



Data Visualization with Power BI

Presented by Ari Sulistiyo Prabowo



Profile




Professional

- Marketing Data Analyst Manager – B2B Company (2021 – Present)
- Founder – Cultigo (2021 – Present)
- Senior Data Analyst – Kompas (2021)
- Data Scientist – Rukita (2020 – 2021)
- Research Assistant Analyst – Ensterna (2017 – 2019)



Ari Sulistiyo Prabowo

Connect with me

 <https://www.linkedin.com/in/ariprabowo/>

 <https://dataimpact.medium.com/>

 <https://github.com/densaiko>

What will you get today?

★ Fundamental of Data Visualization



★ Power BI and its Features

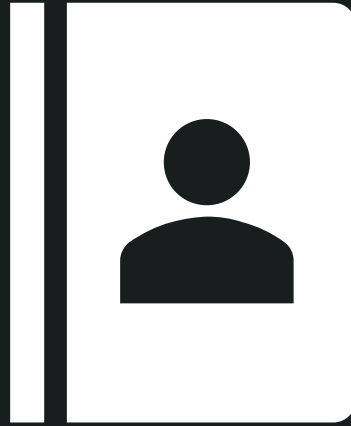


- Power BI Interface
- Power BI Connection
- Power Query Editor
- Data Modelling in Power BI

★ Case in Power BI

- Citi Bike NYC Information in Power BI

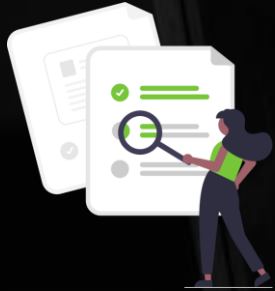




Fundamental of Data Visualization



Fundamental of Data Visualization



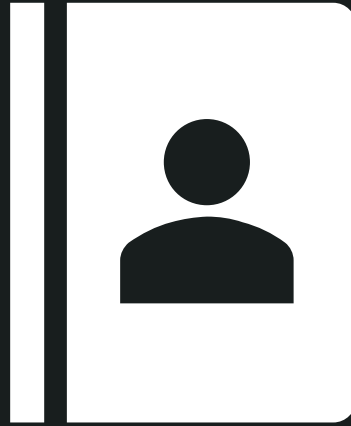
Exploratory

- The way you figure out and understand the data that **might be the interesting to highlight**



Explanatory

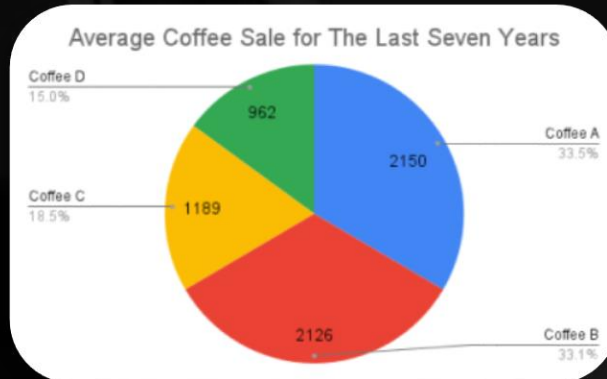
- You have found the interesting part and **ready to communicate with the story**



Data Exploratory

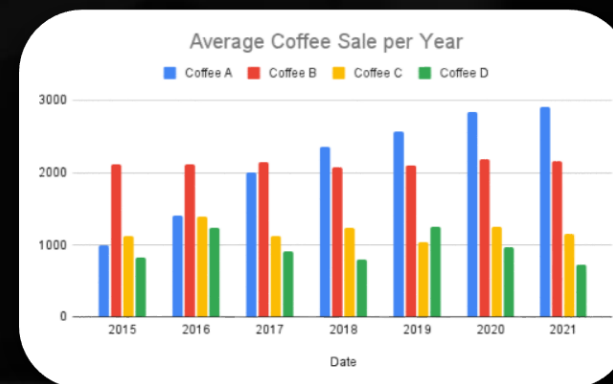


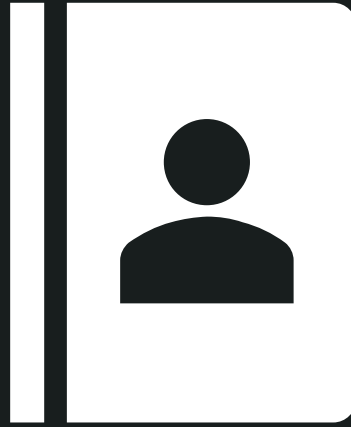
Data Exploratory



You have found that Coffee A and Coffee B have a good performance of sale

An interesting part, the coffee A sale increase linearly





Data Explanatory



Data Explanatory



How to communicate your findings in the explanatory part?



1. Who is your audience?

Your audience has specific background (marketing, operational, sales). Narrowing your audience can make you resonate with what you want to share to them

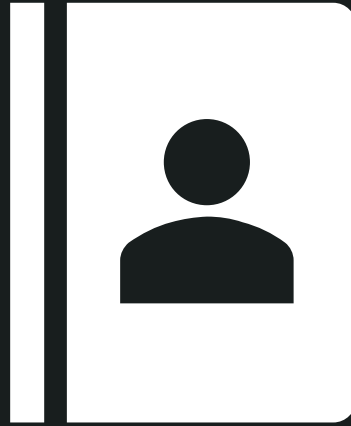
2. What do you need your audience should know?

By narrowing your audience, you can share your findings more comfortable that the information are truly needed

3. How the data help the audiences on their problems?

At this part, your data is the evidence to support the audience to do the next for the strategy in their division

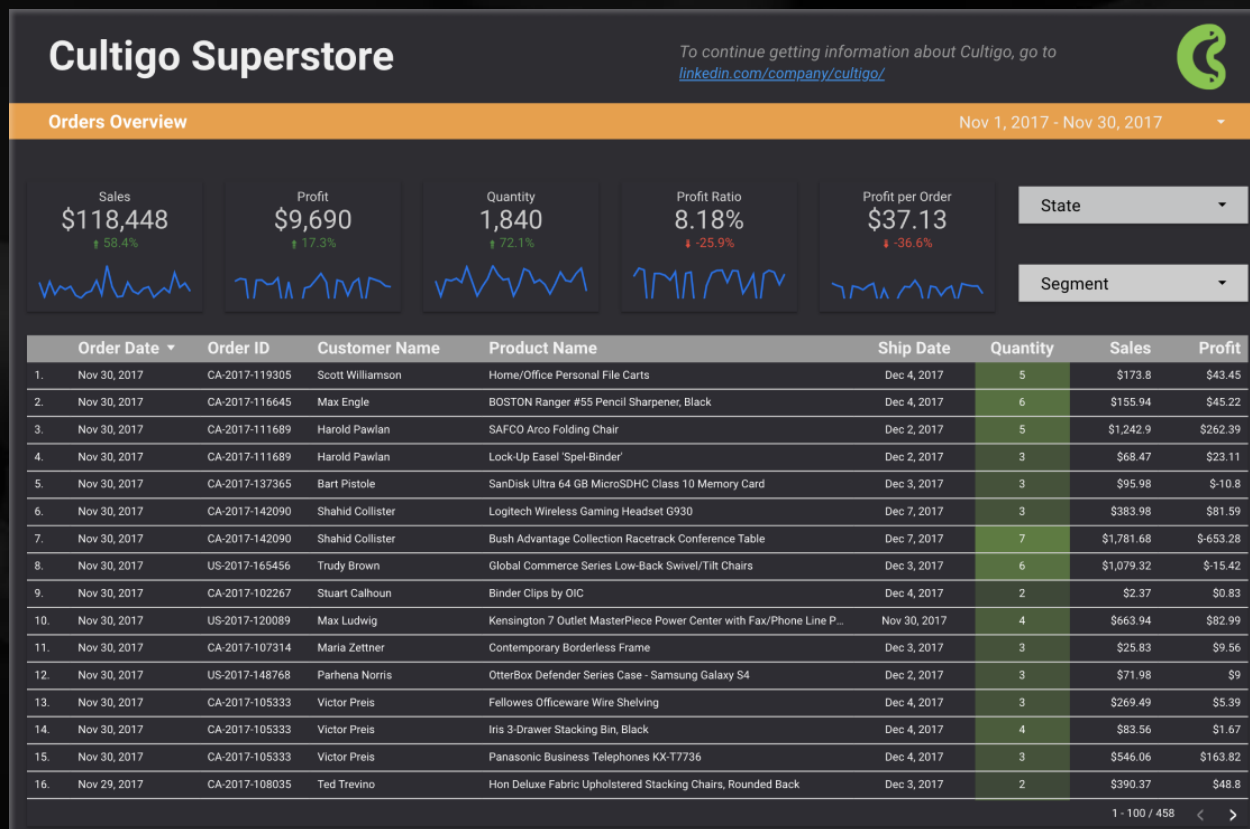
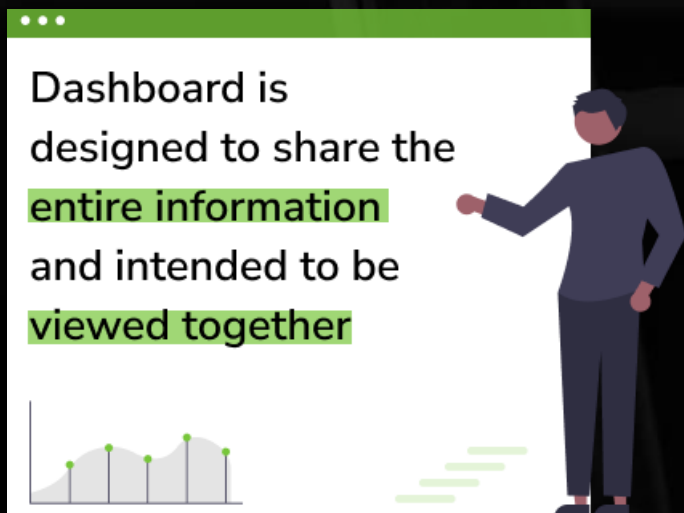
Further sources: A Starter of Chart Suggestion



Dashboard & Report



Dashboard



Example of Dashboard



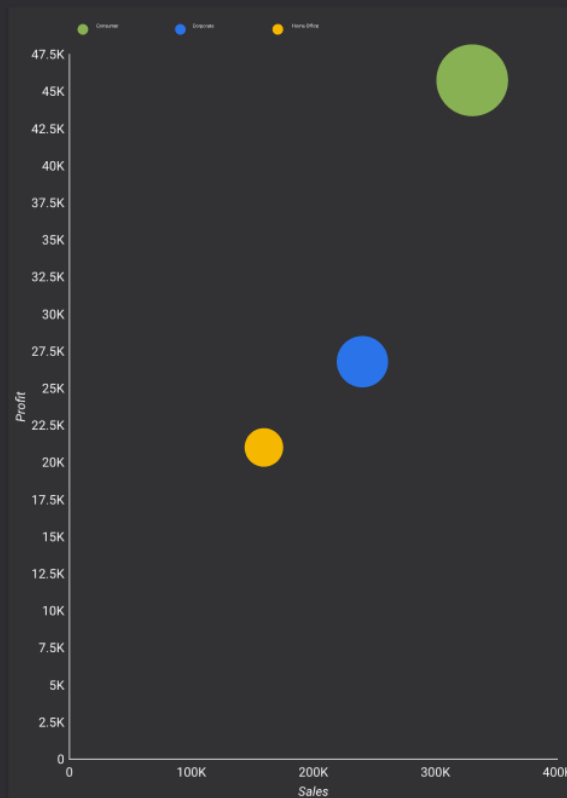
Report

Report contains much **more detail** information and is usually used **periodically**



2018 Sales & Profit in Cultigo Superstore

Segment **consumers** are performed well due to the **new product** launched and **have a positive feedback** from customer



Top 7 States in the Consumer segment

California has a winning campaign called "**Black and White**" that boost the sales of Cultigo's product



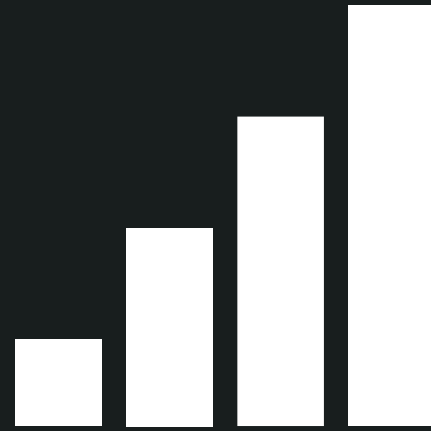
Top 10 Products in California in the Consumer segment

Most of the products with the high profit is in **Office Supplies** and it is dominated around **63%** of total profit

	Product Name	Category	Profit
1.	GBC DocuBind 200 Manual Binding Machine	Office Supplies	\$884
2.	GBC ProClick 150 Presentation Binding System	Office Supplies	\$683
3.	Razer Tiamat Over Ear 7.1 Surround Sound PC Gaming ...	Technology	\$602
4.	Acco 7-Outlet Masterpiece Power Center, Whltout Fax/...	Office Supplies	\$584
5.	Imation Bio 2GB USB Flash Drive Imation Corp	Technology	\$441
6.	Sharp AL-1530CS Digital Copier	Technology	\$435
7.	3.6 Cubic Foot Counter Height Office Refrigerator	Office Supplies	\$412
8.	GBC DocuBind TL200 Manual Binding Machine	Office Supplies	\$302
9.	Howard Miller 11-1/2' Diameter Brentwood Wall Clock	Furniture	\$254
10.	Adjustable Depth Letter/Legal Cart	Office Supplies	\$210

1 - 10 / 301

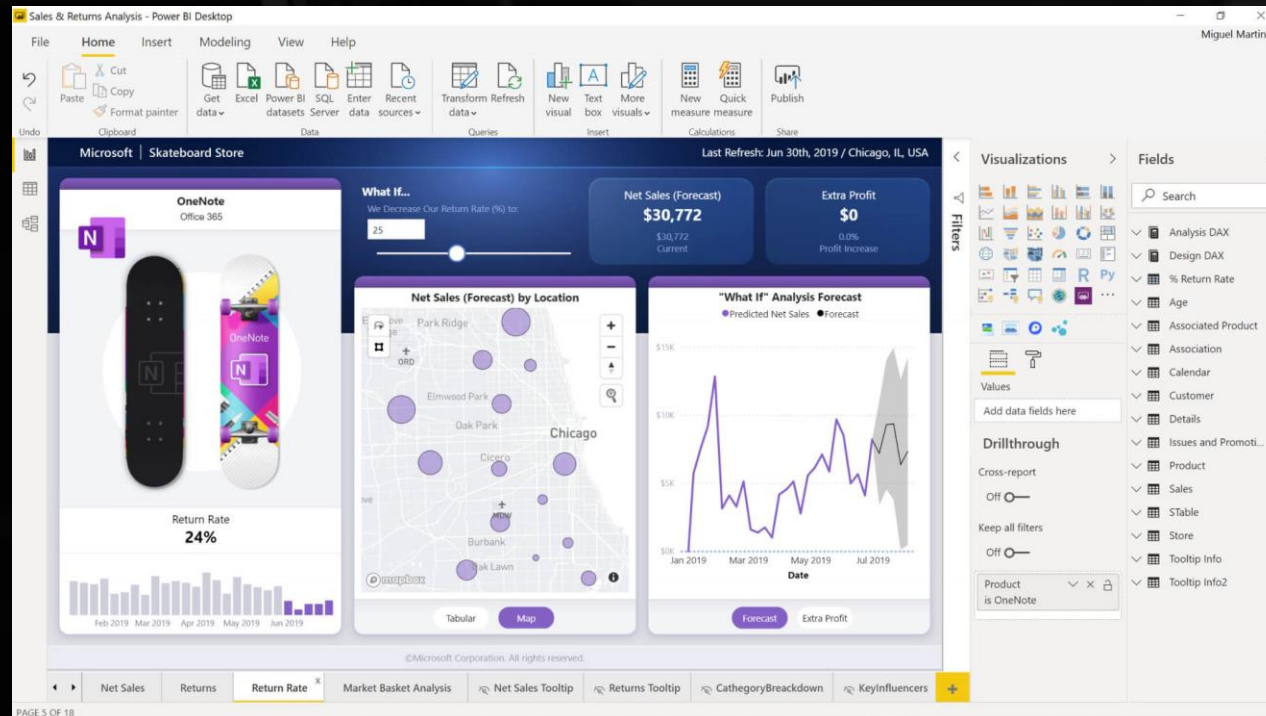
Example of Report



Power BI

Power BI

Power BI is an interactive business intelligence tools to **find an insight** and **communicate the findings** to the audience



source: powerbi.microsoft.com

Power BI & Its Feature



Power BI Connection



Understanding the **type of data sources** that can connect to Power BI



Connect to Google Sheet



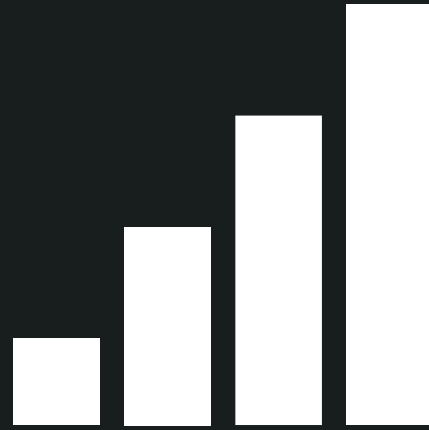
Step by step on **how to connect Google Sheet** to Power BI



Data Modelling

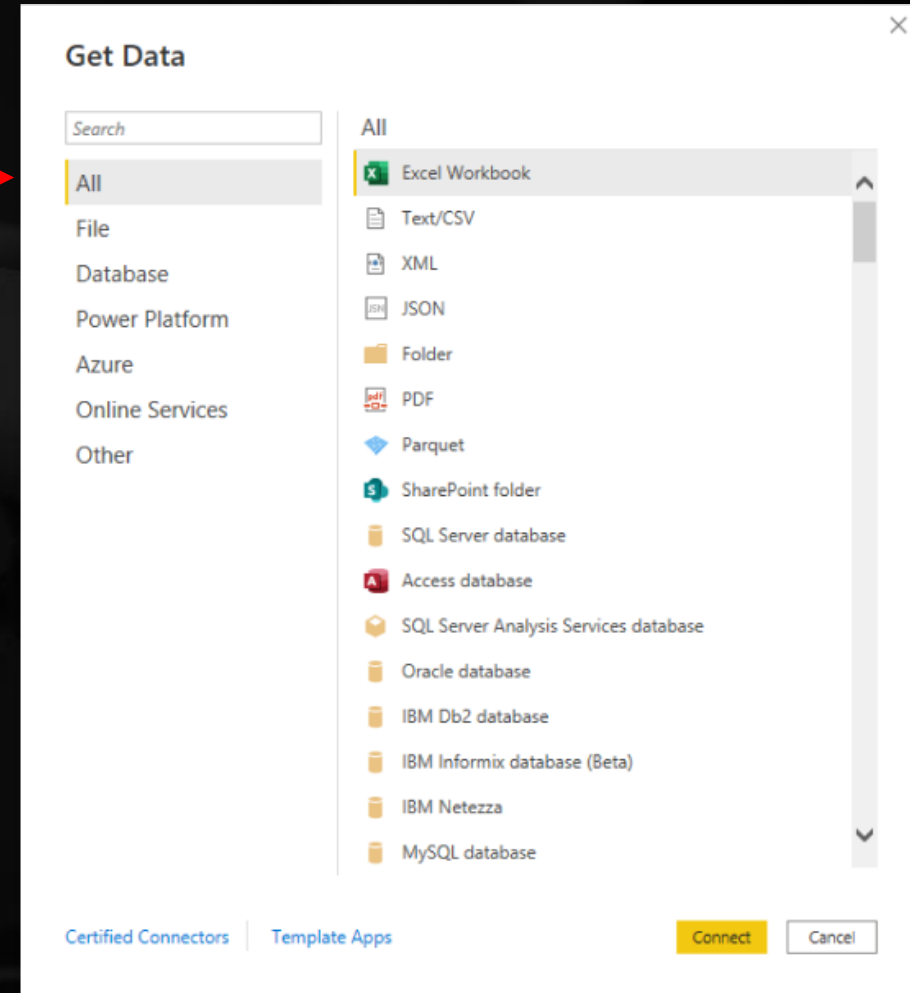
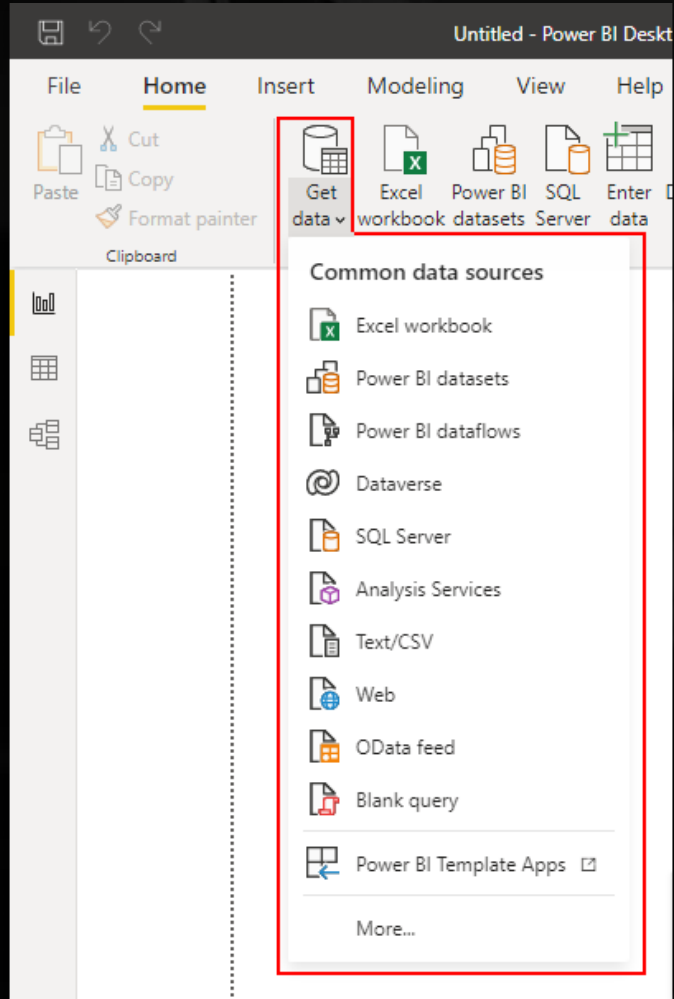


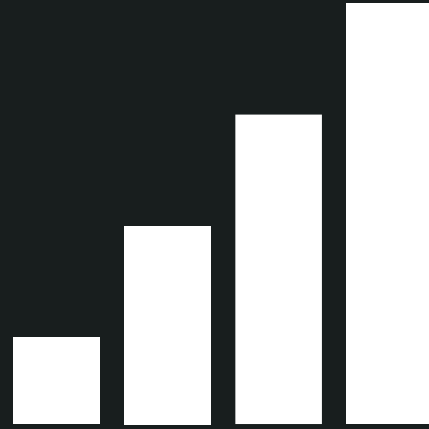
Understanding **data modelling** in Power BI



Type of Data Sources

Type of Data Sources





Connect to Google Sheet



Connect to Google Sheet



How to connect google sheet to Power BI?

In the google sheet

- share the documents to everyone as view
- click file --> share --> Publish to Web
- choose entire documents and webpage
- copy the link

Publish to the web

This document is published to the web.

Make your content visible to anyone by publishing it to the web. You can link to or embed your document. [Learn more](#)




Link

Embed

Entire Document

Web page

<https://docs.google.com/spreadsheets/d/e/2PACX-1vRvxi8ncRZu3PMa1l2qil>

Or share this link using:   

Note: Viewers may be able to access the underlying data for published charts. [Learn more](#)

Published

Published content & settings

Entire Document

Stop publishing

☒ Automatically republish when changes are made



Connect to Google Sheet



In the Power BI

- Get data --> Web
- Paste the link in the URL box
- Choose the table that contains all columns
- Transform Data

From Web

☒ Basic ☐ Advanced

URL

Navigator

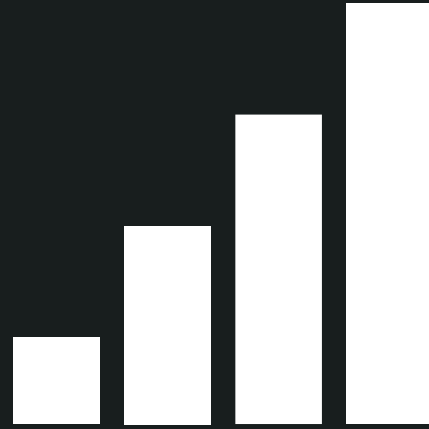
Display Options

- HTML Tables [1]
 - ☒ Table 1
- Suggested Tables [7]
 - ☐ Table 2
 - ☐ Table 3
 - ☐ Table 4
 - ☐ Table 5
 - ☐ Table 6
 - ☐ Table 7
 - ☐ Table 8
- Text [2]
 - ☐ HTML Code
 - ☐ Displayed Text

Table View Web View

Table 1

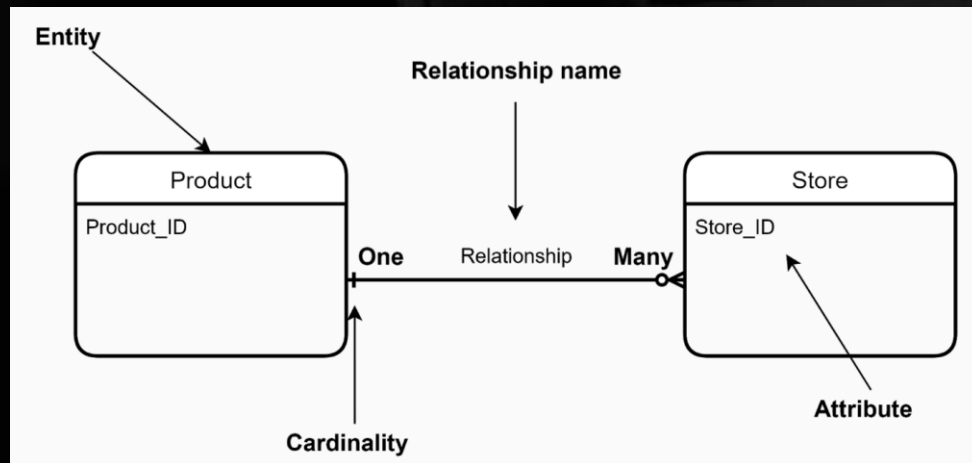
Column1	Column2	Column3	Column4	Column5
1	station_id	name	short_name	latitud
2	128	MacDougal St & Prince St	5687.04	40.7
3	224	Spruce St & Nassau St	5137.1	40.7
4	229	Great Jones St	5636.11	40.7
5	410	Suffolk St & Stanton St	5445.02	40.7
6	434	9 Ave & W 18 St	6190.08	40.7
7	447	8 Ave & W 52 St	6816.07	40.7
8	479	9 Ave & W 45 St	6717.06	40.7
9	3050	Putnam Ave & Throop Ave	4392.04	40.6
10	3165	Central Park West & W 72 St	7141.07	40.7
11	3260	Mercer St & Bleecker St	5679.05	40.7
12	3294	E 91 St & Park Ave	7344.05	40.7
13	3457	E 58 St & Madison Ave	6839.04	40.7
14	3481	York St	JC096	40.7
15	3490	E 116 St & 2 Ave	7563.06	40.7
16	3647	48 Ave & 30 Pl	6076.01	40.7
17	3678	Fairmount Ave	JC093	40.7
18	3798	W 40 St & 5 Ave	6474.02	40.7
19	3869	Van Buren St & Broadway	4568.01	40.6
20	3938	E 133 St & Cypress Pl	7642.04	40.8



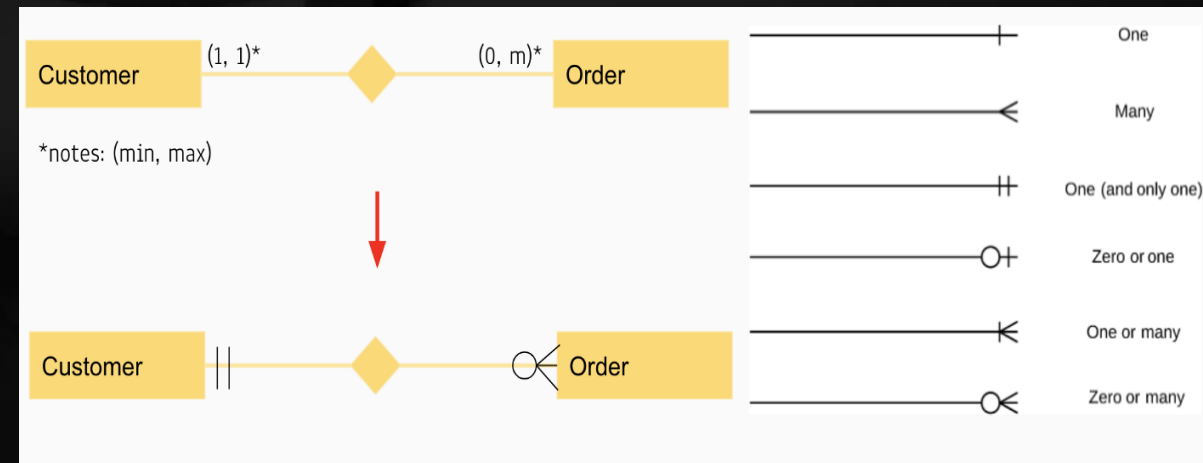
Entity Relationship Diagram

Entity Relationship Diagram

represents a crow's foot at the connector's end on how many instances of **one** entity relate to one instance in one entity.



Further information: dataimpact.medium.com





Case in Power BI



Case in Power BI



Assuming, you are a consultant to work with **electric bike** in the downtown.

They need you:

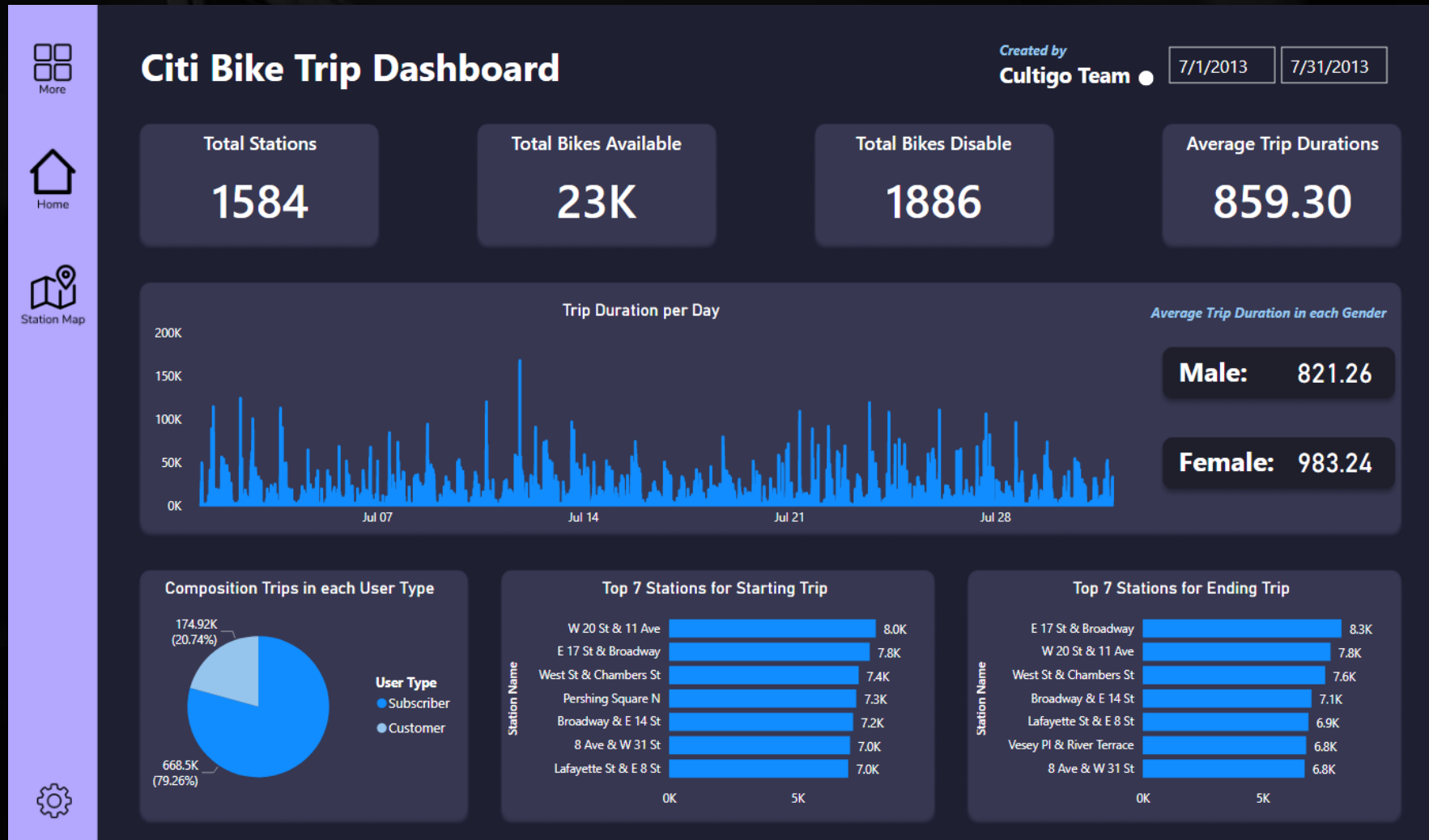
- Provide the overall data (total stations, bike availability, and trip durations)
- Provide top stations by the trips
Which user mostly use
- How is the current situation of user use the bike from starting station to ending station



Dataset : [Citibike NYC](#)

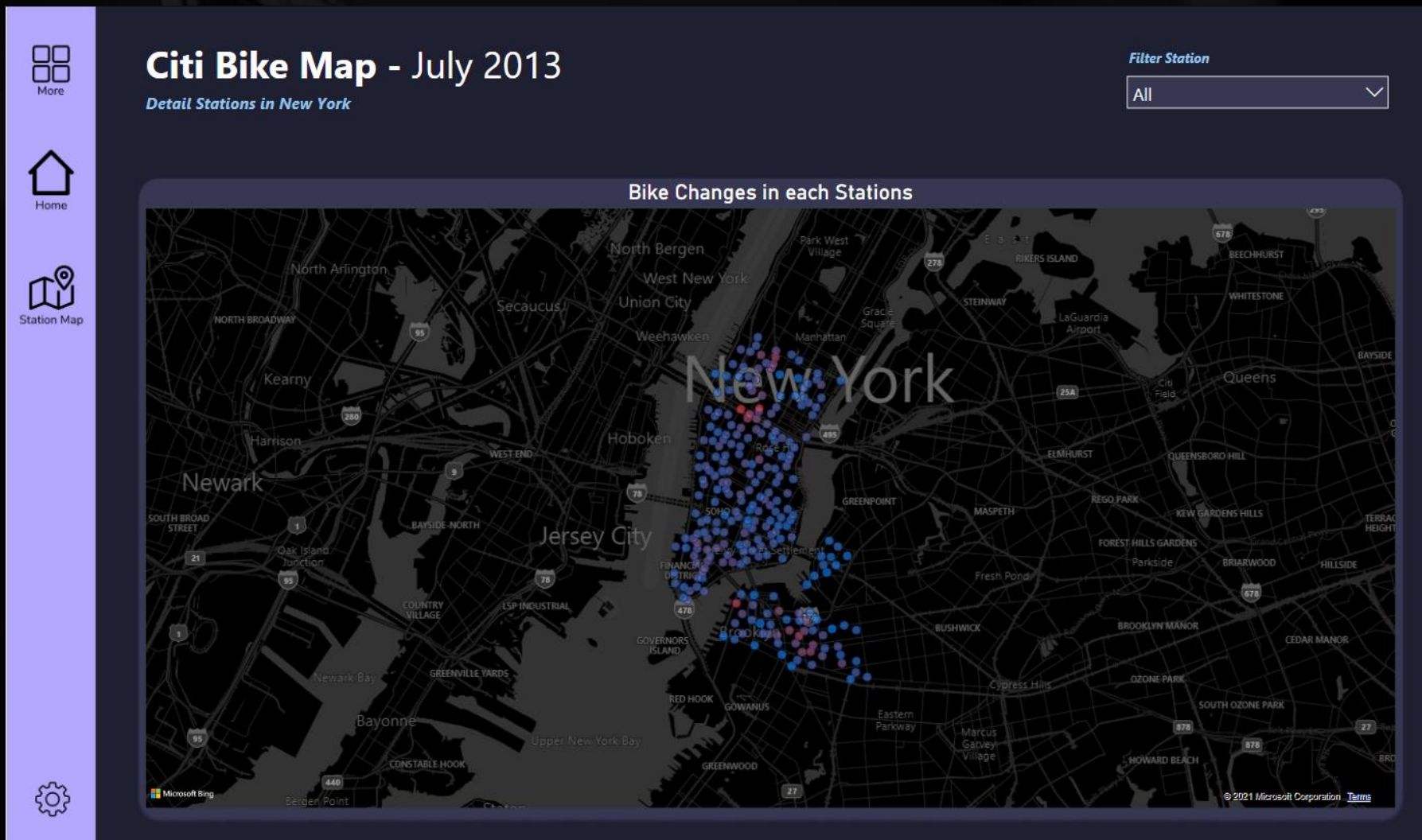


Dashboard in Power BI





Dashboard in Power BI





Thank You

Presented by Ari Sulistiyo Prabowo

