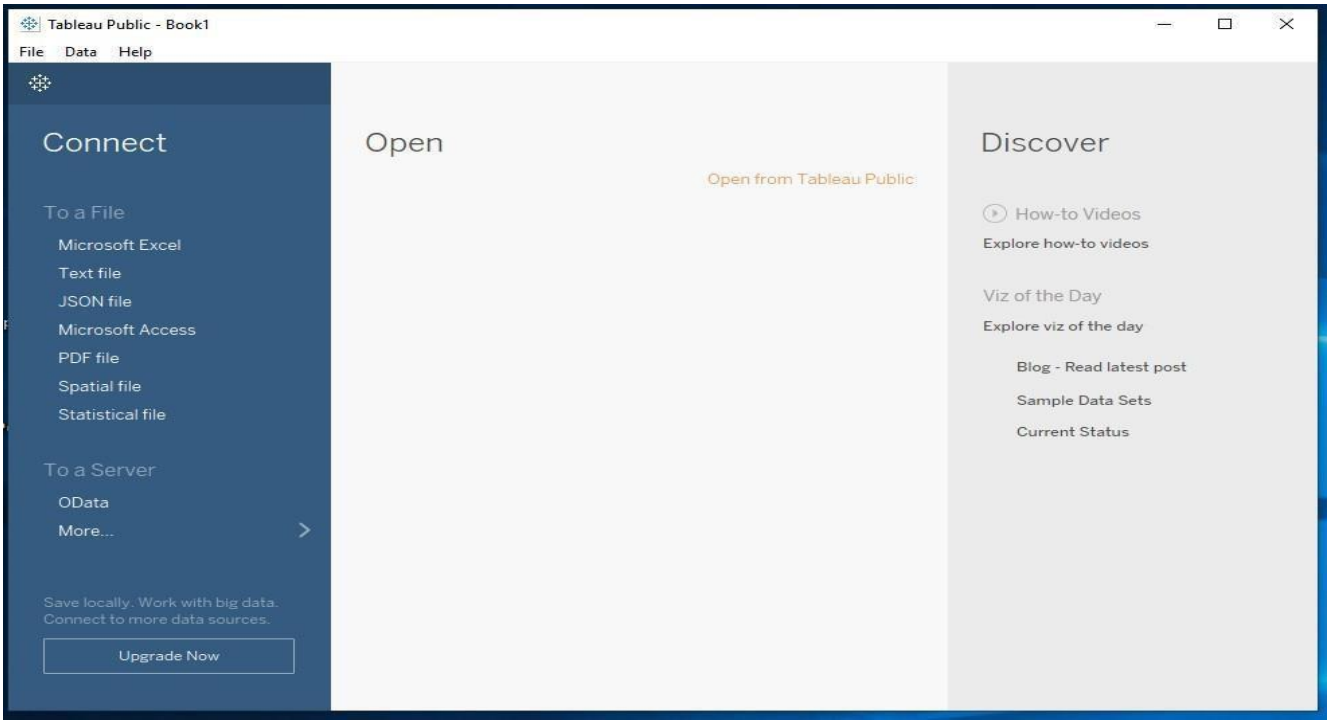
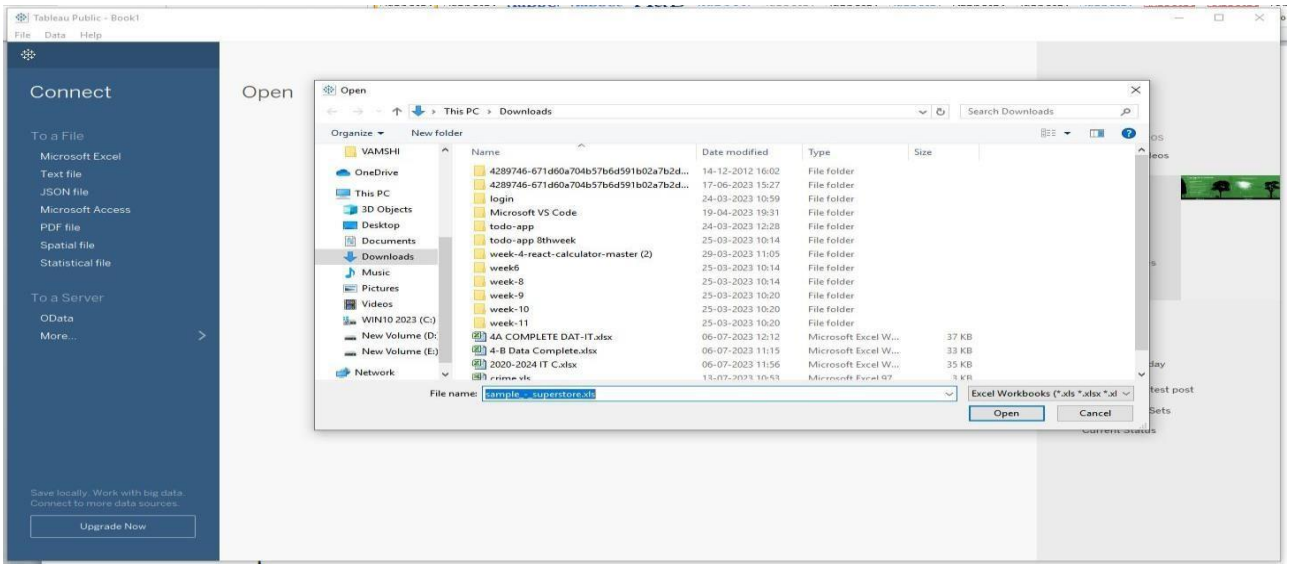
# Working on Tableau ---Some important screen shots and steps of sheets(Not Related to Programs )



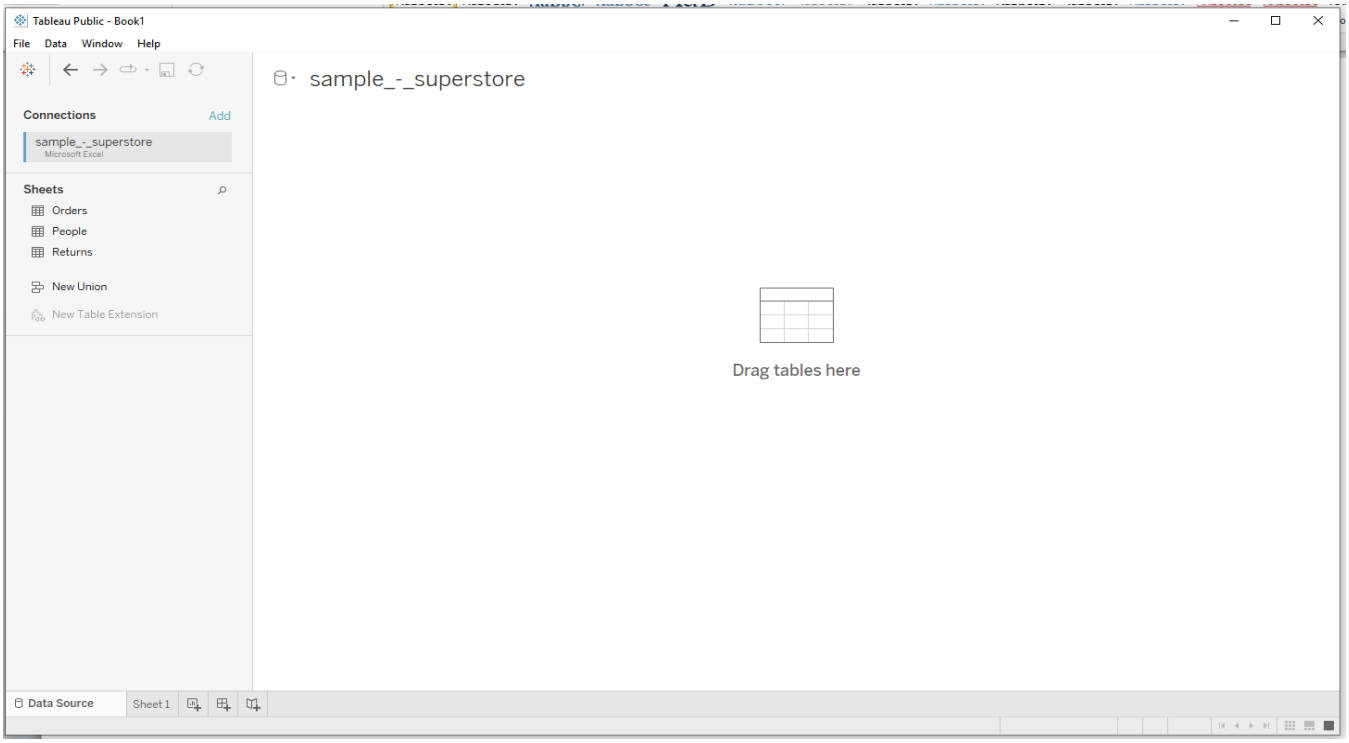

**Connecting to Data and preparing data for visualization in Tableau**

Tableau supports connecting to a wide variety of data, stored in a variety of places. For example, data might be stored on computer in a spread sheet or a text file, or in a big data, relational, or cube (multidimensional) database on a server in enterprise or the data can be from a public domain available on the web.

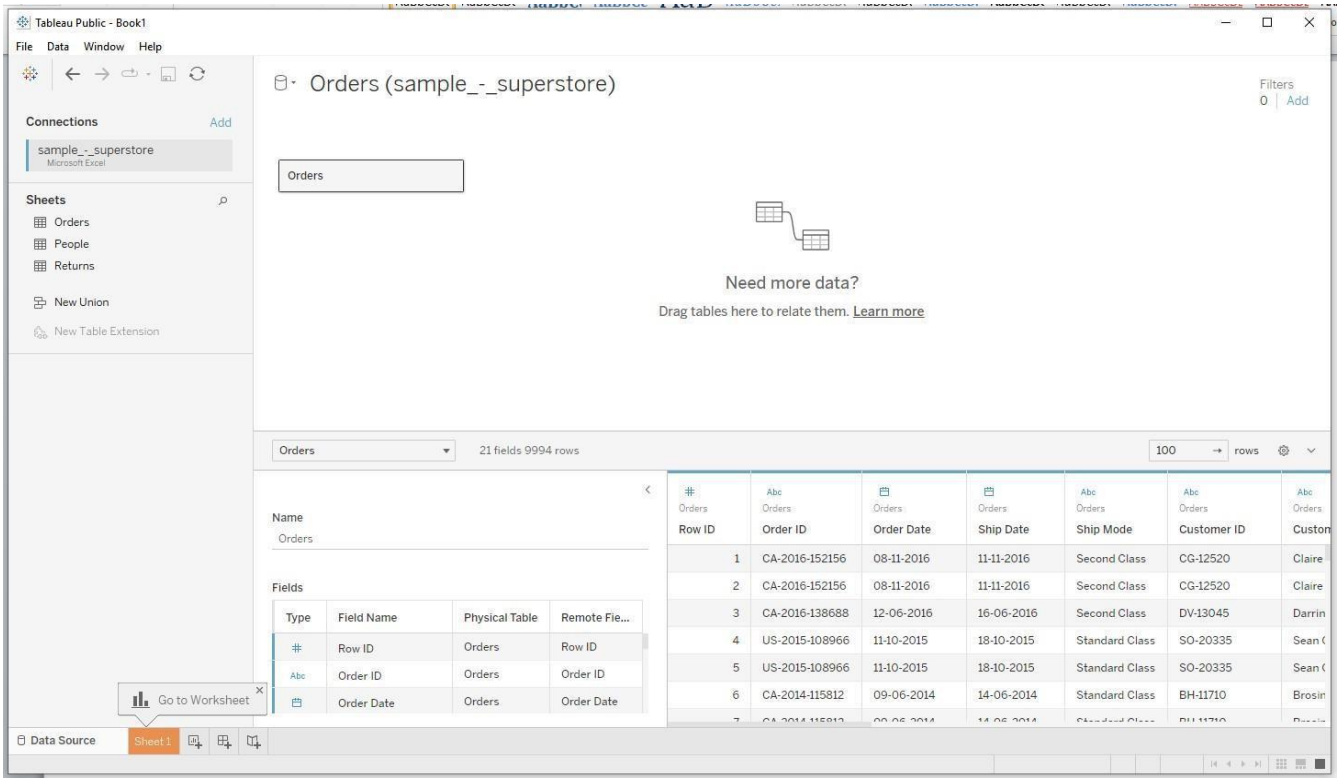
Data can be imported in Tableau Public from Connect panel on left side. For example, an Excel sample data set was loaded into Tableau as follows:



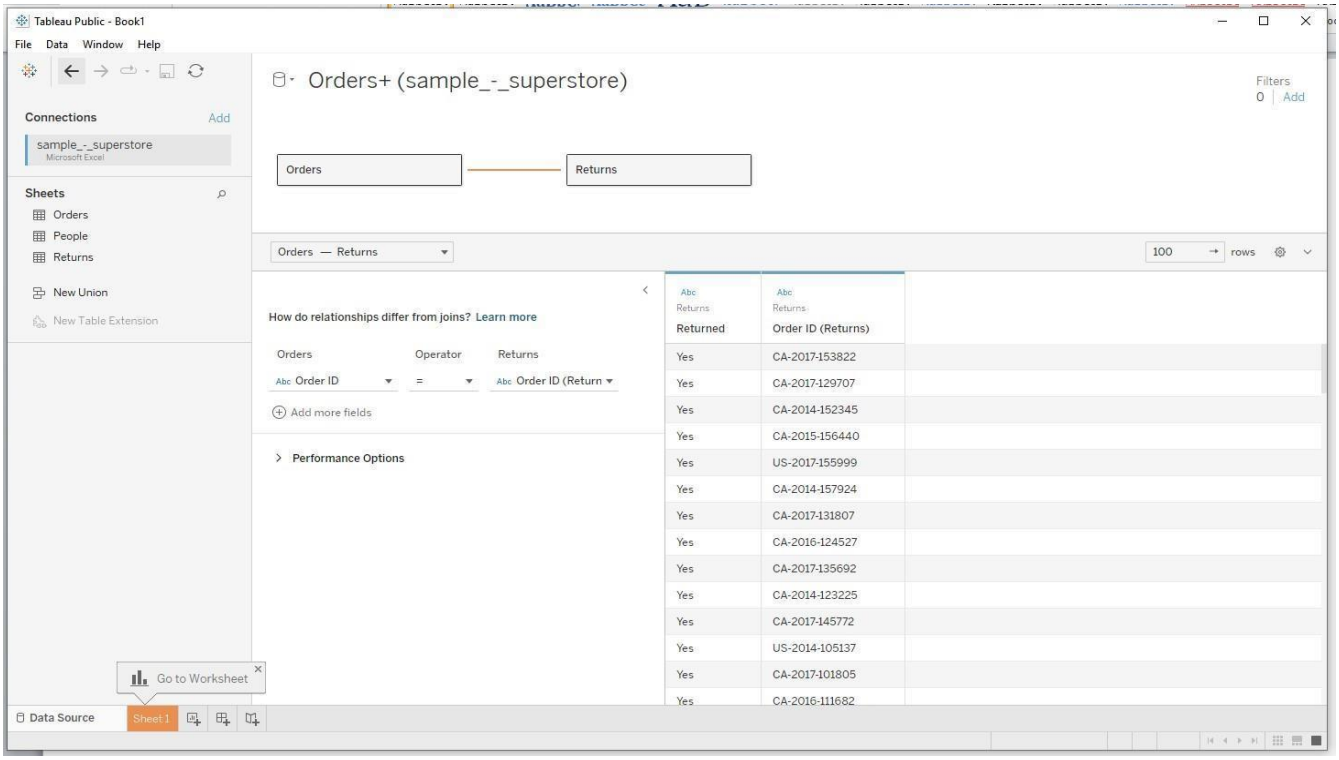
After clicking on open, screen is as follows:



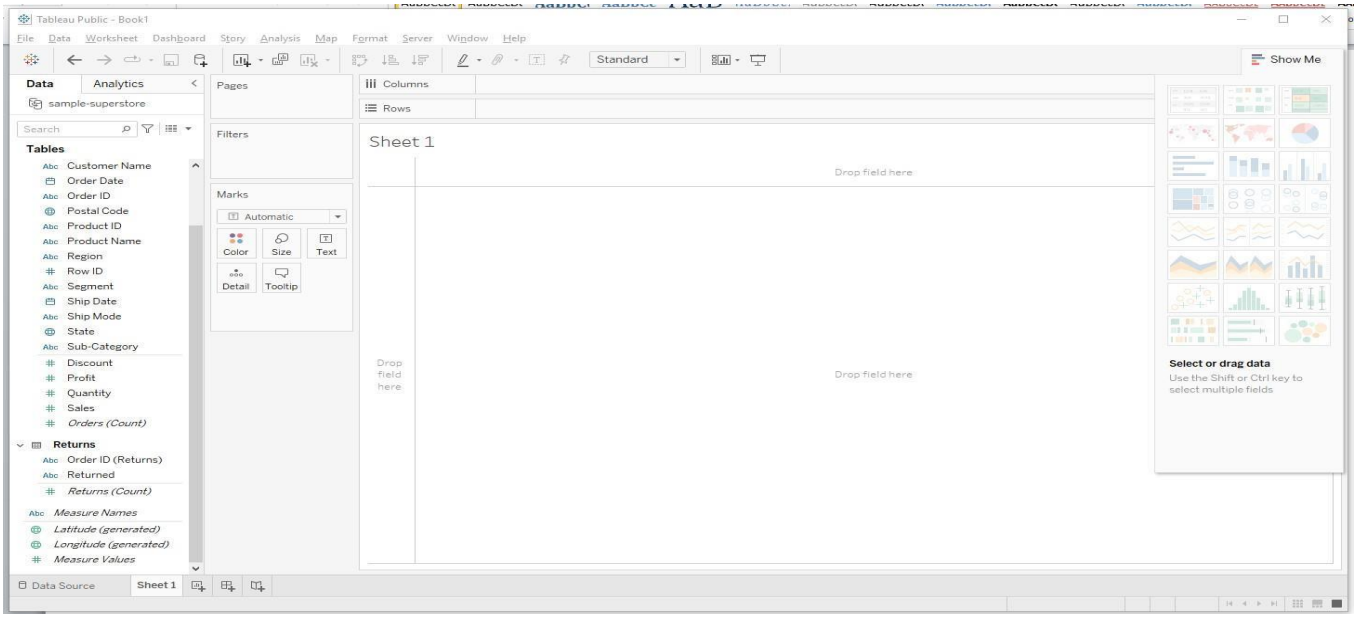

The data store page appears as above. The left pan shows that above dataset consists of 3 worksheets. If we drag orders table, screen appears as follows: Tableau automatically identifies the data type of each column.



Now drag Returns table onto the Canvas to the right of Orders table. This shows the relation between the two tables Orders and Returns.

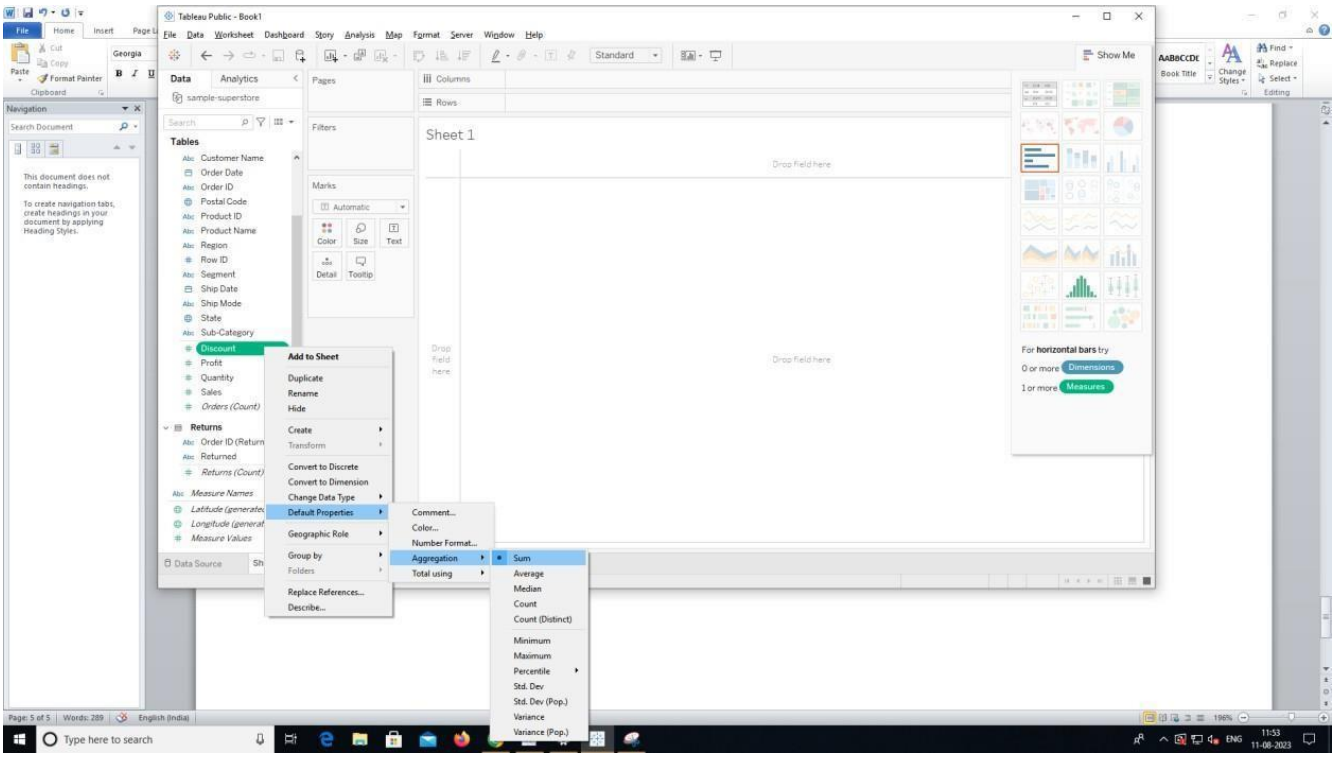



If we click on the link between Orders and Returns table names at the top gives the summary of the relationship between the tables. Now rename the data store and click on Sheet1 at the bottom left to proceed. This step creates a data extract which improves query performance.

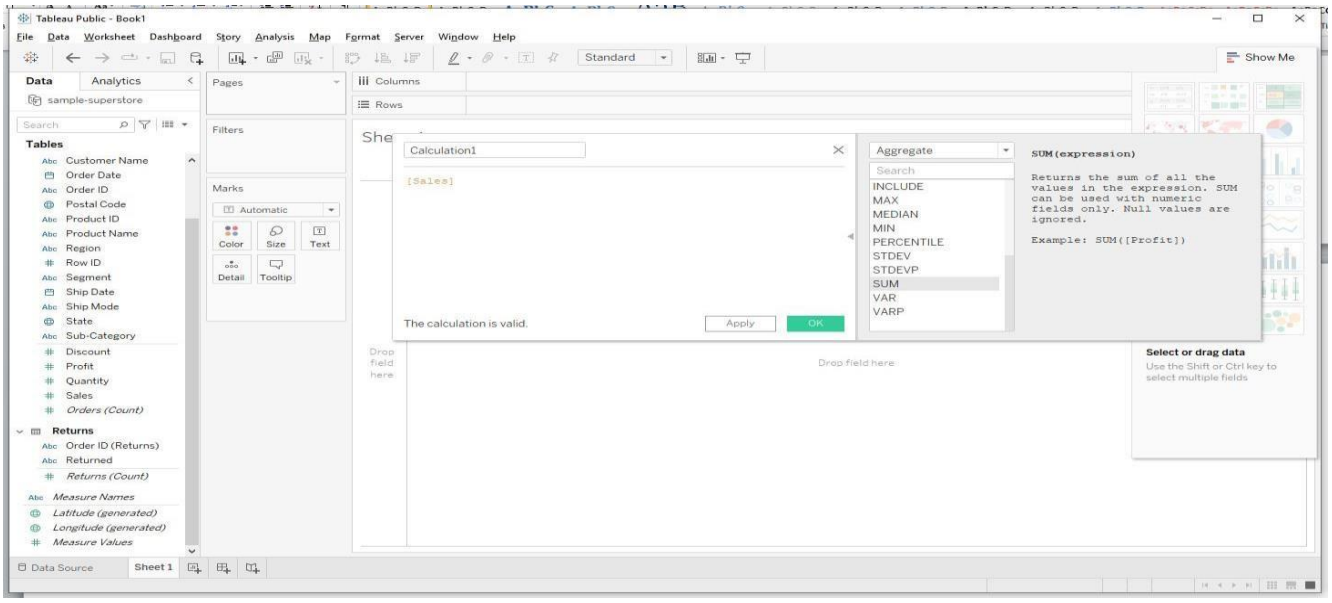


## Data aggregation and statistical functions

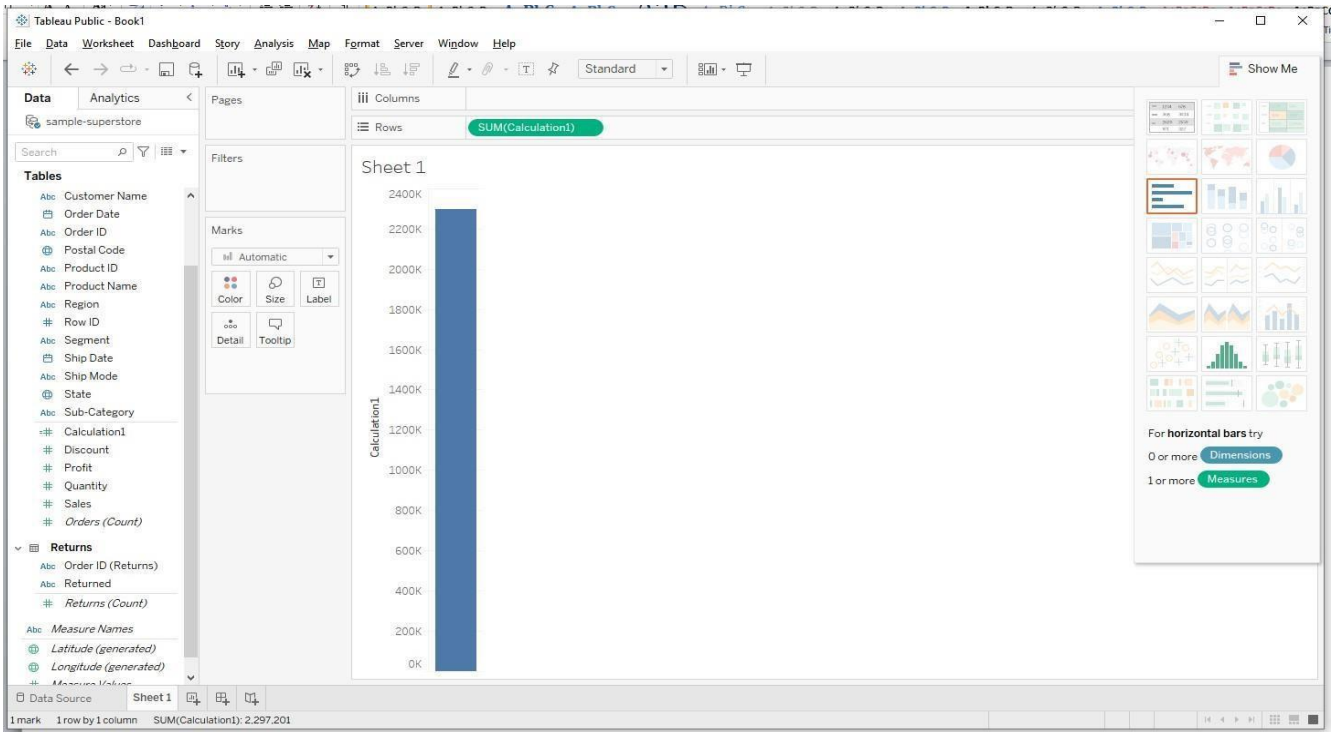
We can apply various aggregation and statistical functions on data such as count, minimum, maximum, standard deviation, variance etc. This is shown below. This can be done by right clicking on the required field of dataset, click on Default properties and click on aggregation




Or the above operation can be done by creating a calculated field as shown below. To create a calculated field, click on the down arrow button beside search tab above Tables panel, drag a field to that calculated field window.



Then click on apply and results are shown below:



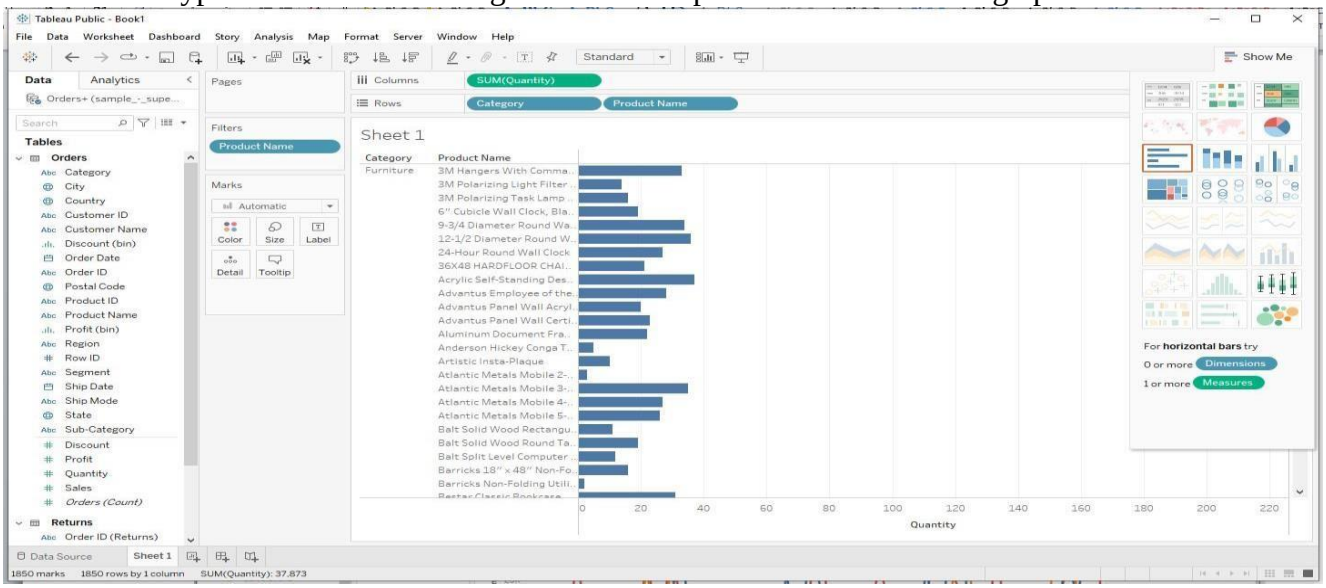

In the same way we can apply any aggregate or statistical function on data with the help of calculated fields.

**Data Visualization**

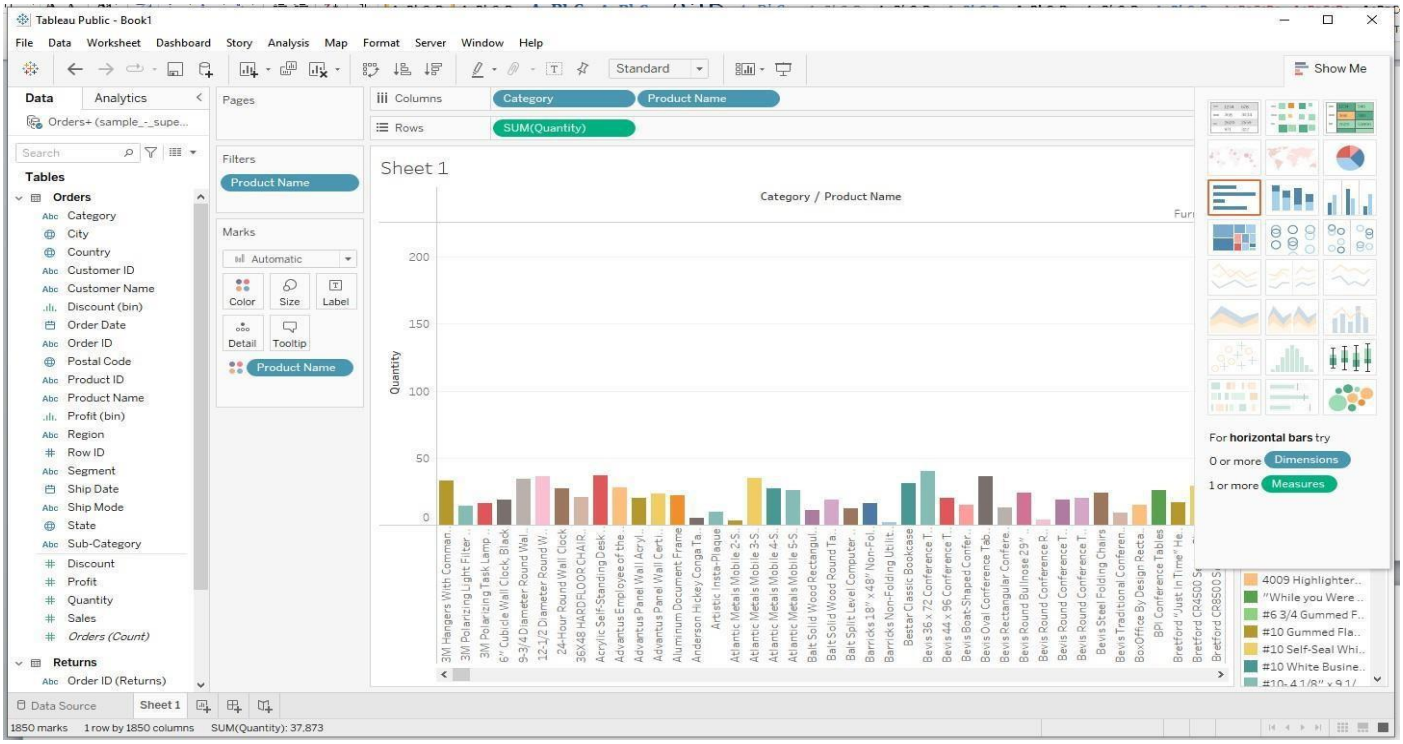
We can perform various visualization operations on data in Tableau. Some of them are bar cart, histogram, bubble chart, gantt chart, scatter plot, heat map etc.

**Bar chart:**

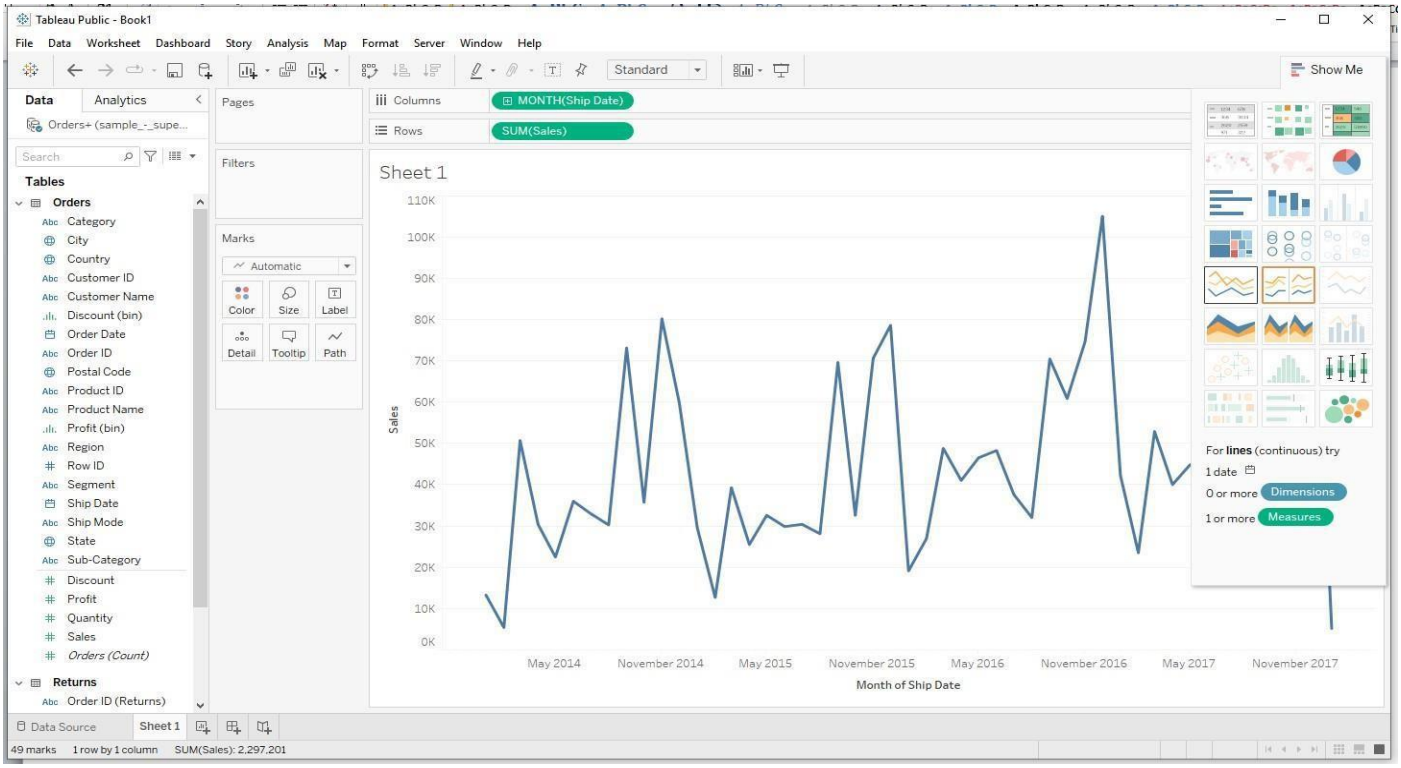
Bar charts can be created in 3 variations in Tableau: Horizontal bars, stacked bars, side-by-side bars. Horizontal bars can be created by selecting that type of chart from Show Me menu on right hand side of Canvas. The type of chart in box on right hand side represents horizontal bar graph.



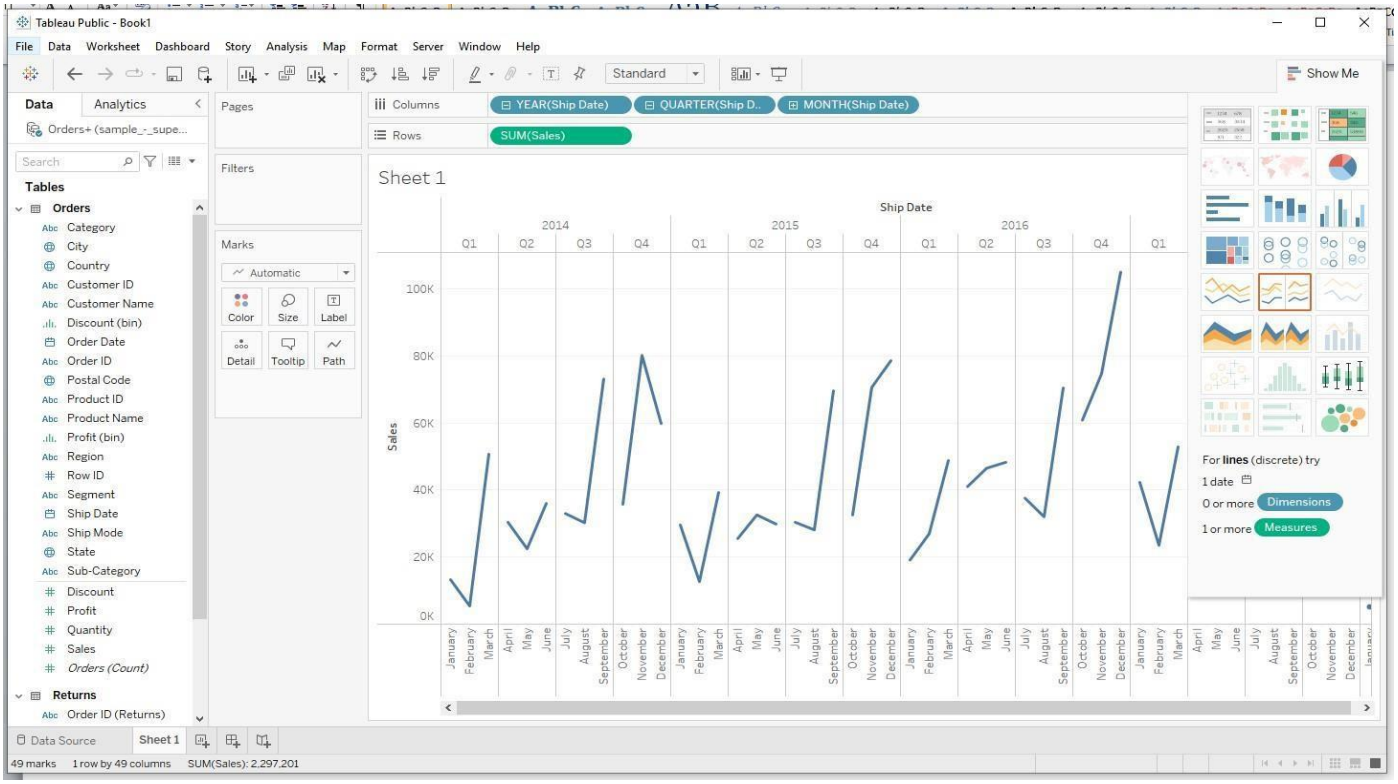
Side-by-side bar chart can be created in following way.



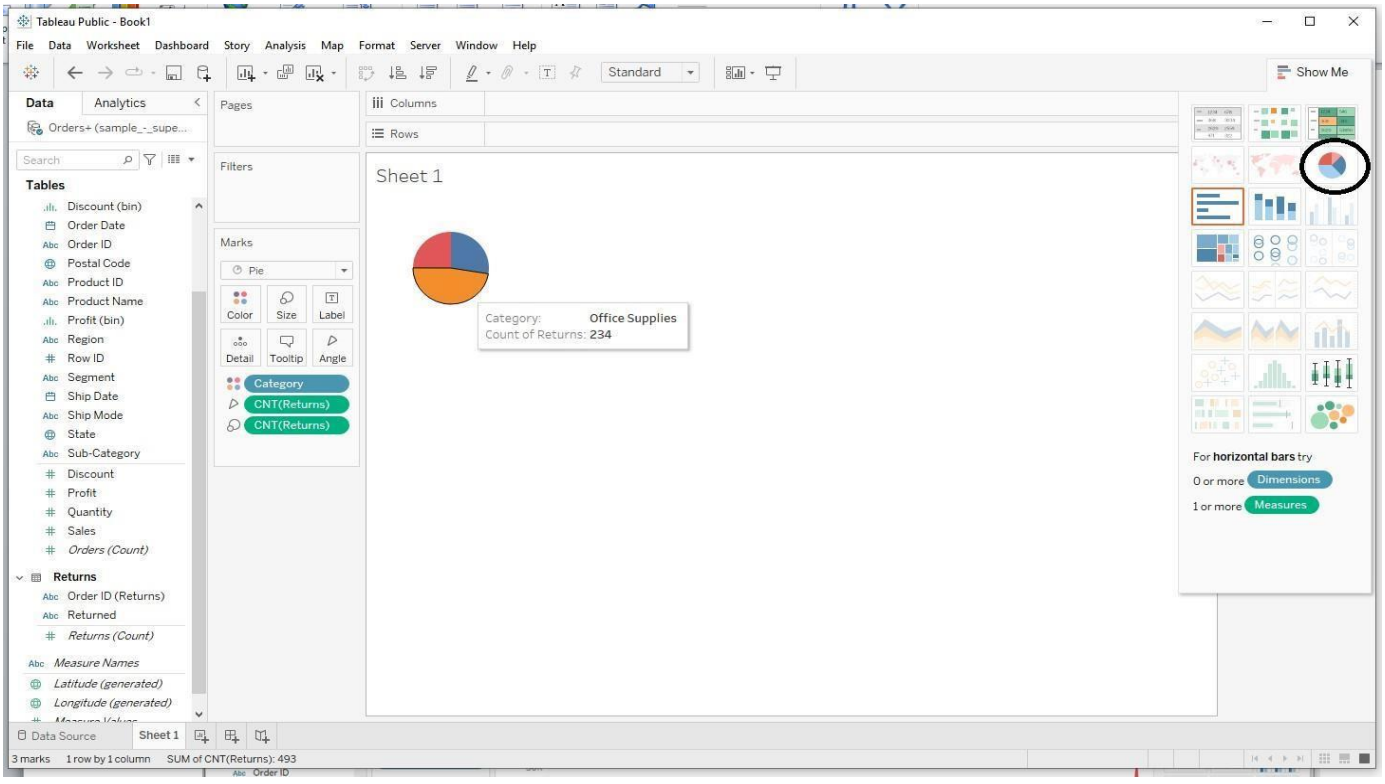

**Line graph:** Line graph can be continuous or discrete.



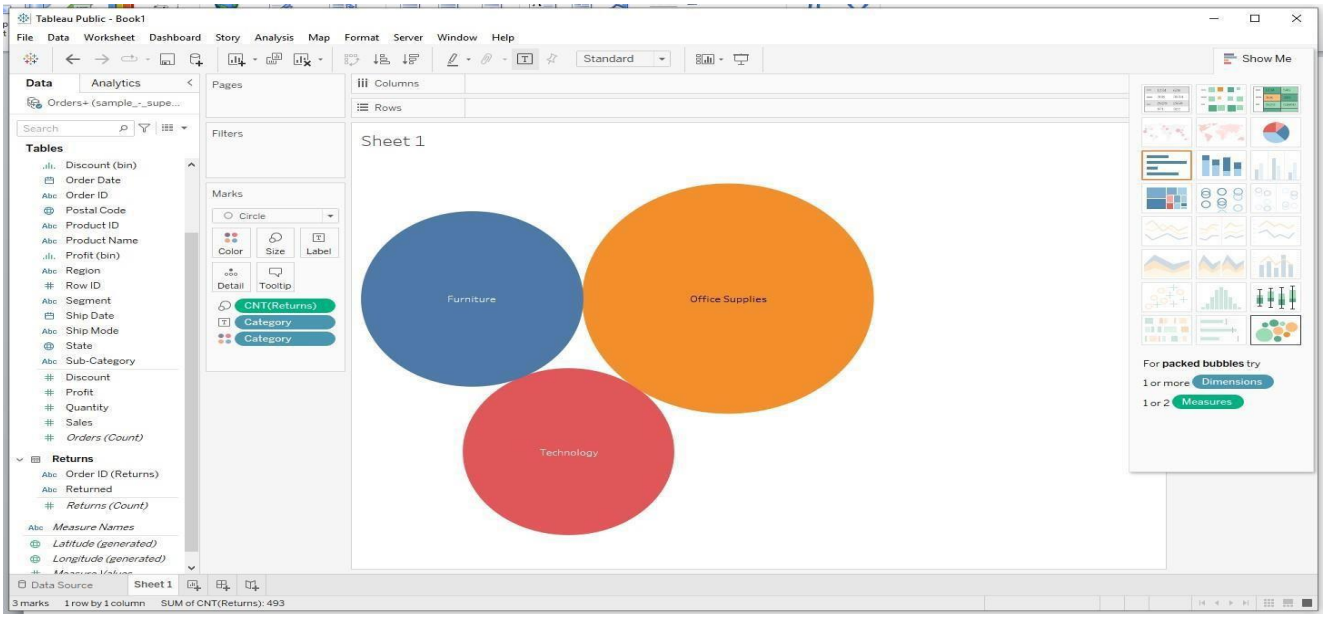
Discrete line graph is shown below:




## Pie chart:



## Bubble chart:

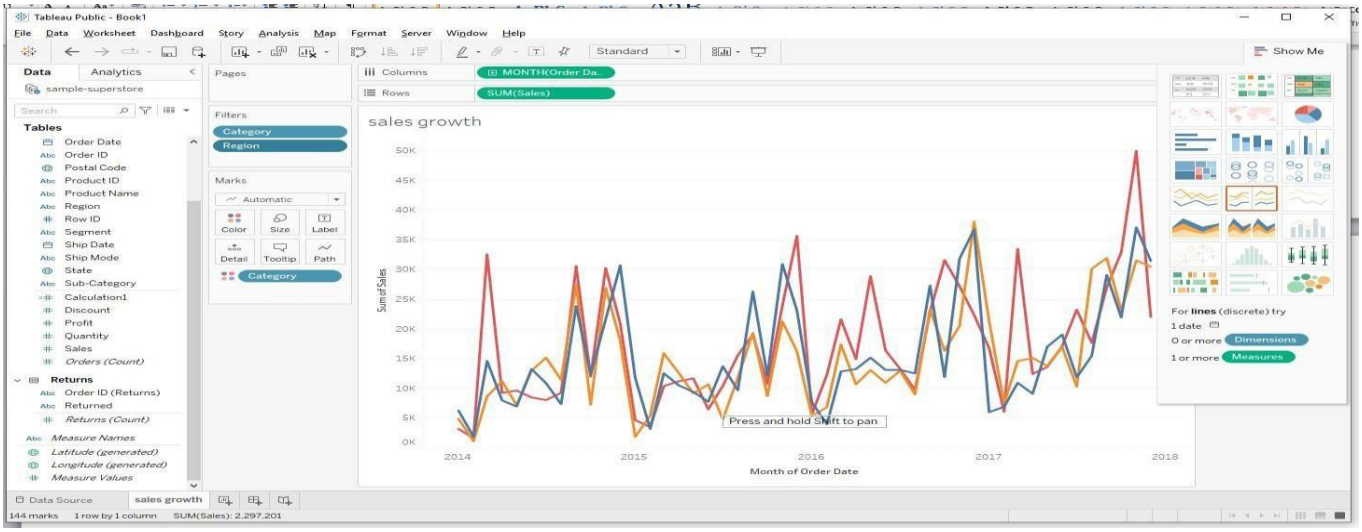



## Dashboards

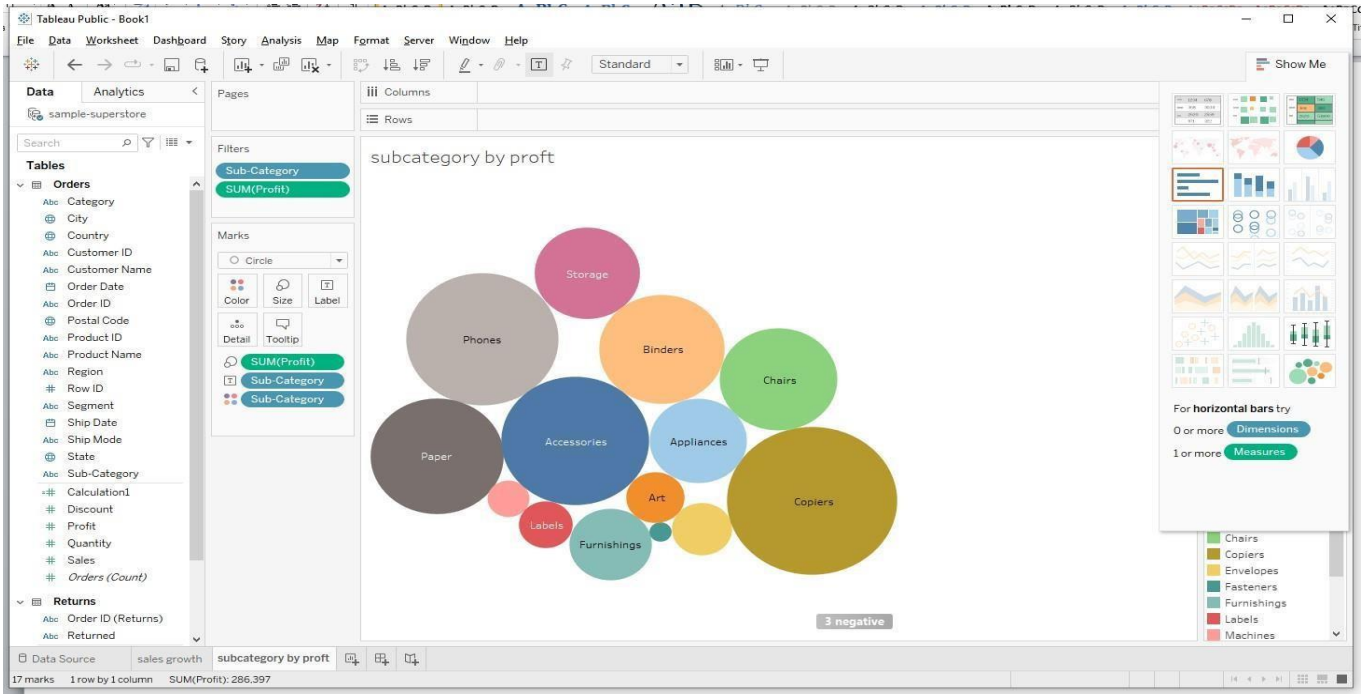
Dashboard is a way of displaying various types of visual data in one place. Usually, a dashboard is intended to convey different, but related information in an easy-to-digest form. And oftentimes, this includes things like key performance indicators (KPI)s or other important business metrics that stakeholders need to see and understand at a glance.

Dashboards are useful across different industries and verticals because they're highly customizable. They can include data of all sorts with varying date ranges to help you understand: what happened, why it happened, what may happen, and what action should be taken.

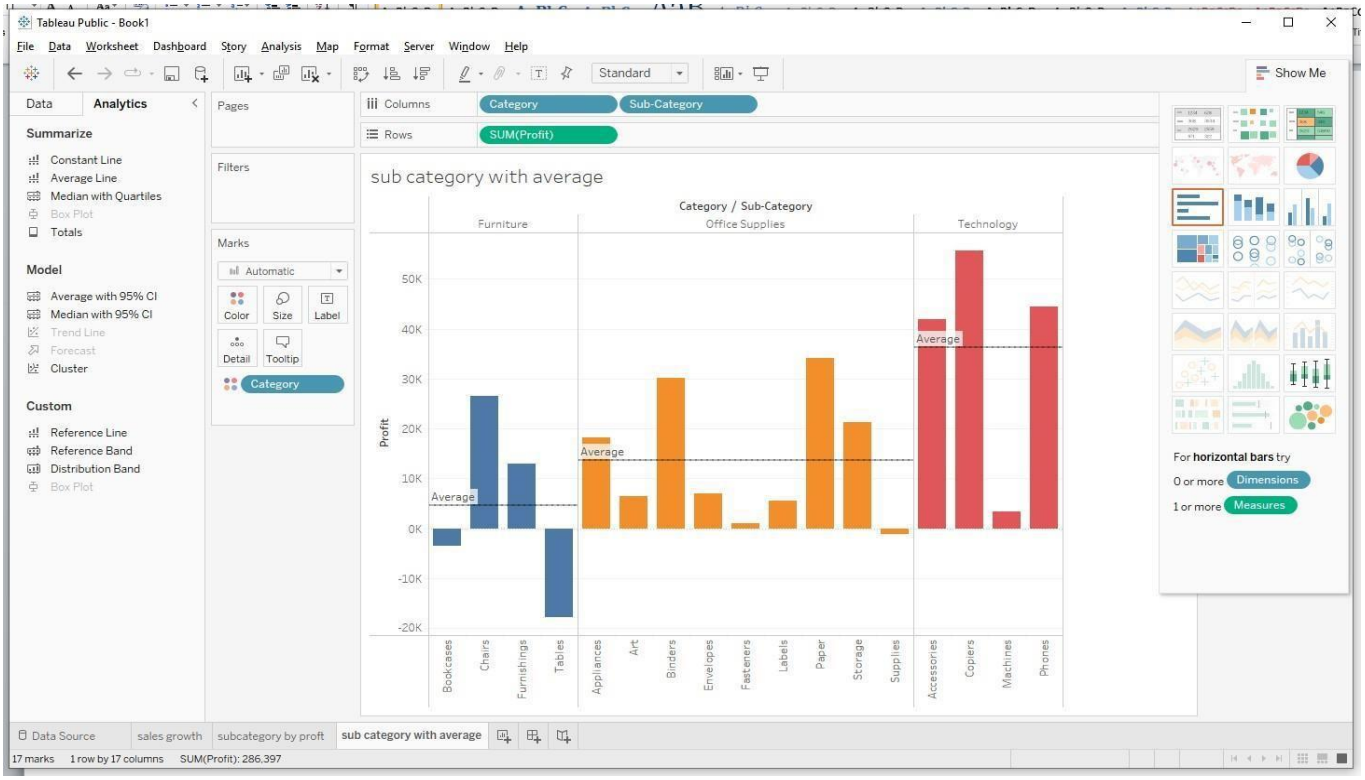
For example, category of sales across months in a year, region is the field added. The first view is shown below. This can be renamed at the bottom of the screen.



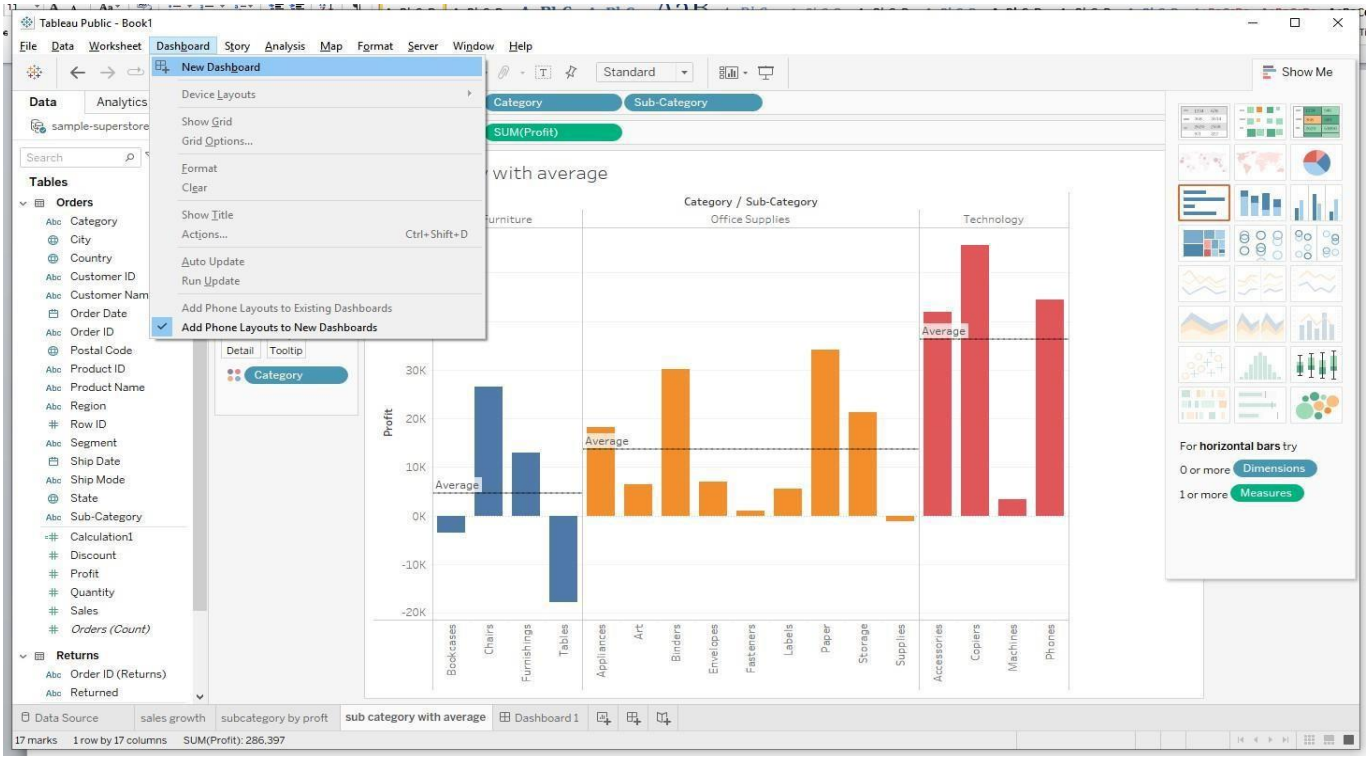
Now go to 2nd sheet for creating the 2nd view. The second view is shown below. A bubble chart was drawn between profit and subcategory. Then rename the sheet.



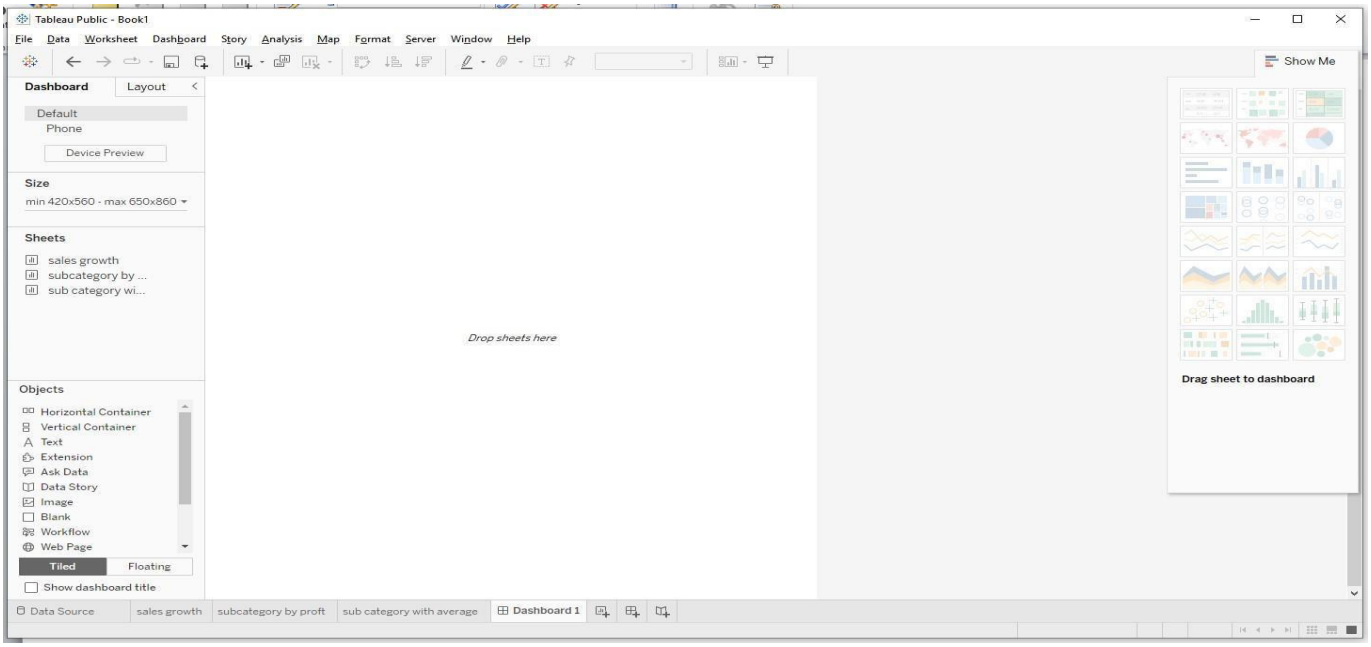

Next 3rd view is created as follows for profit for each subcategory in the category with averages.



After creating individual views, now a Dashboard can be created by clicking on create dashboard at the toolbar.

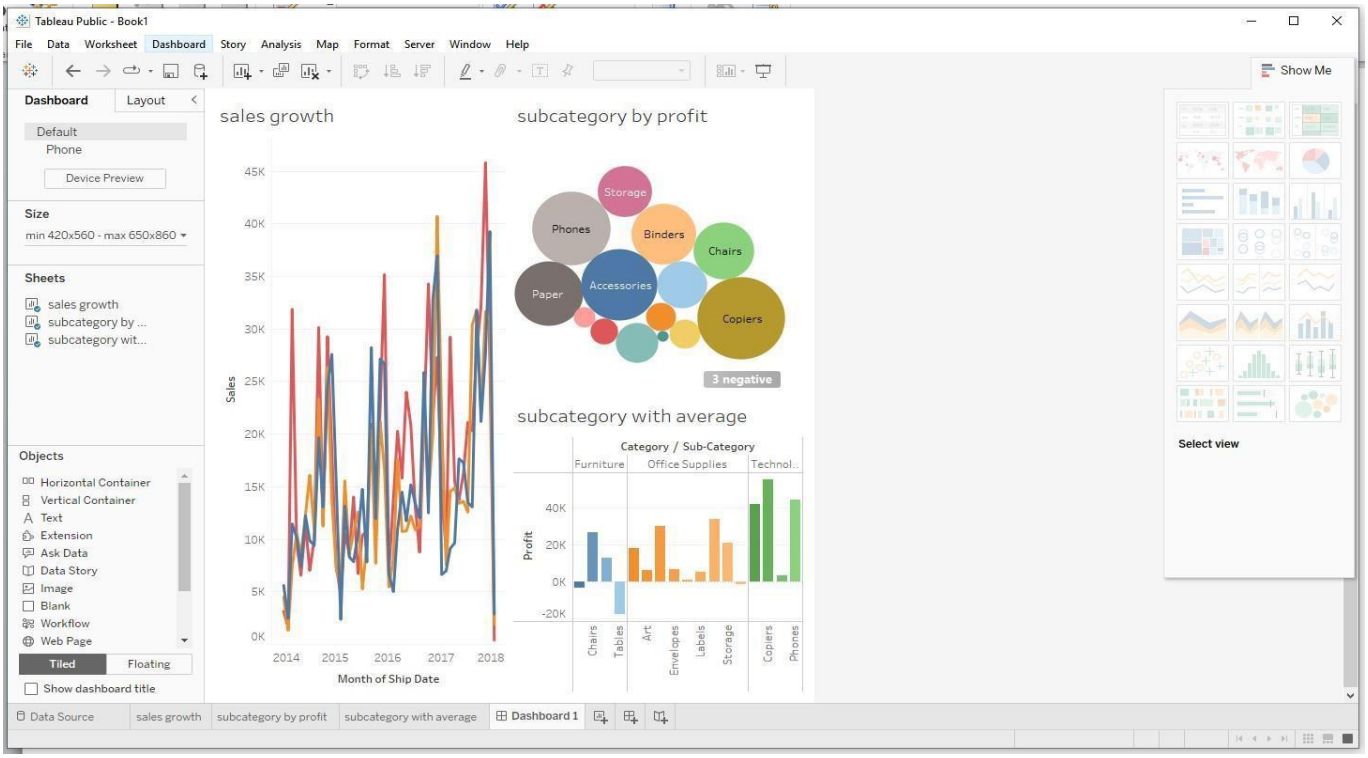



after clicking on new dashboard option, the screen is shown below.




now the sheets or views which are created earlier can be drag and dropped on this dashboard. The above three created views are placed in the dashboard as follows. One can follow their own way of importing sheets on the dashboard. After creating dashboard, title can be given to the dashboard from Dashboard tab. Dashboard

can be customized in terms of its appearance by the user if required. Dashboard once created can be saved on users system and can be retrieved whenever required.



# POWER BI

### What is Power BI?

Power BI is a business intelligence tool that allows you to connect to various data sources, visualize the data in reports and dashboards, and then share them with anyone you want.
Power BI is a Data Visualization and Business Intelligence tool that converts data from different data sources to interactive dashboards and BI reports.

### What is Power BI Used For

Power BI is a tool in the category of Business Intelligence (BI). The purpose of BI is to track Key Performance Indicators (KPIs) and uncover insights in business data so as to better inform decision-making across the organization.
Power BI is used in different ways depending on the role of the individual, from developers, analysts, managers, and directors, to everyone in between.

### How Does Power BI Compare to Other Tools Like Tableau and Excel?

Power BI and Tableau are both business intelligence tools and have a lot of overlap in terms of their capabilities. There are 2 key differences between Power BI and Tableau:

1. Power BI only works on Windows, whereas Tableau supports both Windows and MacOS.
2. Pricing options differ between Power BI and Tableau. However, Tableau is generally the more expensive option.

### Why Power BI?

**"DATA "  Analysis and Decision Making**

Organizations need a tool that can help them understand the large amount of data that they are collecting. It is a powerful data visualization and analysis tool that allows **businesses to turn raw data into actionable insights and reports.**

**Microsoft Power BI** comes with a **free** or **paid version**. The free version only provides Power BI tools like **Power BI Desktop** and **Power Q&A** to dashboards. Whereas, in the Pro version they provide services like **live report sharing**, **Power View**, and more Power BI apps.

### Key Differences Between Power BI and Tableau

| Power BI | Tableau |
|---|---|
| Power BI uses DAX for measuring and calculating columns. | Tableau deploys MDX for dimensions and measures. |
| Power BI is best for a limited volume of data. | Tableau can handle huge columns of data and still offer better performance. |
| Power BI offers many data points for data visualization. | Tableau has better data visualization. |