澳門大學
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Introduction to Tableau

CISC7204: DATA SCIENCE & VISUALIZATION

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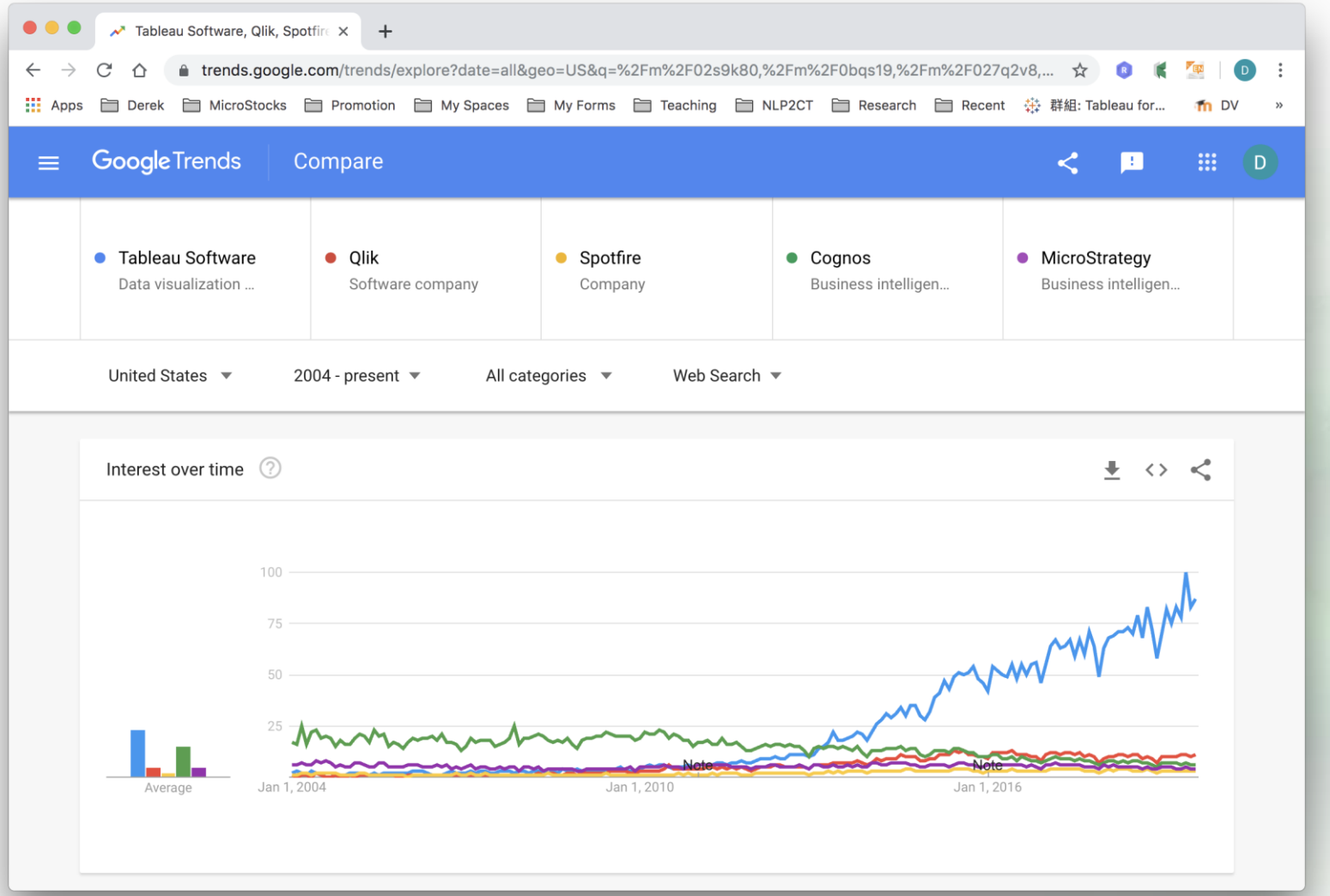
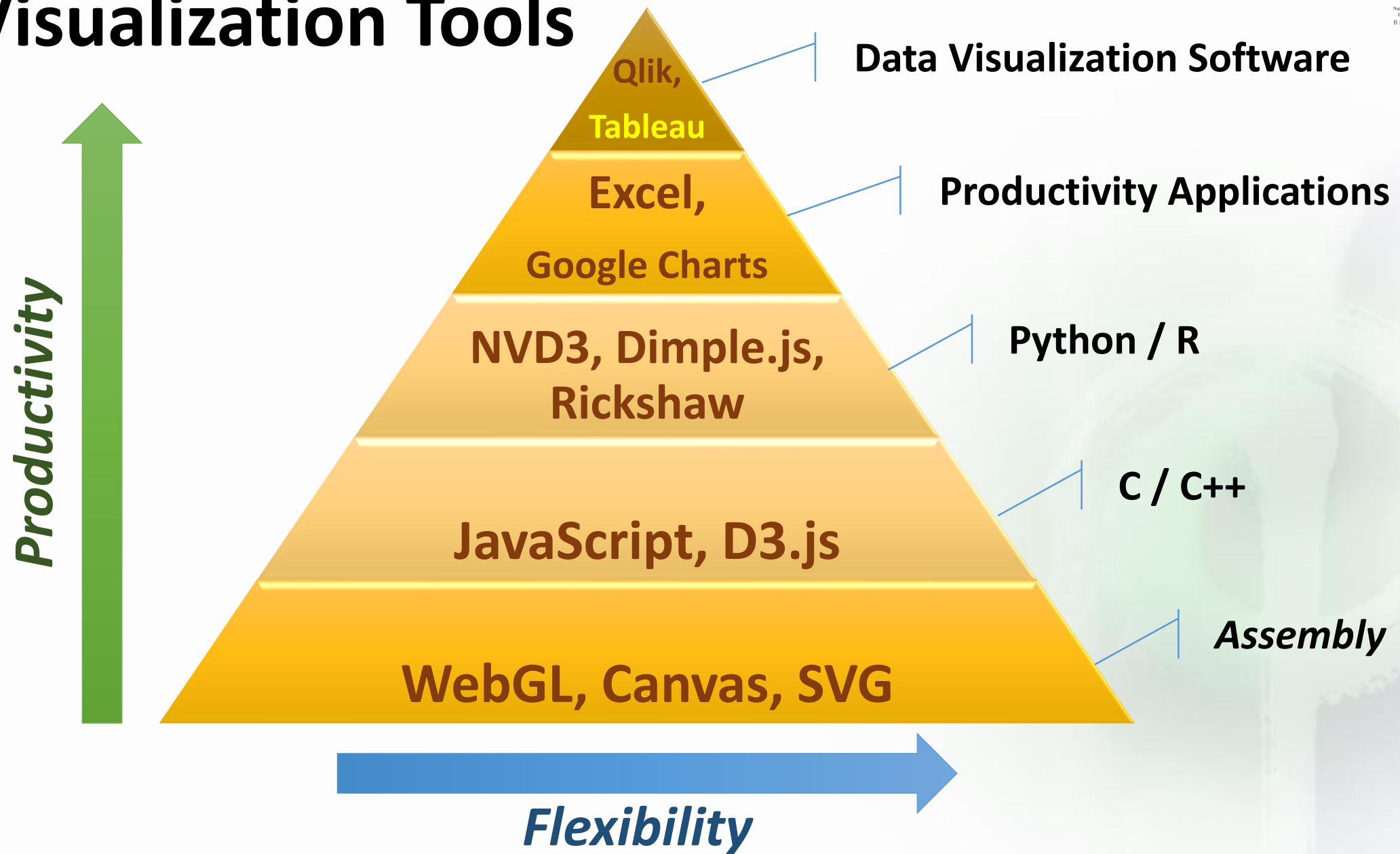
Tableau Software on Google Trends

Company Names



Visualization Tools



What is Tableau?

- Tableau is a business intelligence software
- It allows anyone to connect to the respective data
- Visualizes and creates interactive, shareable dashboards

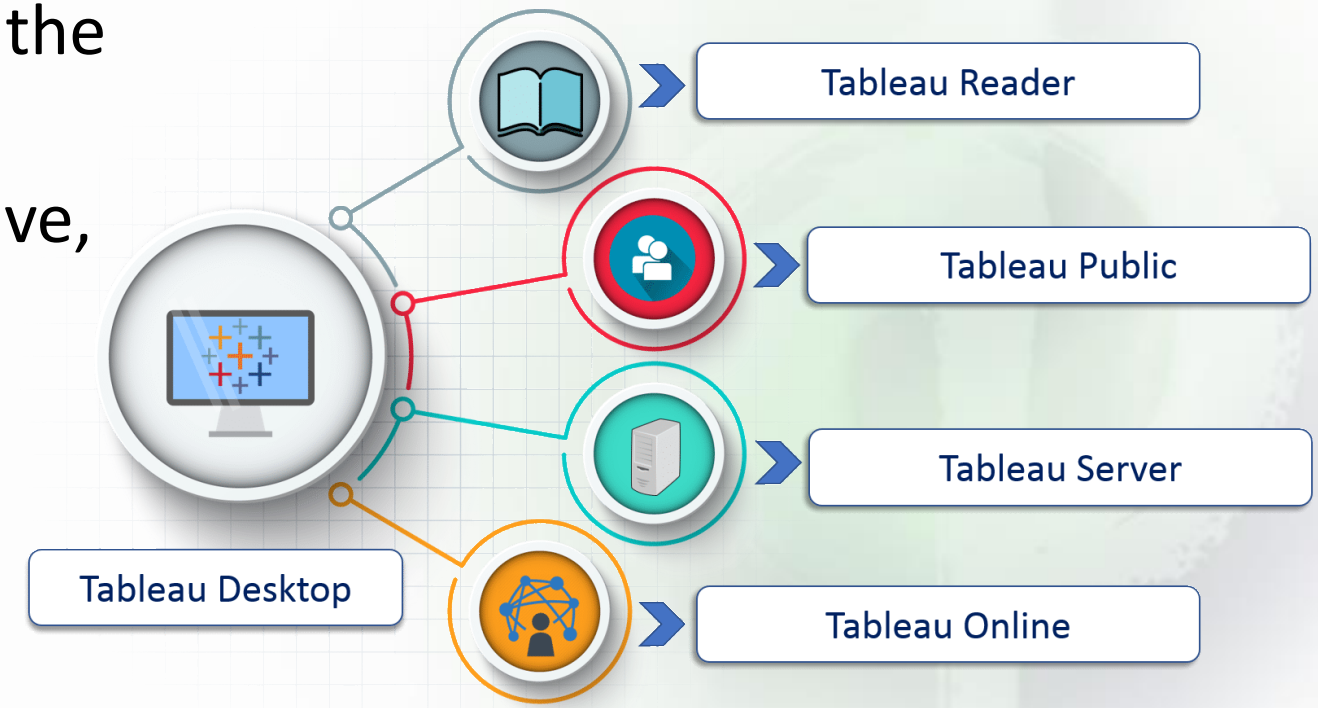


Tableau Product Family

Tableau Desktop is a *service business analytics and data visualization*

- *Translates pictures* of data into optimized *queries* (drag & drop)
- Connect to data from your data warehouse for *live up to date* data analysis
- Perform queries *without writing a single line of code*
- Provide with Tableau's *data engine*
- Allow an *interactive dashboard* to be *shared* among collaborators

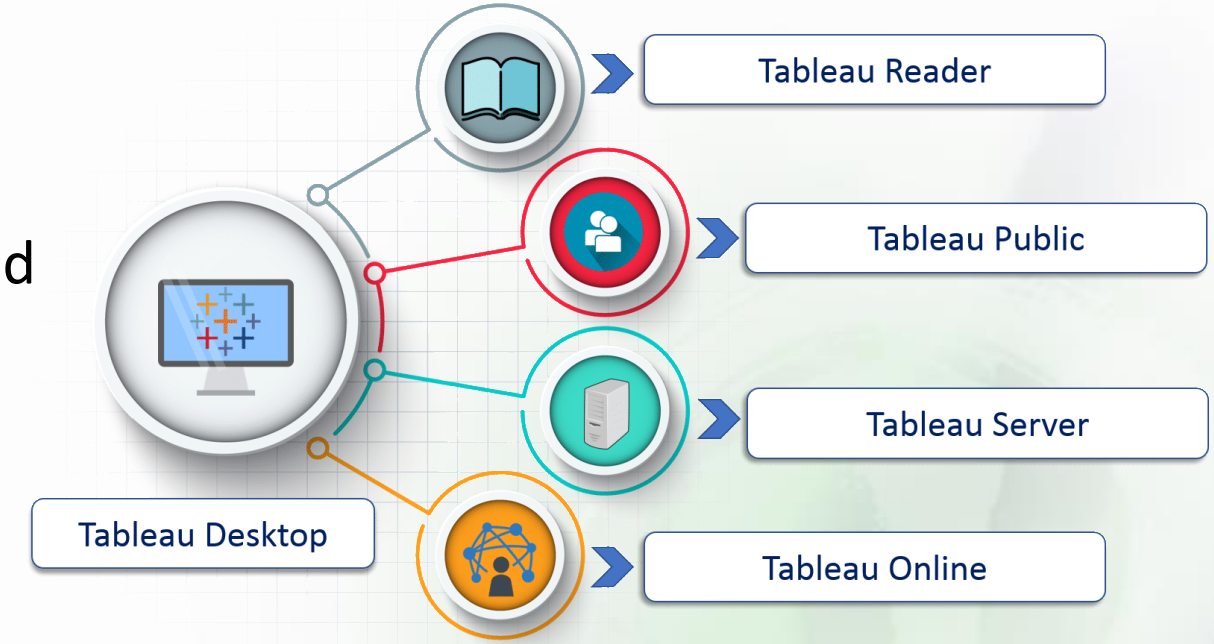


Tableau Product Family

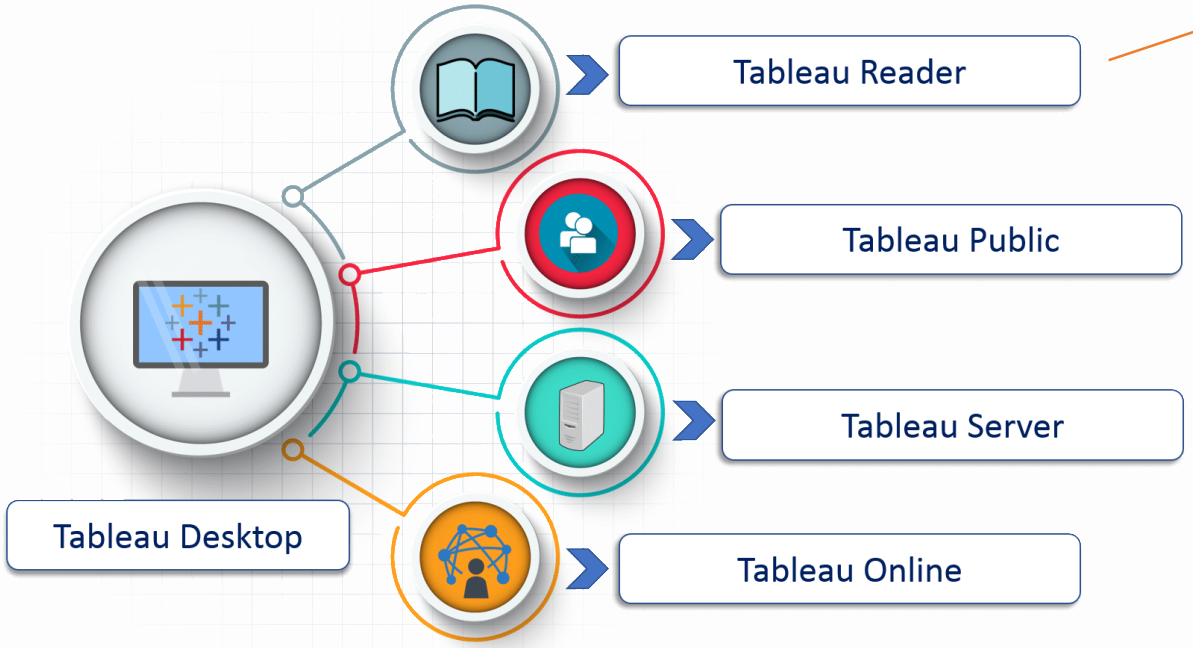


Tableau Reader enables you to *open* and *view visualizations* that are built in **Tableau Desktop**

You can *filter*, *drill down* data but you cannot edit or *perform* any kind of *interactions*

Tableau Product Family

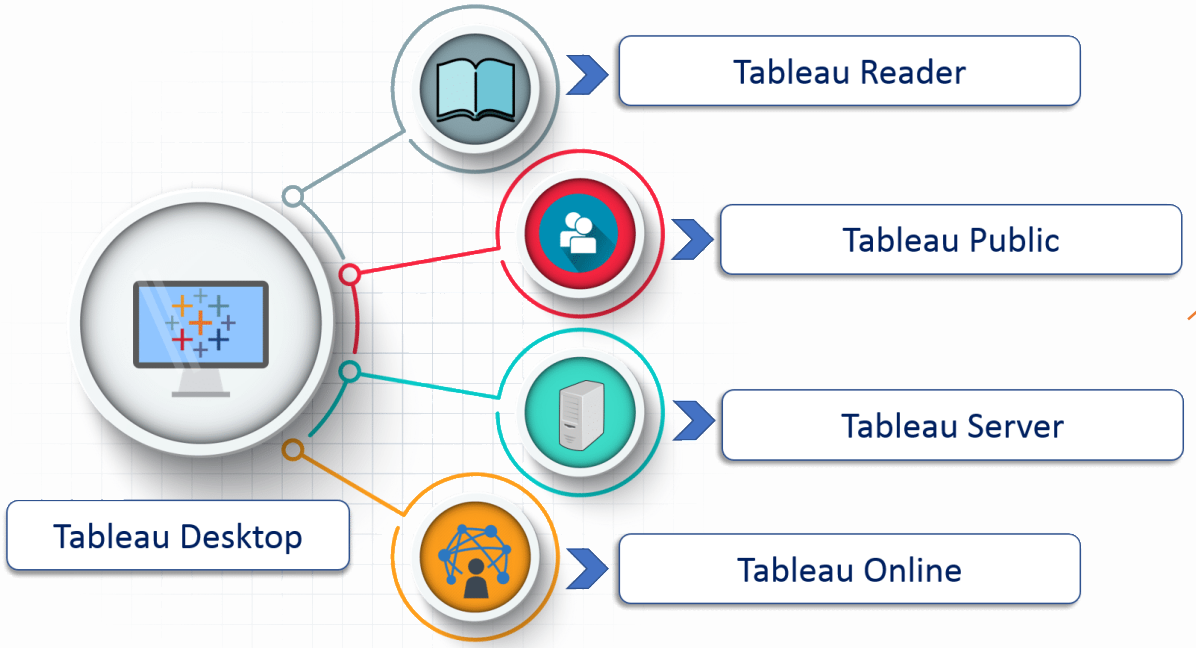


Tableau Server is an *enterprise* Tableau software

- Host in your *own hardware*
- *Publish dashboards* with Tableau Desktop
- Share throughout the *organization* with *web-based Tableau server*
- Fast databases through *live connections*

Tableau Product Family

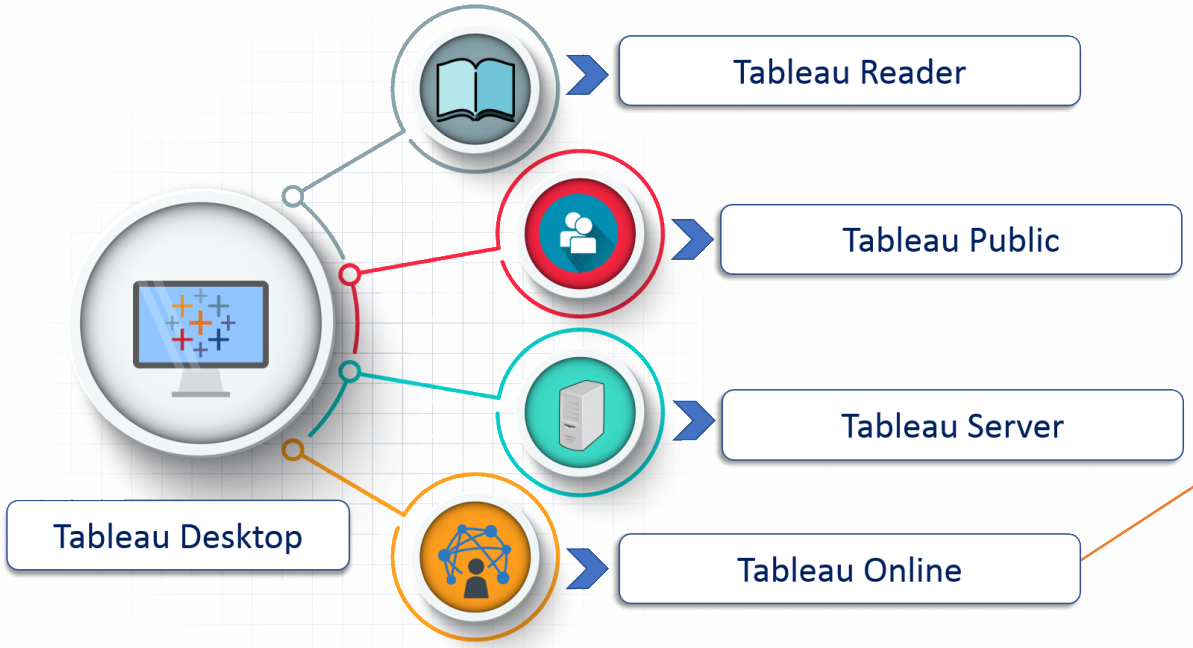


Tableau Online is similar to *Tableau Server*

- Hardware and systems *maintained by Tableau*, *outside of your firewall*

Tableau Product Family

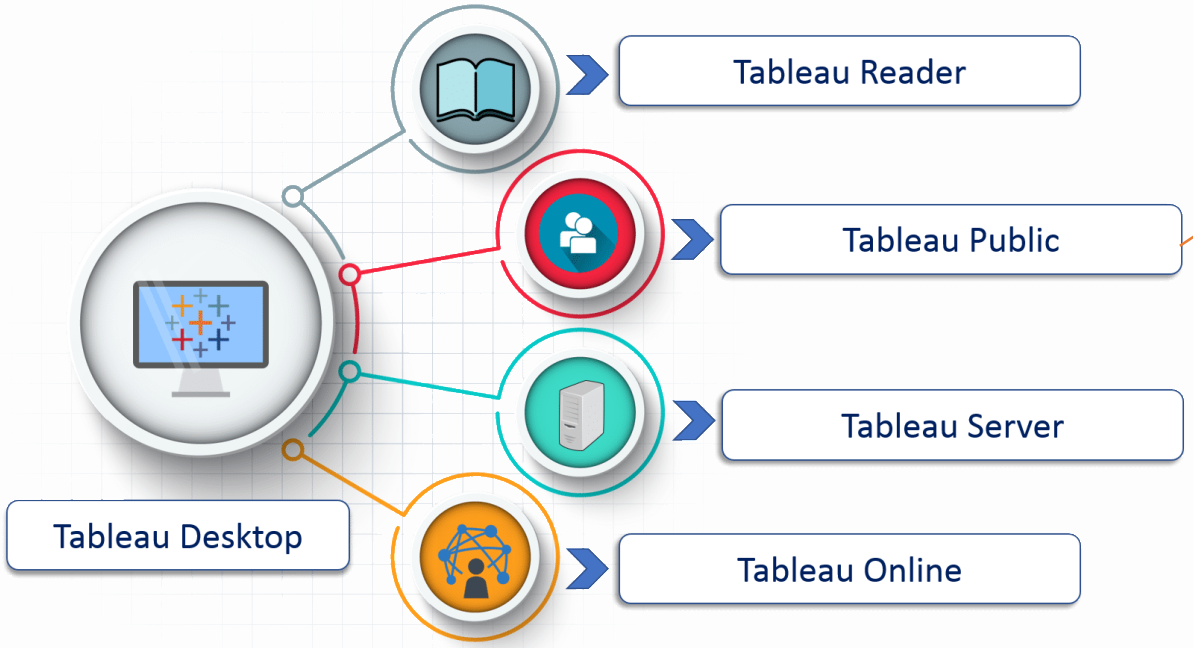


Tableau Pubic is *free* Tableau software

- *Produce* visualizations like Tableau Desktop
- Workbook or worksheets *can only be saved* in the *Tableau Server*, and
- *Viewed* by *anyone*

The Interface

Getting the Data

The *first step* in data science is to *get some data*

- Typically, data can be obtained in one of the following *four ways*:
  1. *Directly download a data file* (or files) manually
     - *Excel, text, JSON, XML, or other file formats*
  2. Query data from a *database*
     - *MySQL, Oracle DB, or other ODBC and JDBC data sources*
  3. Query an API (usually *web-based*, these days)
     - *Web Data Connector (WDC), Github, or other web resources with APIs (OAuth)*
  4. *Scrape* data from a webpage

Supported by ***Tableau***

Connecting to Data

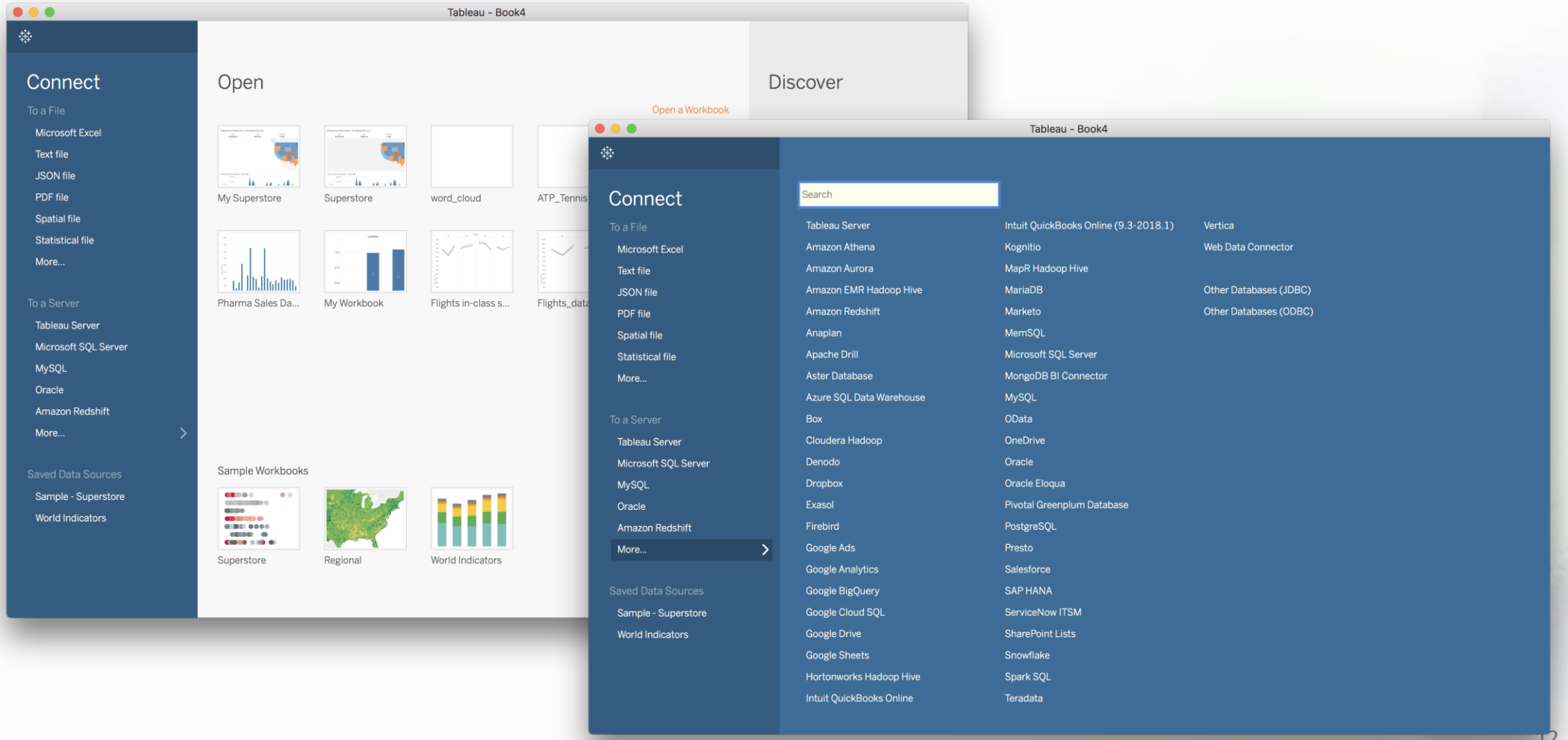


Tableau Interface

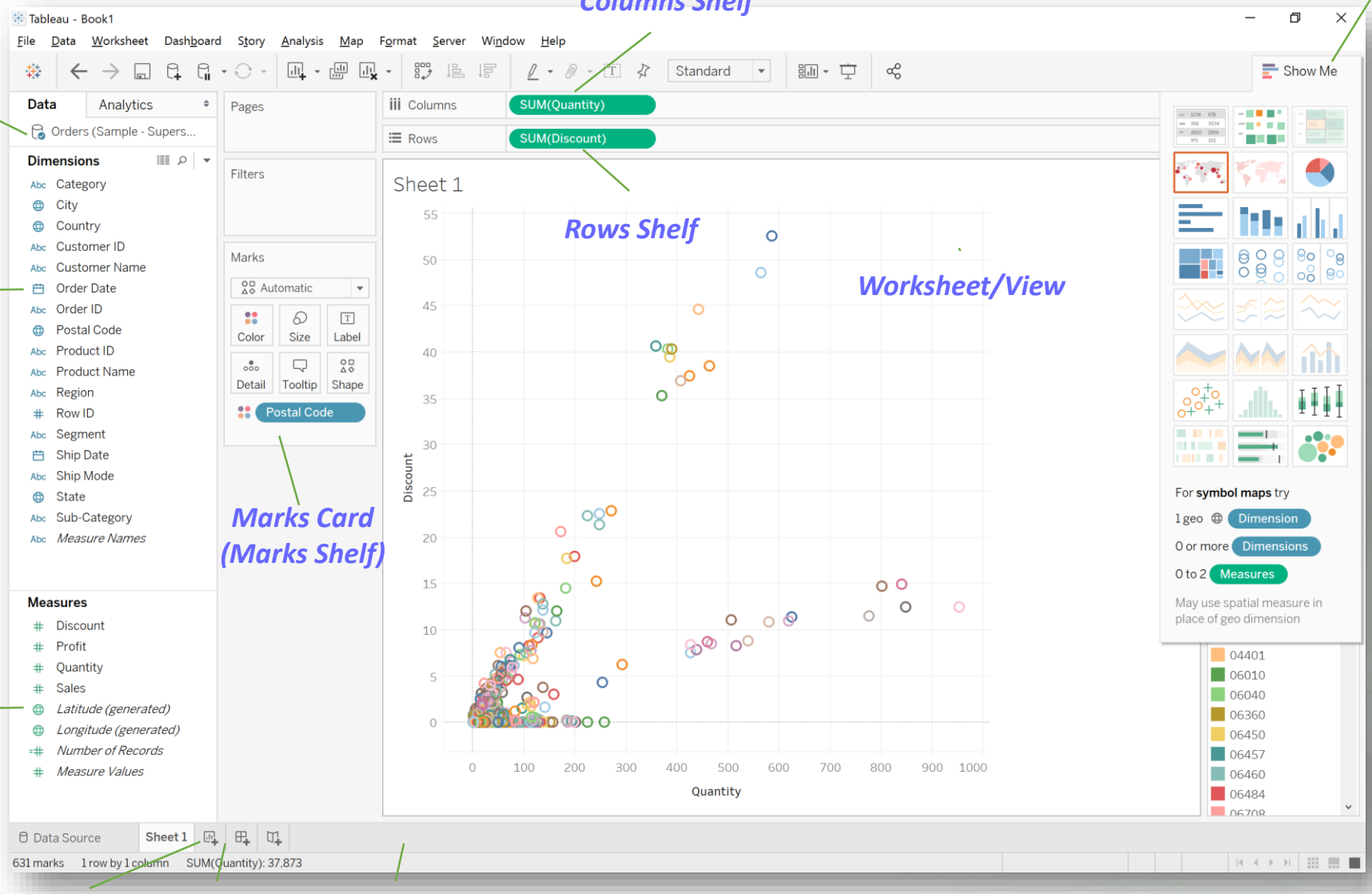


Tableau Worksheets

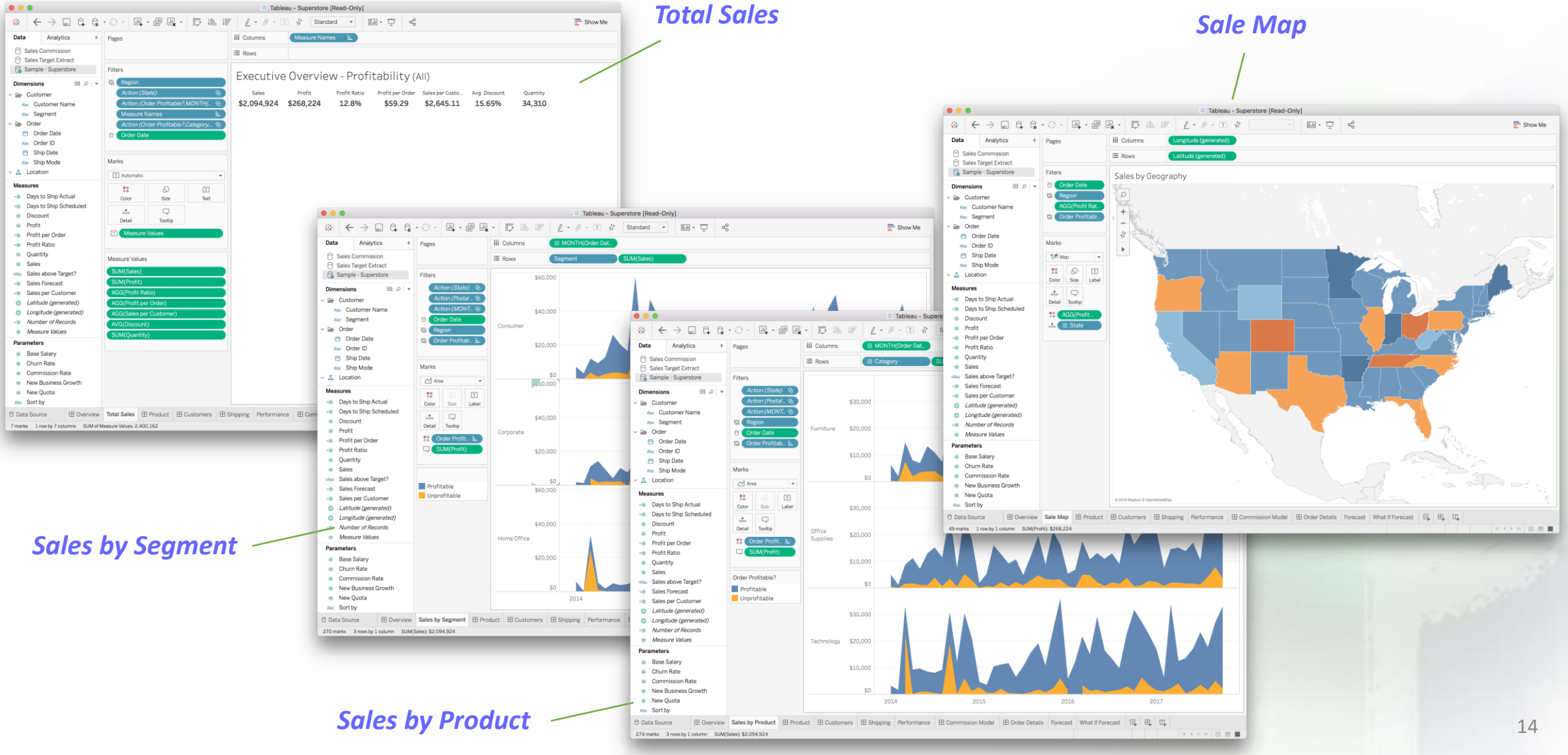


Tableau Dashboard

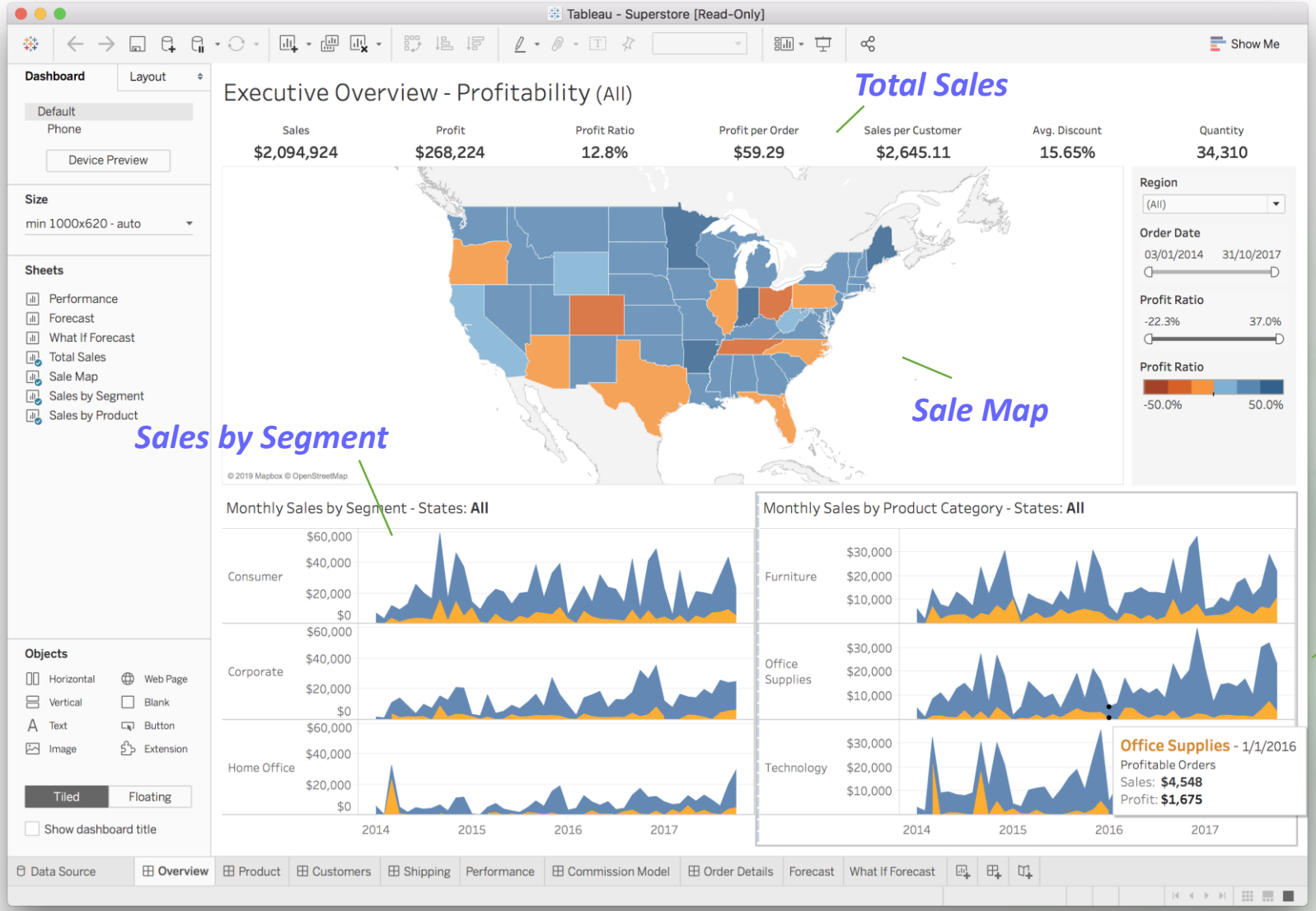
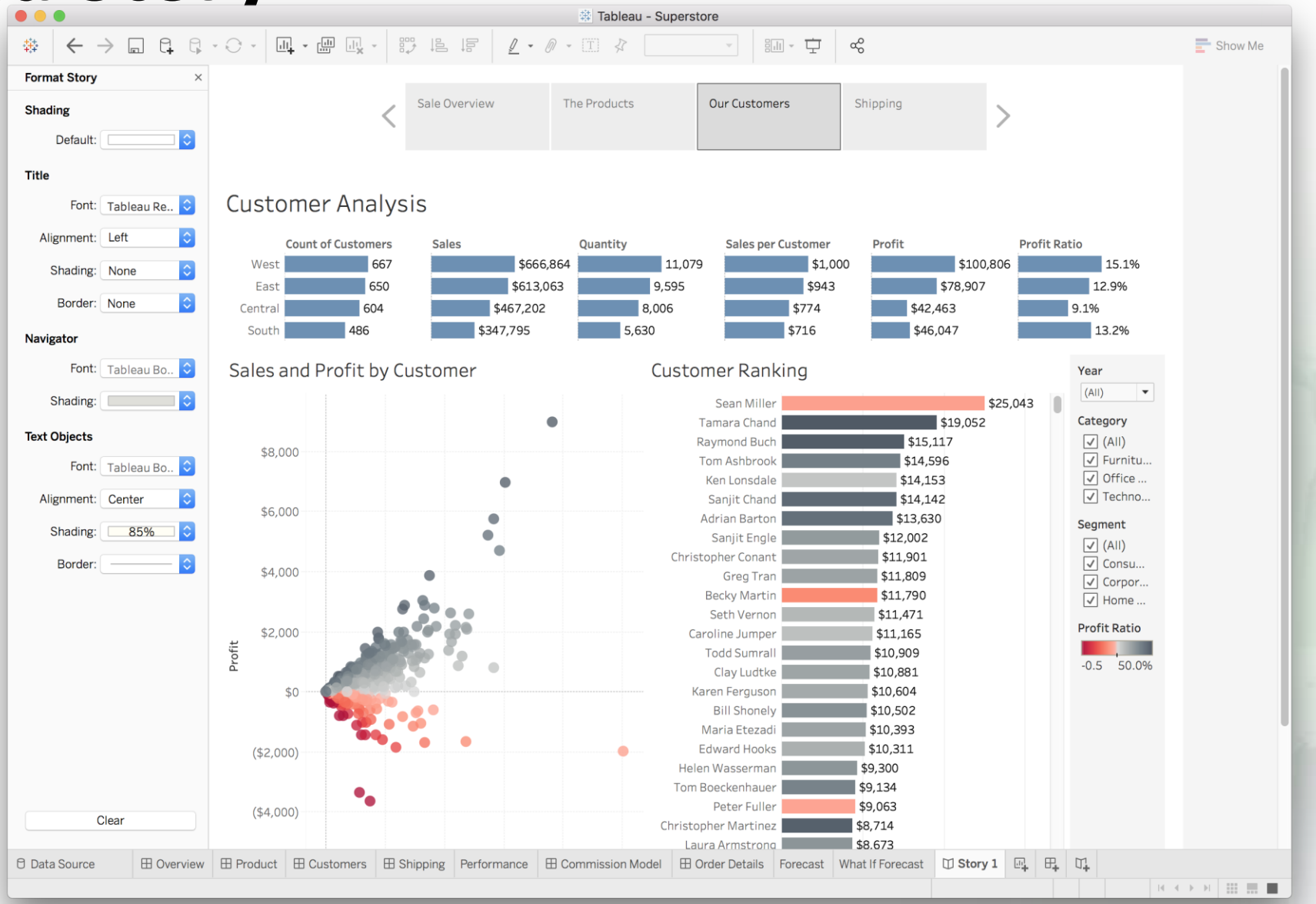


Tableau Story



A Simple Demo

Global Superstore

Attributes	Examples	
Customer ID	CA-120551	BD-116051
Customer Name	Cathy Armstrong	Brian Dahlen
Segment	Home Office	Consumer

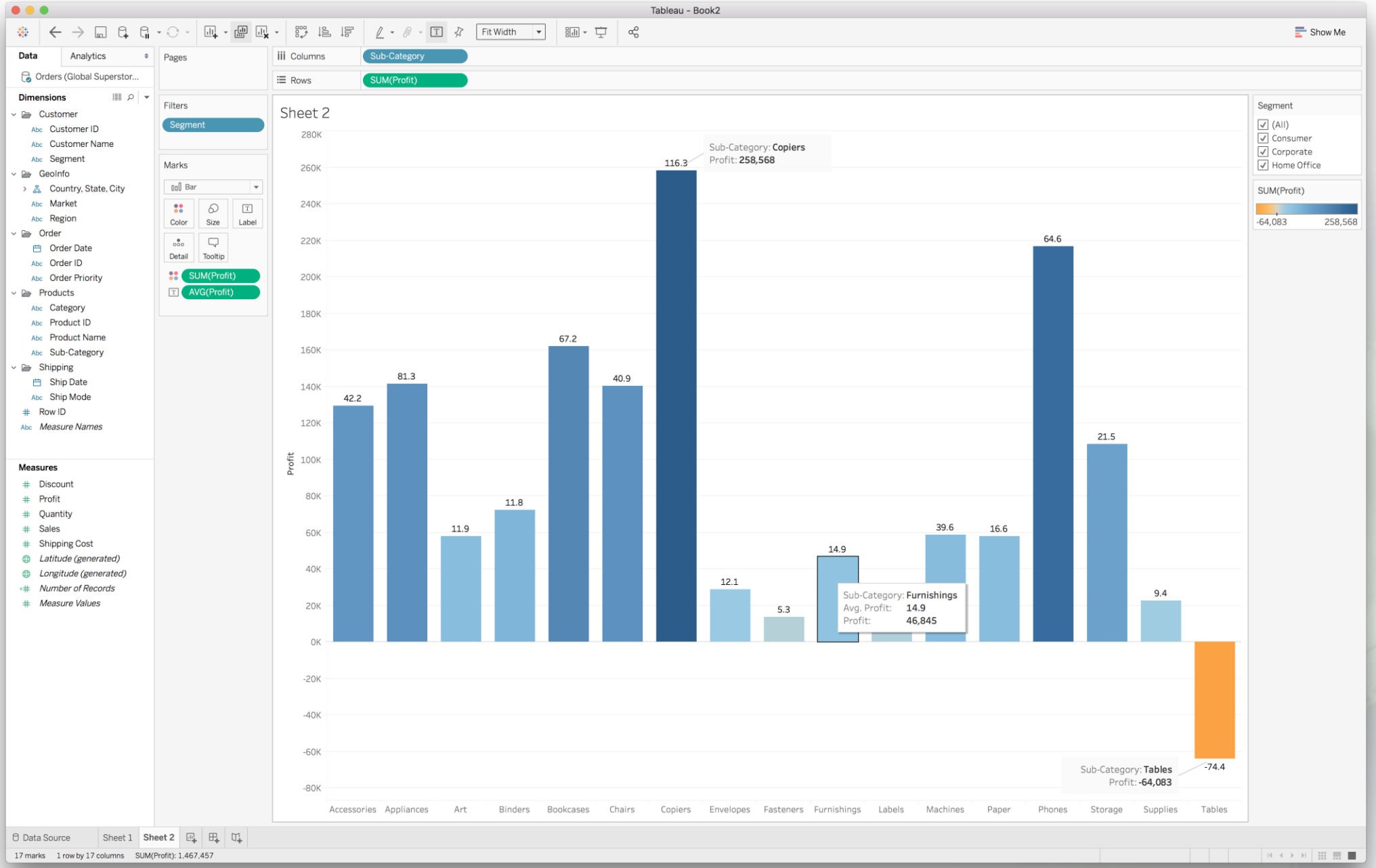
Attributes	Examples	
Row ID	24599	29465
Order ID	IN-2017-CA120551-42816	ID-2015-BD116051-42248
Order Date	22/03/2017	01/09/2015
Order Priority	Medium	Medium
Ship Date	29/03/2017	04/09/2015
Ship Mode	Standard Class	Second Class
Shipping Cost	39.66	18.72

Attributes	Examples	
Postal Code		
City	Herat	Herat
State	Hirat	Hirat
Country	Afghanistan	Afghanistan
Region	Southern Asia	Southern Asia
Market	Asia Pacific	Asia Pacific

Attributes	Examples	
Product ID	FUR-BO-4861	OFF-SU-2988
Product Name	Ikea Library with Doors, Mobile	Acme Scissors, Easy Grip
Sub-Category	Bookcases	Supplies
Category	Furniture	Office Supplies

Attributes	Examples	
Sales	731.82	243.54
Quantity	2	9
Discount	0	0
Profit	102.42	104.49

Show the profit of each sub-categories of sales



Show the profit by Regions