **Sub-Categories** along the X-axis of the chart
- Locate the **Profit** field in the **Data** pane
- Drag and drop the **Profit** onto the **Rows**, ensuring it is aggregated by **SUM** to represent the total sales for each **Sub-Category**

2. Sort sub-categories by profit and create dual axis

- Click on the **Sub-Category** axis in the visualization. Select sort descending option.
- To create dual-axis chart, drag and drop the **Profit** from the **Data** pane again onto the **Rows**
 - Click on the dropdown arrow on the newly added **Profit** capsule
 - Select **Dual Axis** to create a chart with two axes
- Click on the **SUM (Profit)** and **SUM (Profit) (2)** in the **Marks**. Select **Bar** and **Line** from the dropdown, respectively.

3. Calculate cumulative percentage

- Right-click on the **Profit** axis in the visualization. Select **Add Table Calculation**.
- Select **Running Total** to calculate the cumulative sum of **Profit**.

4. Format lines and bars

- Click on the **Marks** card and ensure both the bar and line charts are formatted appropriately for clarity.
 - Adjust color, thickness, and style as needed to differentiate between the bars and the cumulative percentage line
- Click on the **Profit** axis in the visualization. Select **Add Secondary Calculation**.
- Select **Percent of Total** from **Secondary Calculation Type**

5. Label axes and title the chart

- Add clear and descriptive titles to both the x-axis (sub-category) and y-axis (profit and cumulative percentage). Provide a title for the overall chart that succinctly summarizes its purpose, such as **Pareto Analysis of Sales by Sub-Category**.
- Drag and drop the profit from the data pane onto the **SUM (profit)** in marks. Click on **Label** and select **Show mark labels**.

Discussion Questions (Optional)

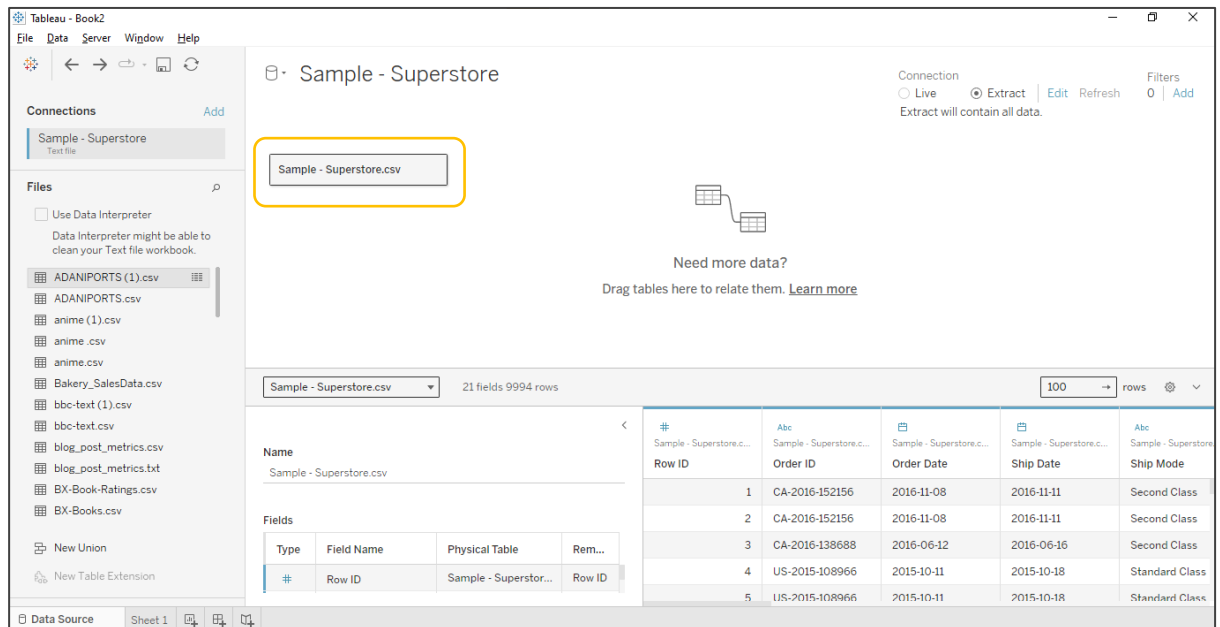
If time permits, discuss the following questions

- How can you leverage the pareto chart insights to prioritize inventory allocation for top-performing product categories versus those with lower sales contributions?
- What adjustments should be made to the product offerings based on the pareto analysis to capitalize on high-demand categories and potentially phase out less profitable ones?
- How should you monitor and respond to shifts in consumer preferences over time, considering the pareto chart's indication of the most influential product categories?

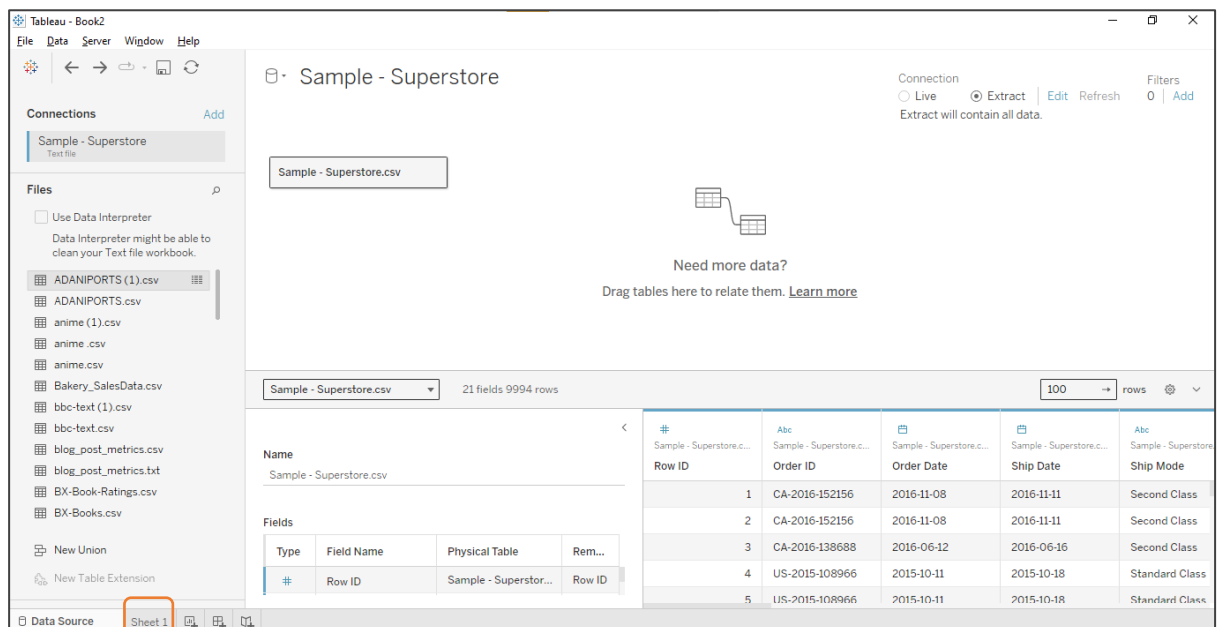
Answer Key

Step 1: Set up the workbook and prepare the dataset

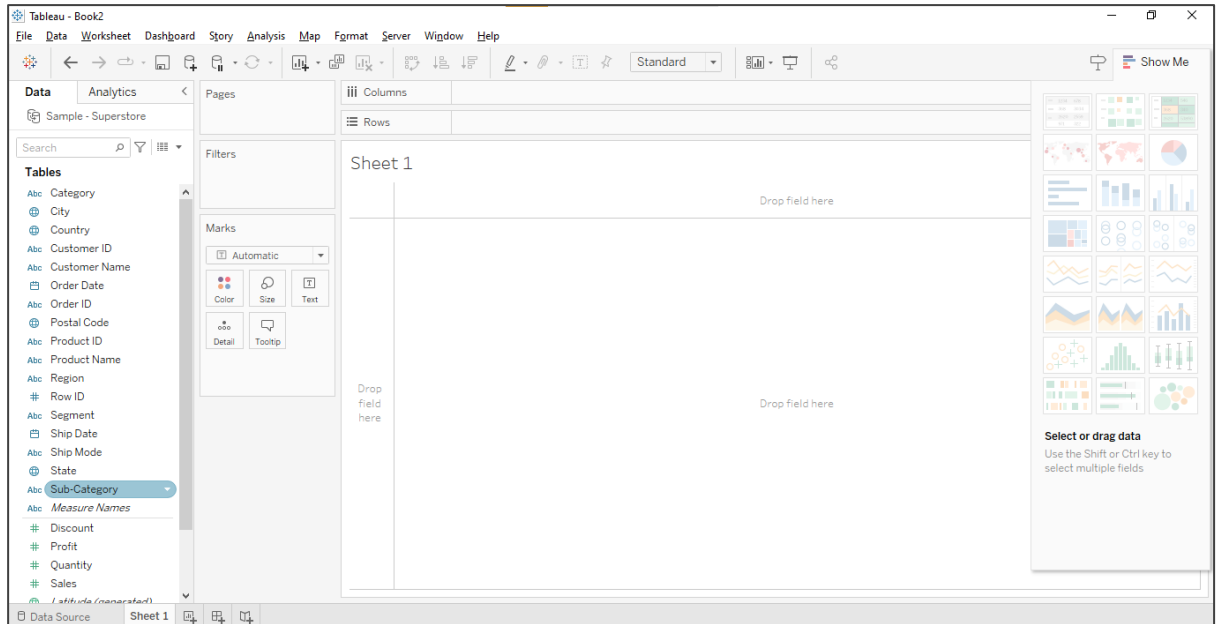
1.1 Open Tableau and connect to the **Sample - Superstore.csv** dataset provided



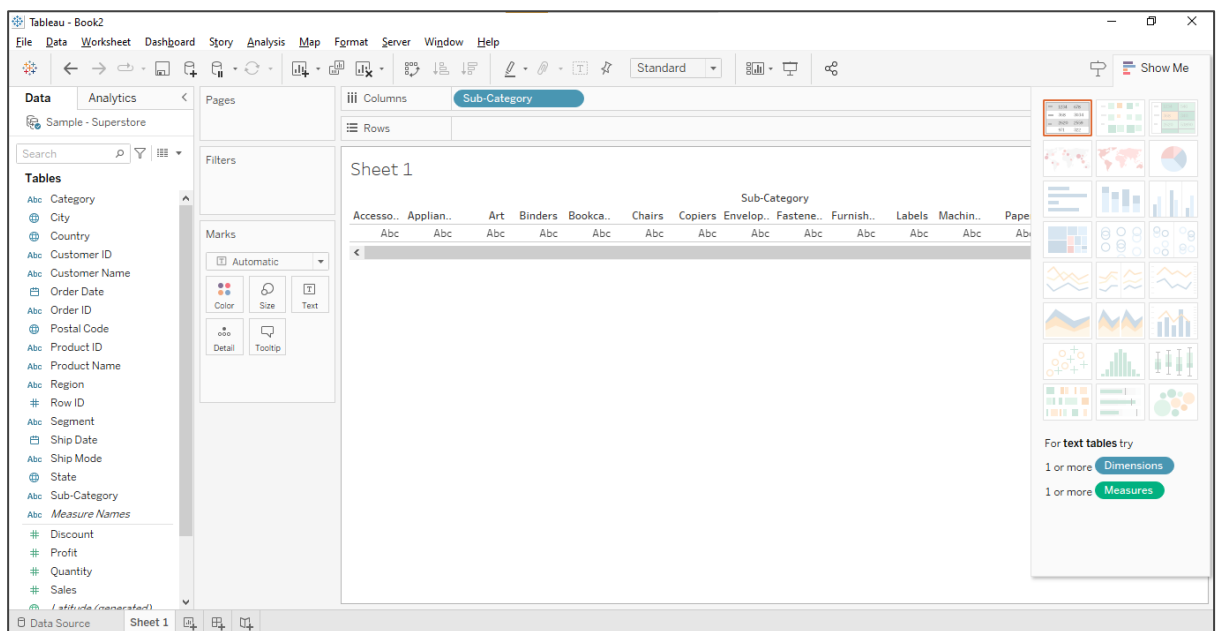
1.2 Click on the **Sheet 1** tab to begin working on a new visualization



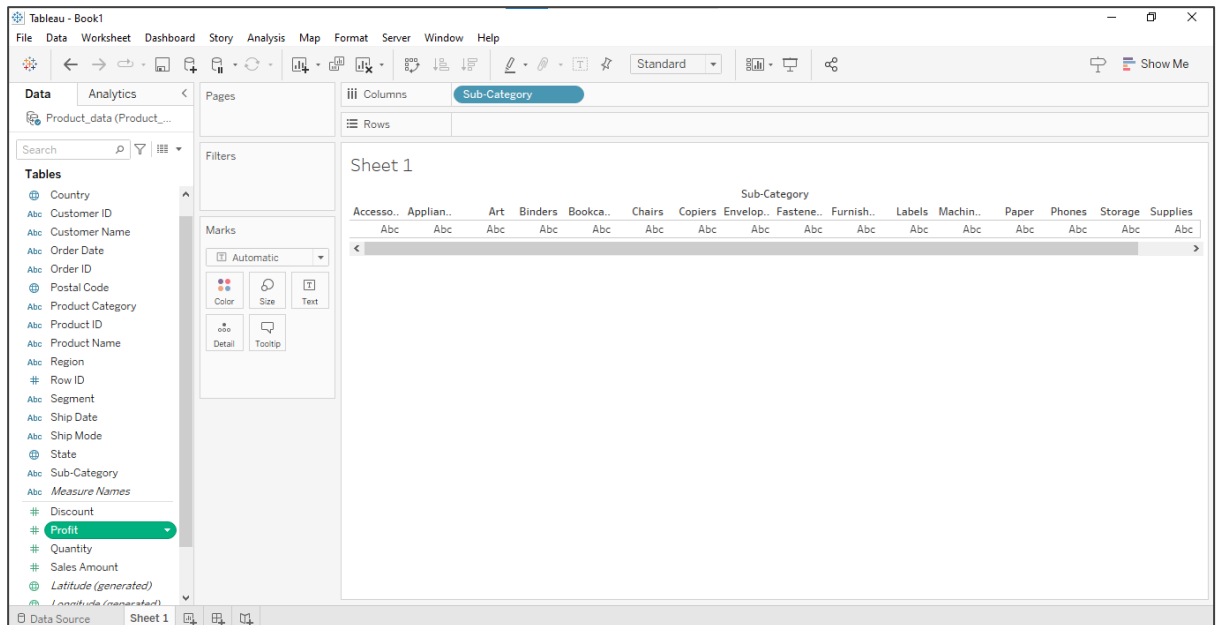
1.3 In the **Data** pane, locate the **Sub-Category** field



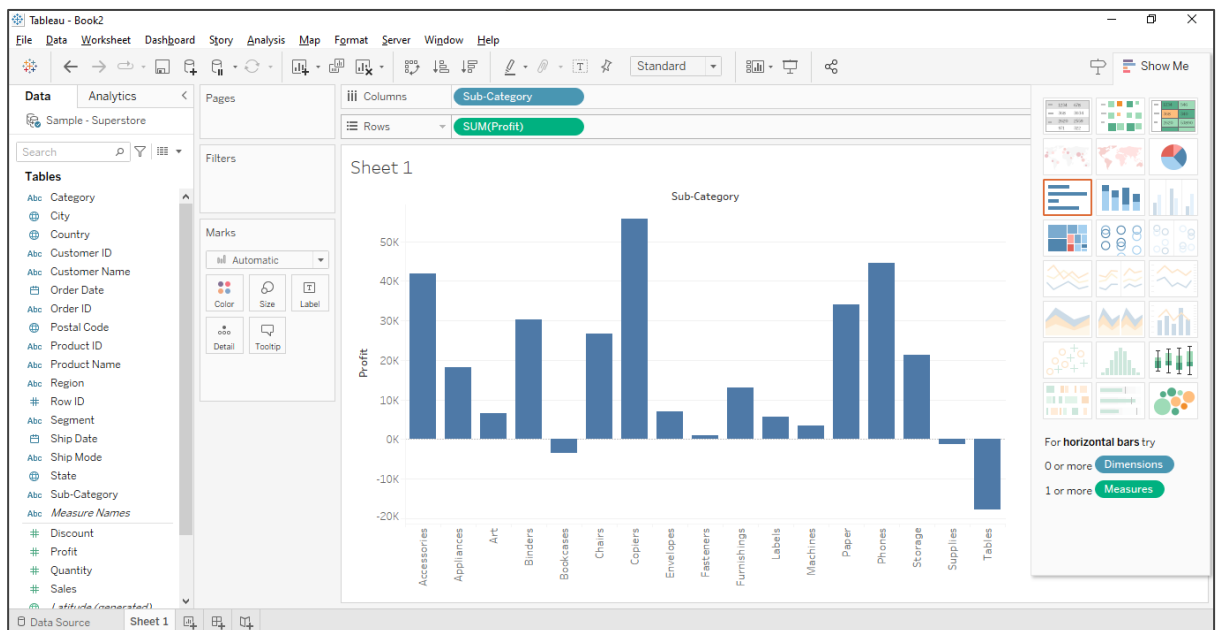
1.4 Drag and drop it onto the **Columns** to represent the different **Sub-Categories** along the x-axis of the chart



1.5 Locate the **Profit** field in the **Data** pane

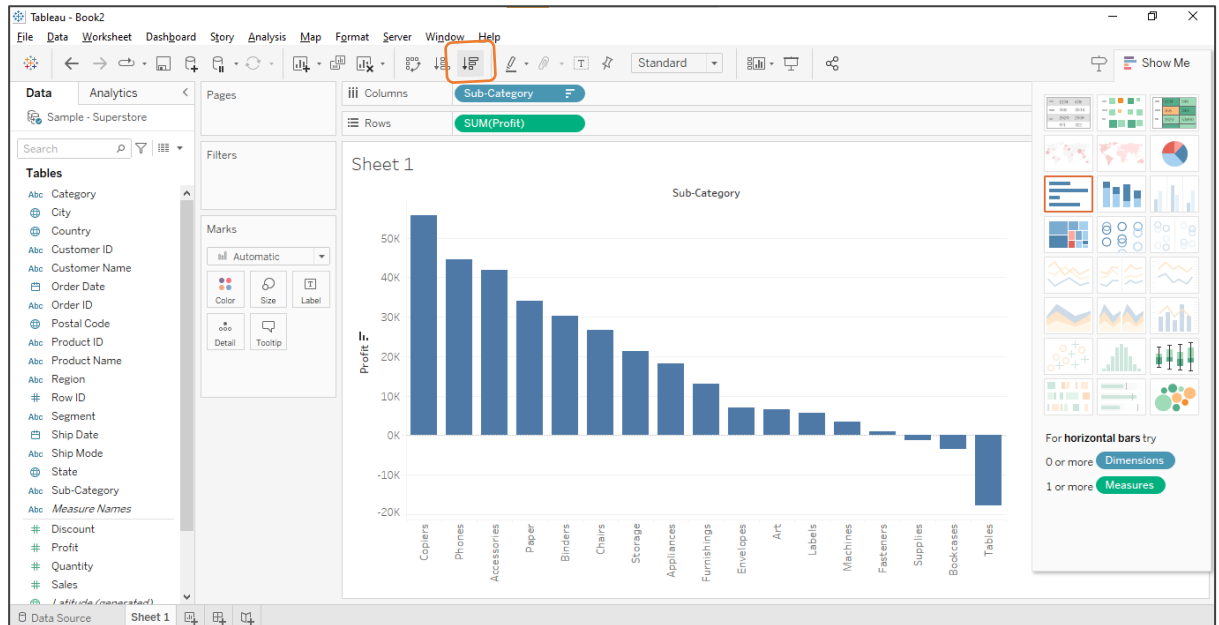


1.6 Drag and drop the **Profit** onto the **Rows**, ensuring it is aggregated by **SUM** to represent the total sales for each **Sub-Category**



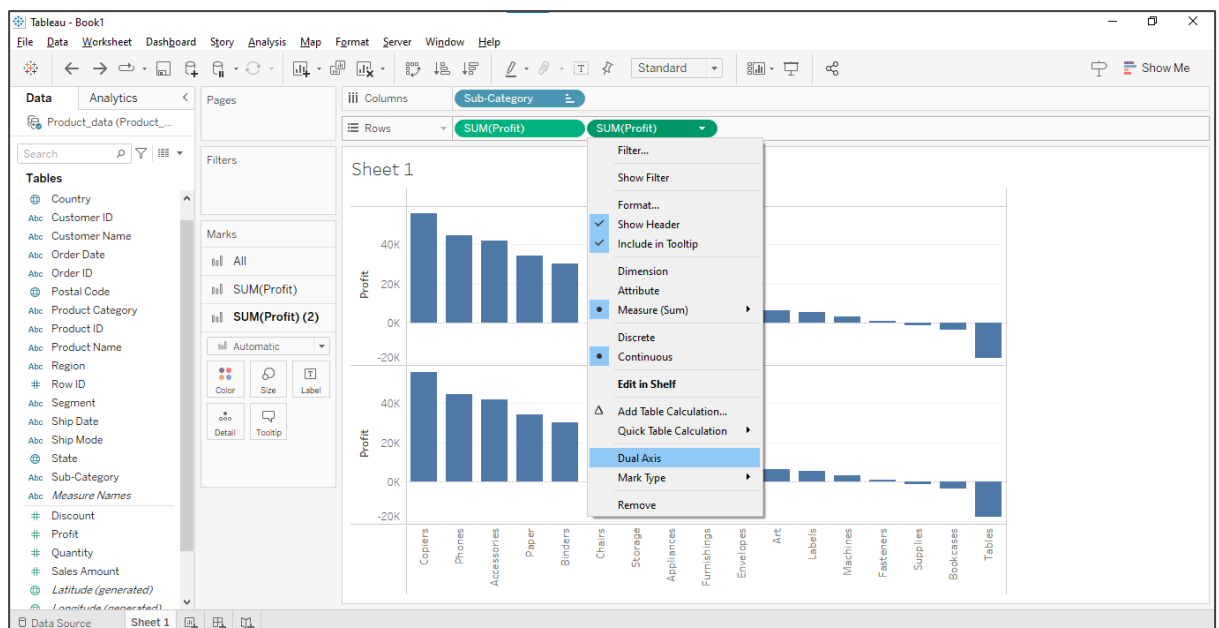
Step 2: Sort sub-categories by profit and create dual axis

2.1 Click on the **Sub-Category** axis in the visualization. Select sort descending option.

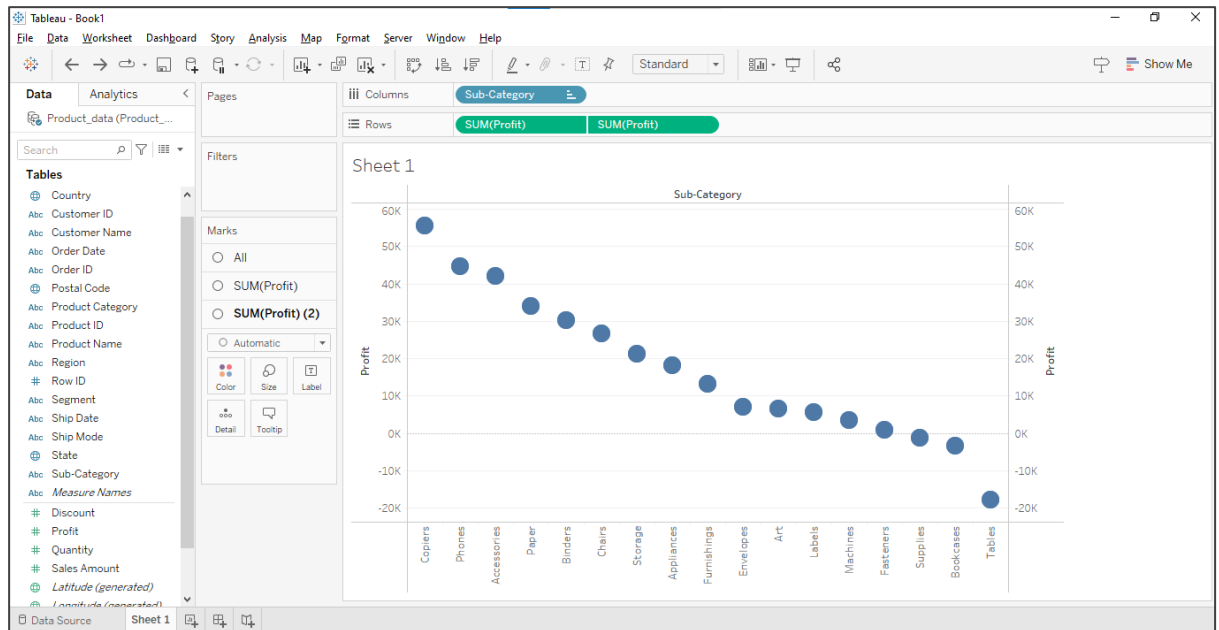


2.2 To create dual-axis chart, drag and drop the **Profit** from the **Data** pane again onto the **Rows**

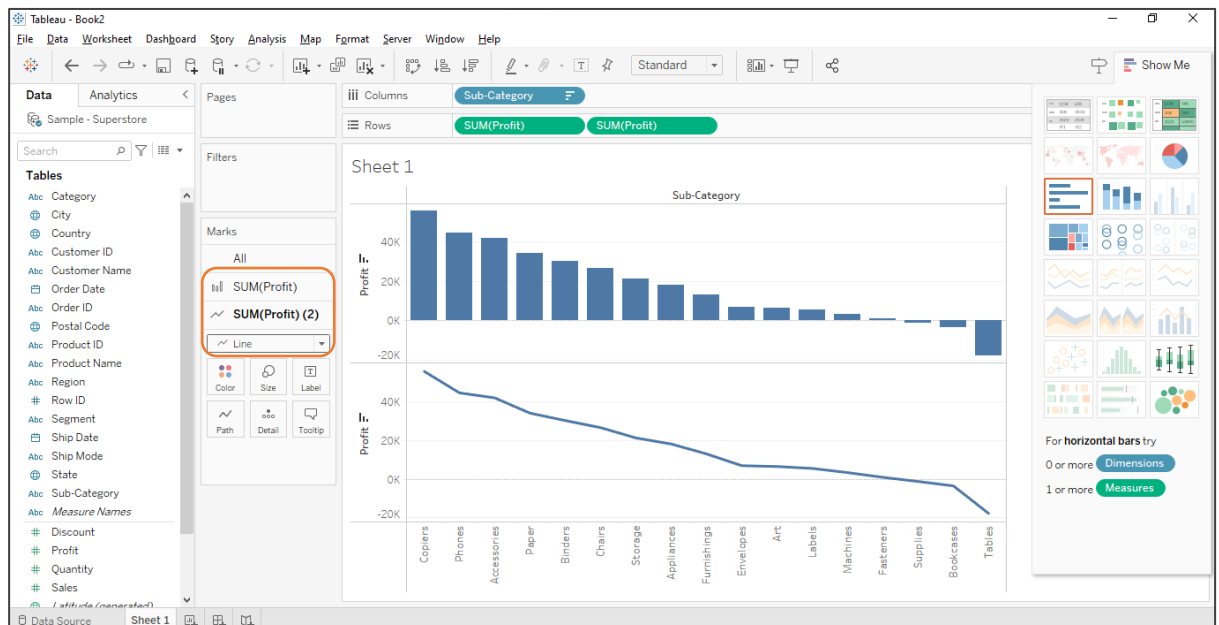
- Click on the dropdown arrow on the newly added **Profit** capsule
- Select **Dual Axis** to create a chart with two axes



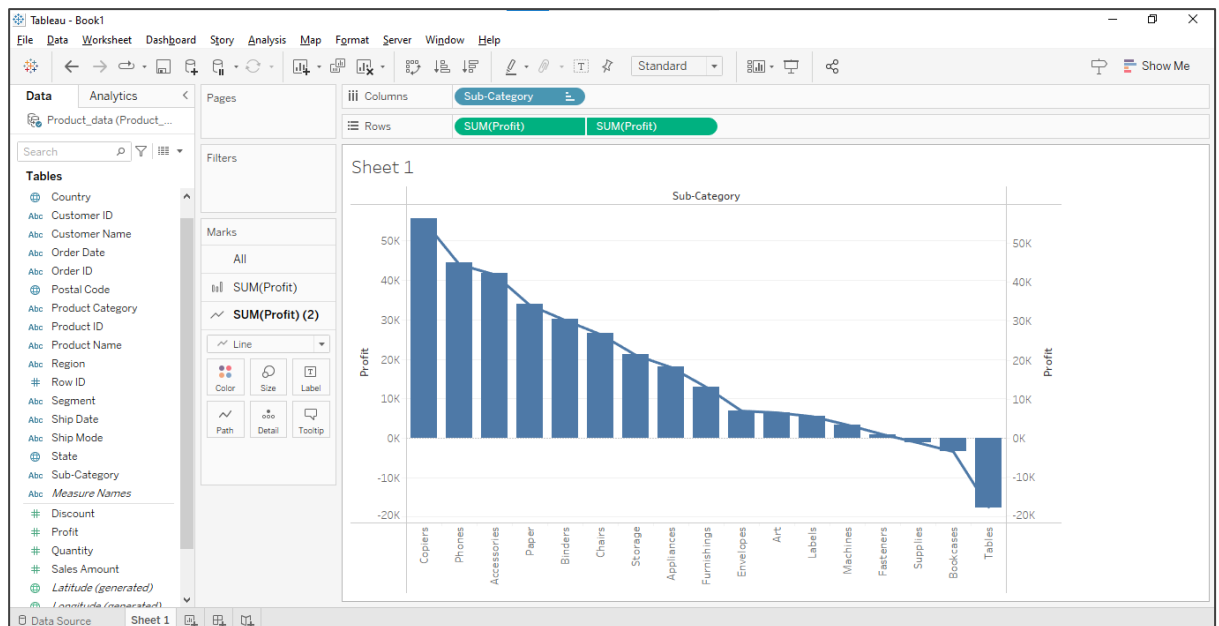
The output will appear as shown below:



2.3 Click on the **SUM (Profit)** and **SUM (Profit) (2)** in the **Marks**. Select **Bar** and **Line** from the dropdown, respectively.

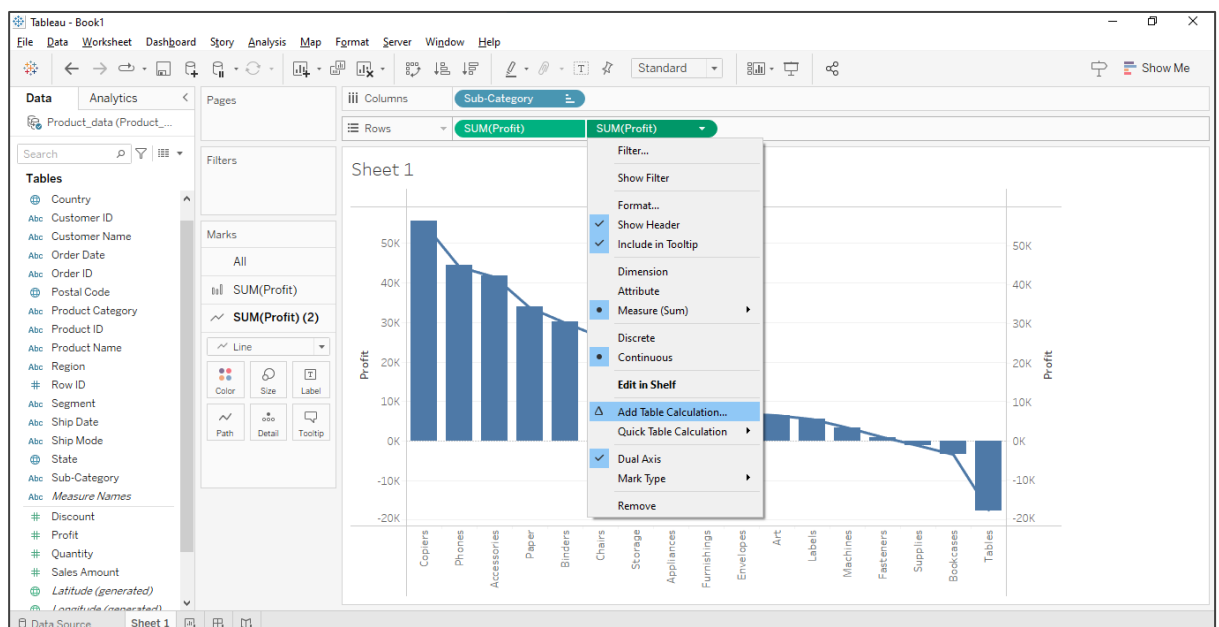


The output will appear as shown below:

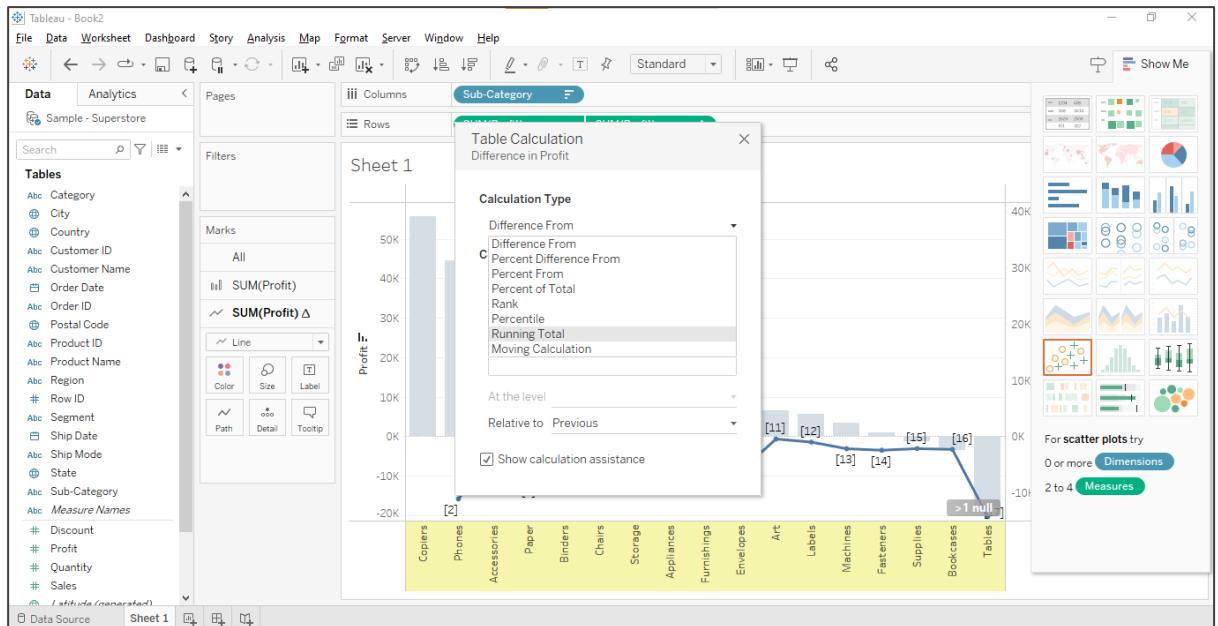


Step 3: Calculate cumulative percentage

3.1 Right-click on the **Profit** axis in the visualization. Select **Add Table Calculation**.



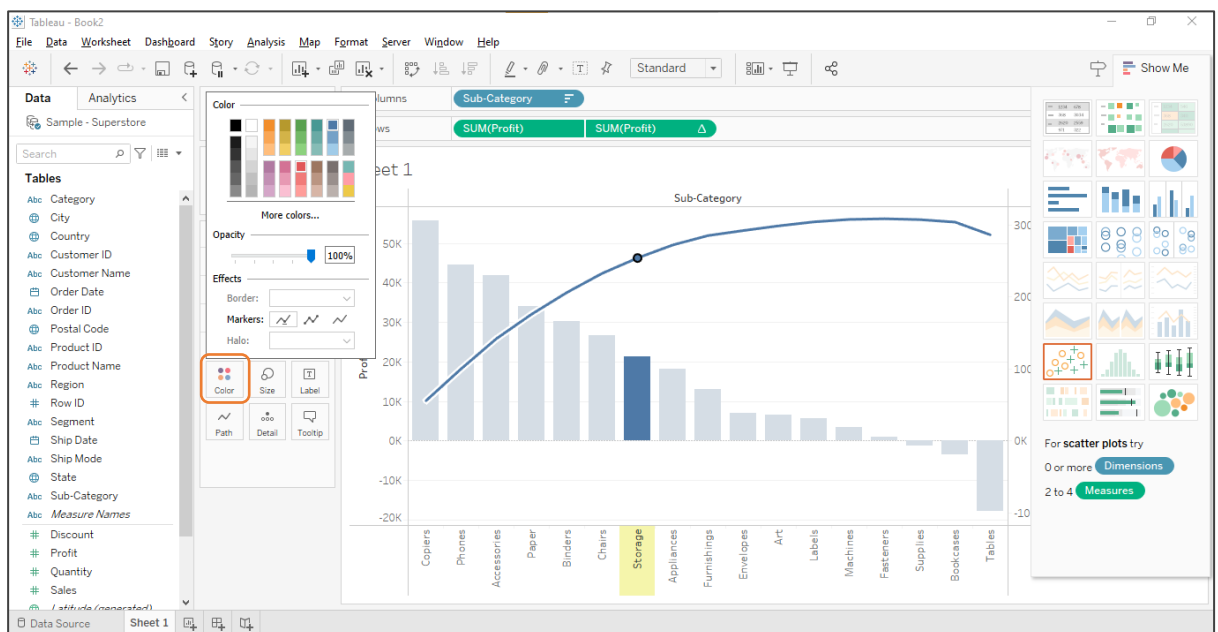
3.2 Select **Running Total** to calculate the cumulative sum of profit



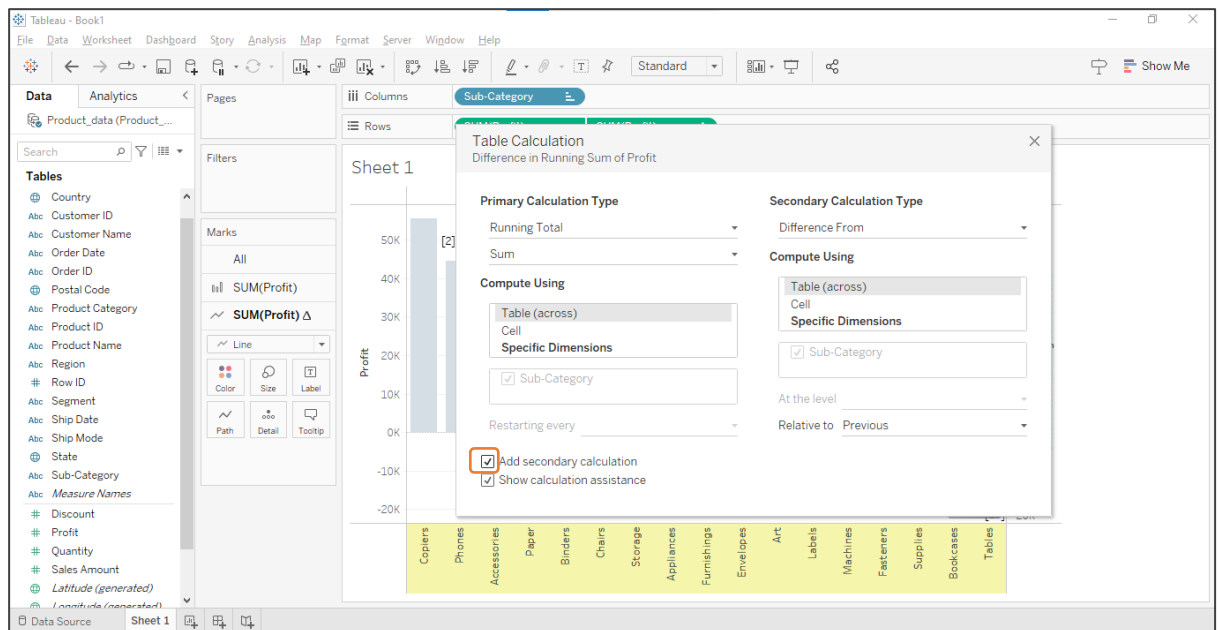
Step 4: Format lines and bars

4.1 Click on the **Marks** card and ensure both the bar and line charts are formatted appropriately for clarity

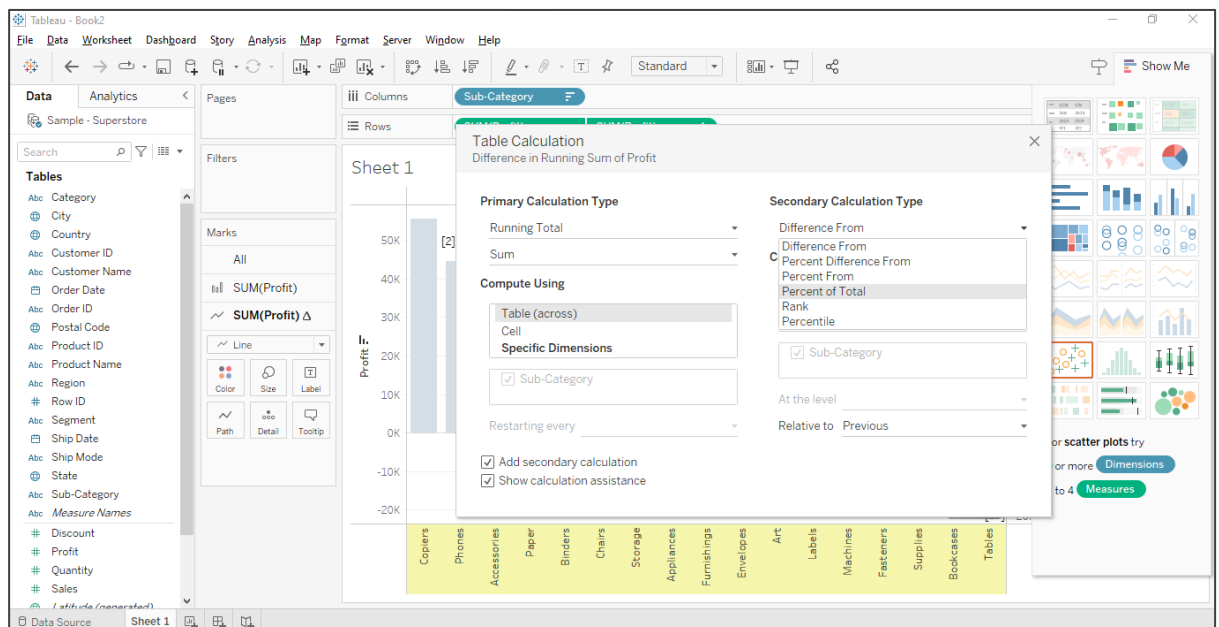
- Adjust color, thickness, and style as needed to differentiate between the bars and the cumulative percentage line



4.2 Click on the **Profit** axis in the visualization. Select **Add secondary calculation**.



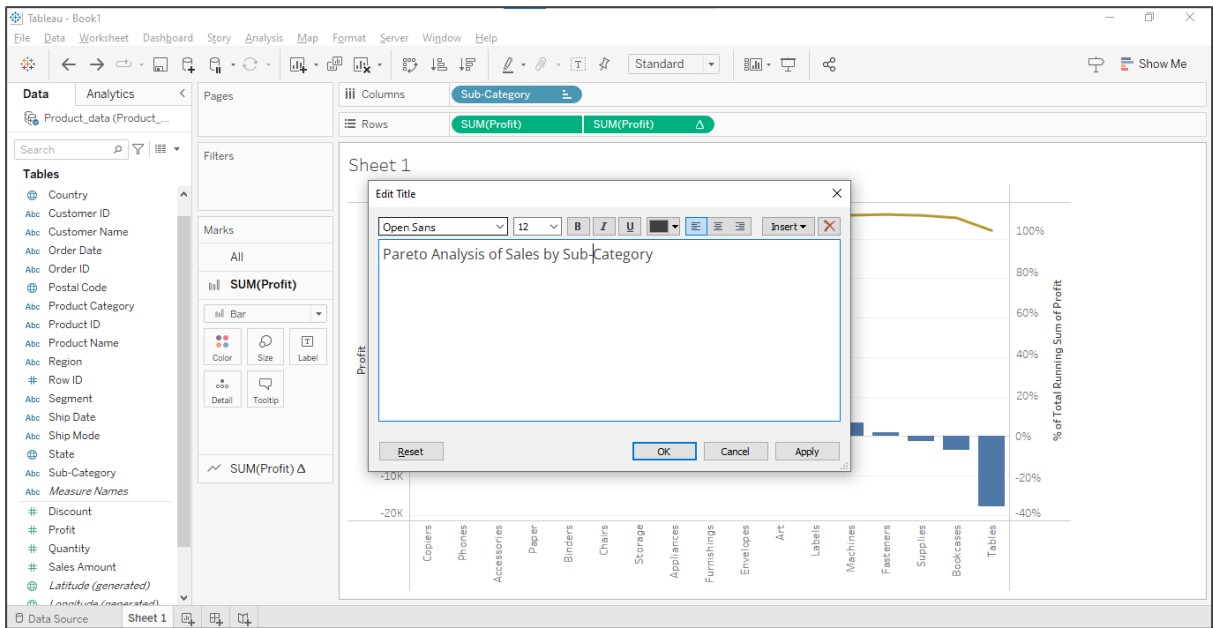
4.3 Select **Percent of Total** from **Secondary Calculation Type**



Step 5: Label axes and title the chart

5.1 Add clear and descriptive titles to both the x-axis (Sub-Category) and y-axis (Profit and Cumulative Percentage). Provide a title for the

overall chart that succinctly summarizes its purpose, such as **Pareto Analysis of Sales by Sub-Category**.



5.2 Drag and drop the profit from the data pane onto the **SUM (Profit)** in marks. Right-click on **Label** and select **Show mark labels**.

