

# Microsoft Power BI for Data Analytics

Amnuay M.



# Agenda

About me

About you your goals

Get to know DATA

Data analytics

MSoft Power BI Desktop Demo

Analytics more on theory

Dashboard

Q&A



# Amnuay M.

B.Acc, UTCC (2020) Online#14

X-MBA, Rangsit U. (2010)

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Head of Back-end Solutions

Technology function

FWD Insurance Plc.

23 yrs of experience from

Technical engineer → IT Practical  
strategic management

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# About you About goals,

## SHORT TERM GOALS

- What to complete within 1-2 years



## MID TERM GOALS

- What to complete within 5-10 years



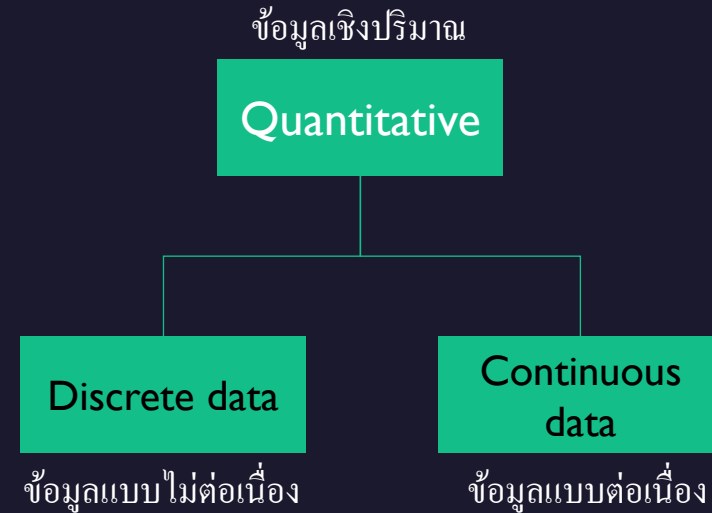
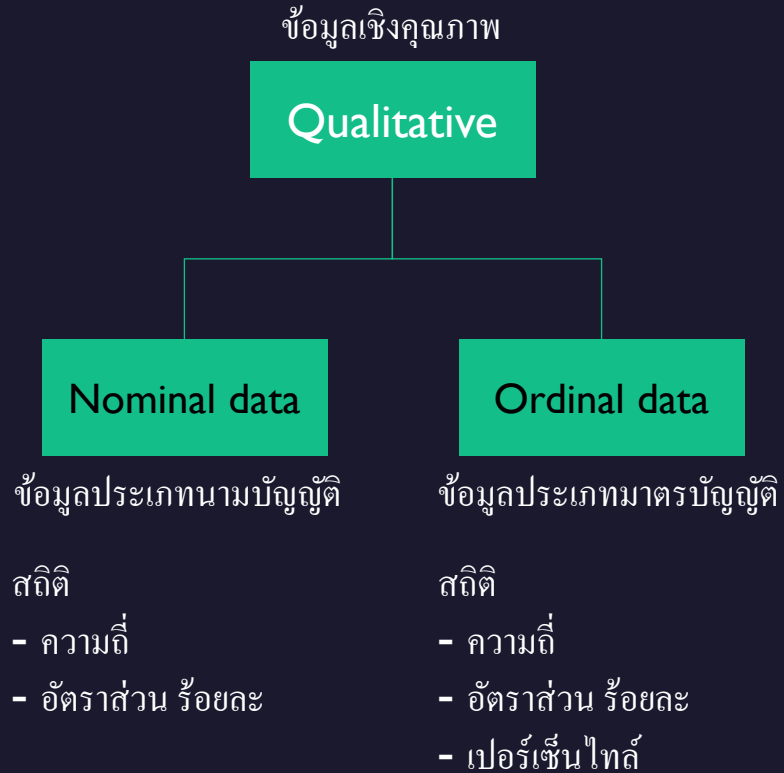
## LONG TERM GOALS

- What to achieve in life



# Get to know DATA

# Type of data



Structure data

Unstructured data

Transactional data

Master data

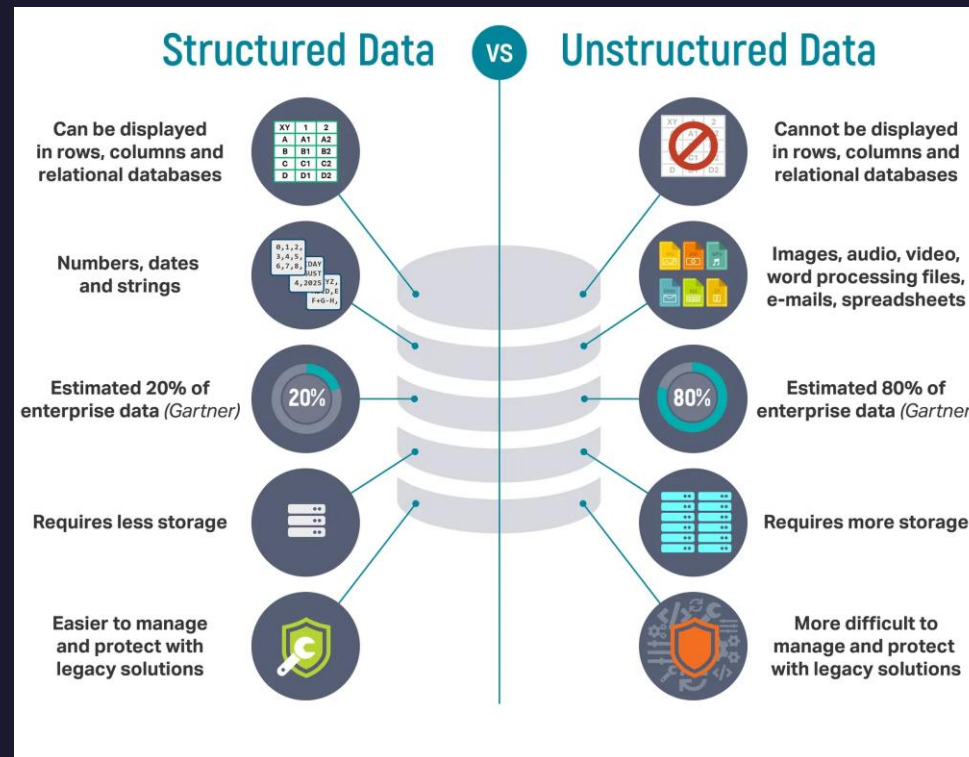
Reference data

Meta data

# Type of data

Structure data

Unstructured data



Reference data

Master data

Transactional data

Report data

Meta data

More resources

[Semarchy.com](https://semarchy.com)

[Unstructure data on Wikipedia](https://en.wikipedia.org/wiki/Unstructured_data)

[Bigdata on Wikipedia](https://en.wikipedia.org/wiki/Bigdata)

More resources

[Lawtomed.com](https://lawtomed.com)

# Data and Information

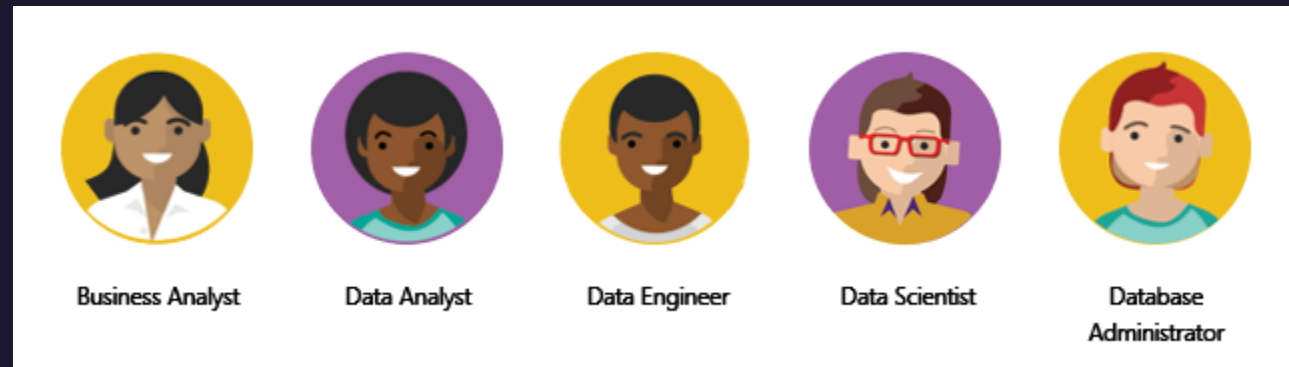


# Data analytics

# Data analytics

While the process of data analysis focuses on the tasks of cleaning, modeling, and visualizing data, the concept of data analysis and its importance to business should not be understated. To analyze data, core components of analytics are divided into the following categories:

- Descriptive analytics – Describe and summary data suite for KPI, reports, summary
- Diagnostic analytics – Identify anomalies in the data, Collect data that's related to these anomalies and explain trends
- Predictive analytics – Predict future from historical data to determine the likelihood.
- Prescriptive analytics – Help answer questions about which actions should be taken to achieve a goal or target
- Cognitive analytics – Attempt to draw inferences from existing data and pattern. Predict future inference with self-learning feedback



- Source: [DataHub Facebook](#)

# 5 ขั้นตอนการทำ Data Analytic

โดย Google

DataHub

1

## กำหนดคำถาม

ตั้งคำถามกับสิ่งที่เกิดขึ้น เช่น  
ทำไมลูกค้าน้อยลง, จะหาลูกค้าเพิ่ม  
ได้อย่างไร หรือ ทำอย่างไรให้  
ต้นทุนลดลง

2

## เก็บรวบรวมข้อมูล

เก็บข้อมูลต่างๆ เช่น ตัวเลขจาก  
ยอดขาย, ต้นทุนการผลิต, การซื้อ  
ขายของลูกค้า รวมไปถึงการรีวิว  
ต่างๆ ที่มี

3

## จัดระเบียบข้อมูล

นำข้อมูลที่ได้มาจัดให้เป็นระเบียบ  
แยกหมวดหมู่ให้ชัดเจนแยกข้อมูล  
ว่าอันไหนที่สำคัญมาก อันไหนที่  
ไม่สำคัญโดยอาจจะใส่รายละเอียด  
ไว้บน Google Sheet

4

## วิเคราะห์ข้อมูล

นำข้อมูลทั้งหมดมาวิเคราะห์ เมื่อ  
เราเห็นตัวเลขต่างๆแล้ว ช่วยให้  
เราสามารถดูแนวโน้ม หรือปัญหา  
ที่เกิดขึ้นได้

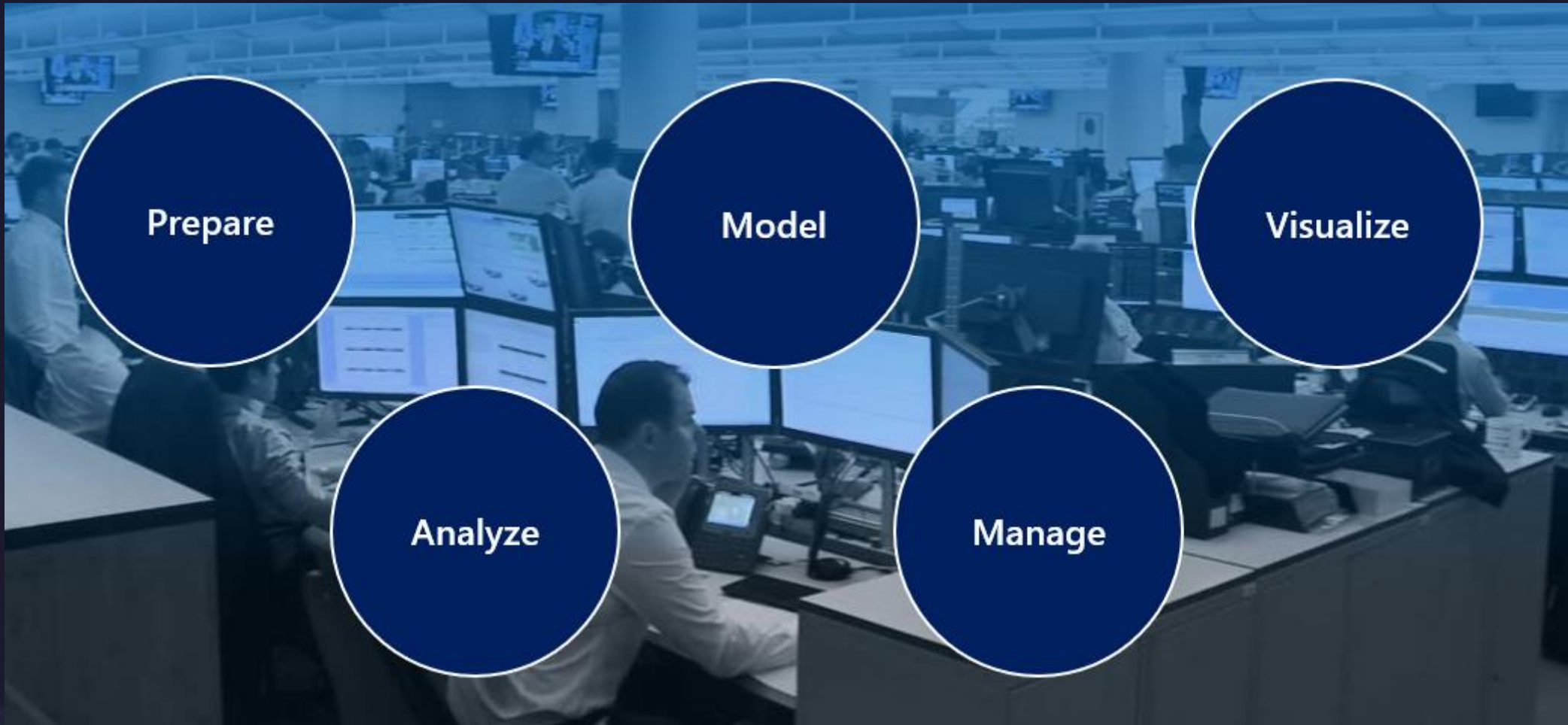
5

## ทำออกมาเป็นภาพ เพื่อนำไปแชร์กับทีม

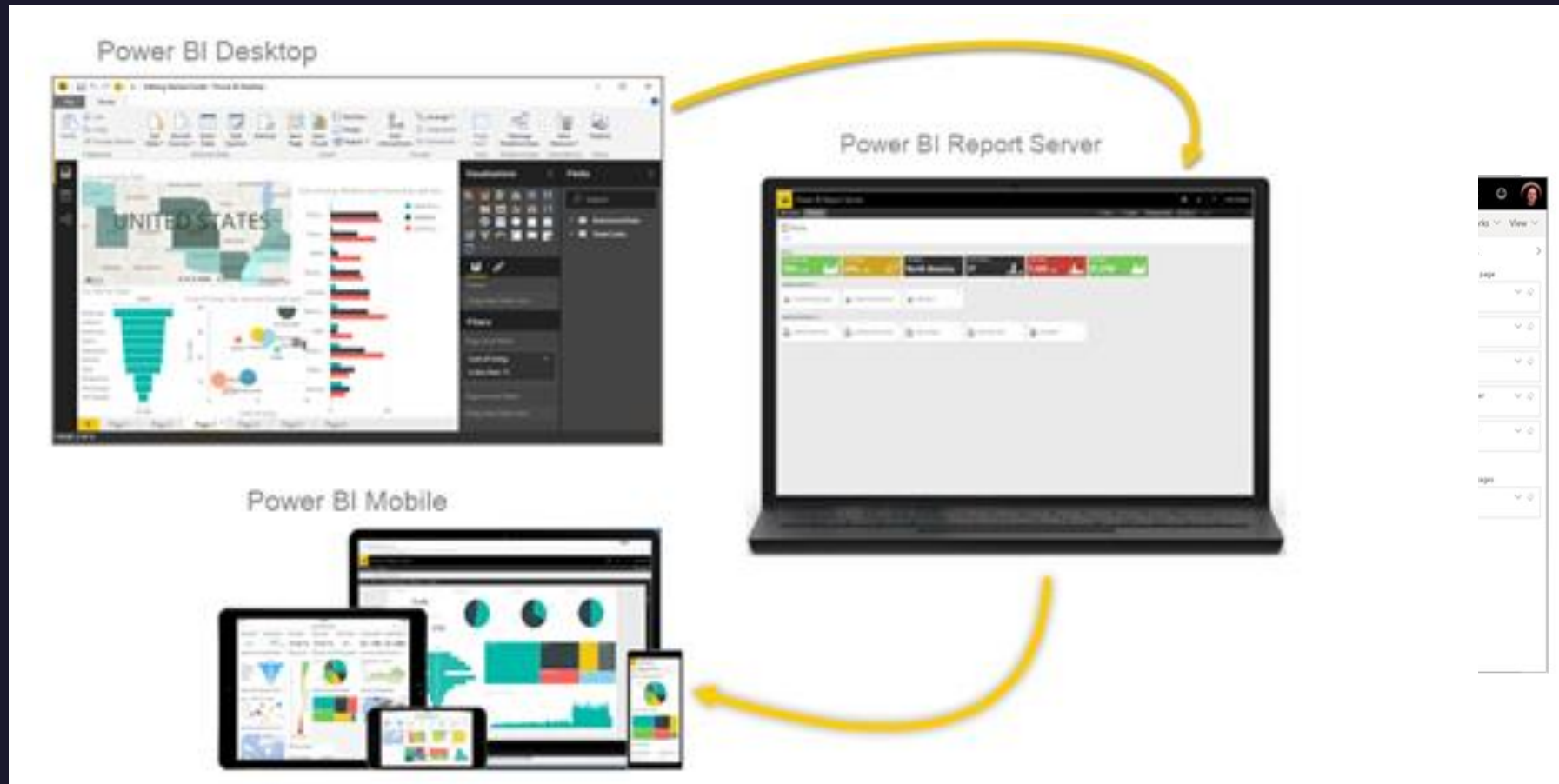
แปลงข้อมูลทั้งหมดให้อยู่ในรูปแบบ  
ของกราฟ หรือ Pie Chart เพื่อ  
ให้คนอื่นๆ มองแล้วเข้าใจง่ายขึ้น



# Tasks of Data analyst



# Power BI Components

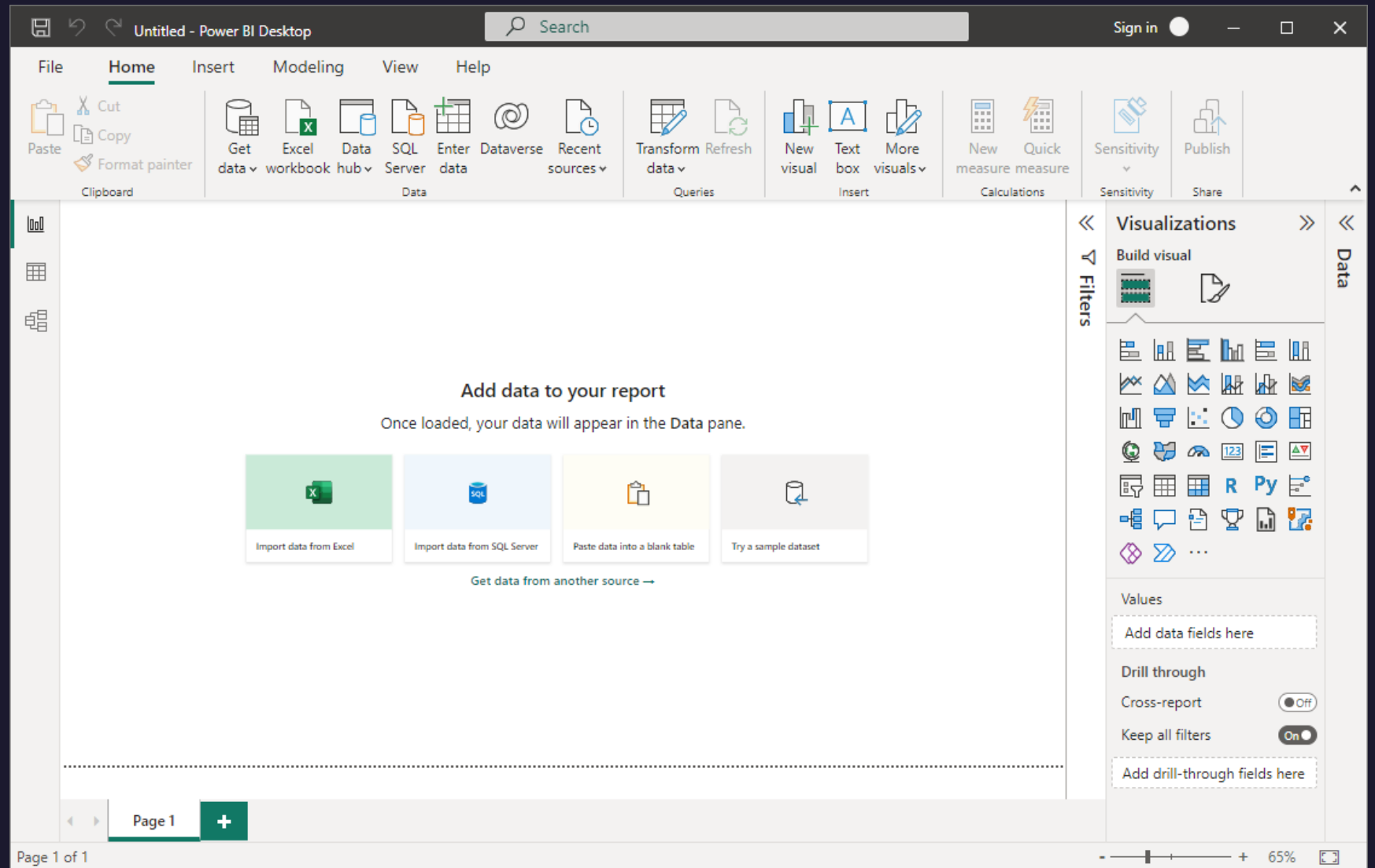


On-premise

On-cloud



# Power BI Desktop

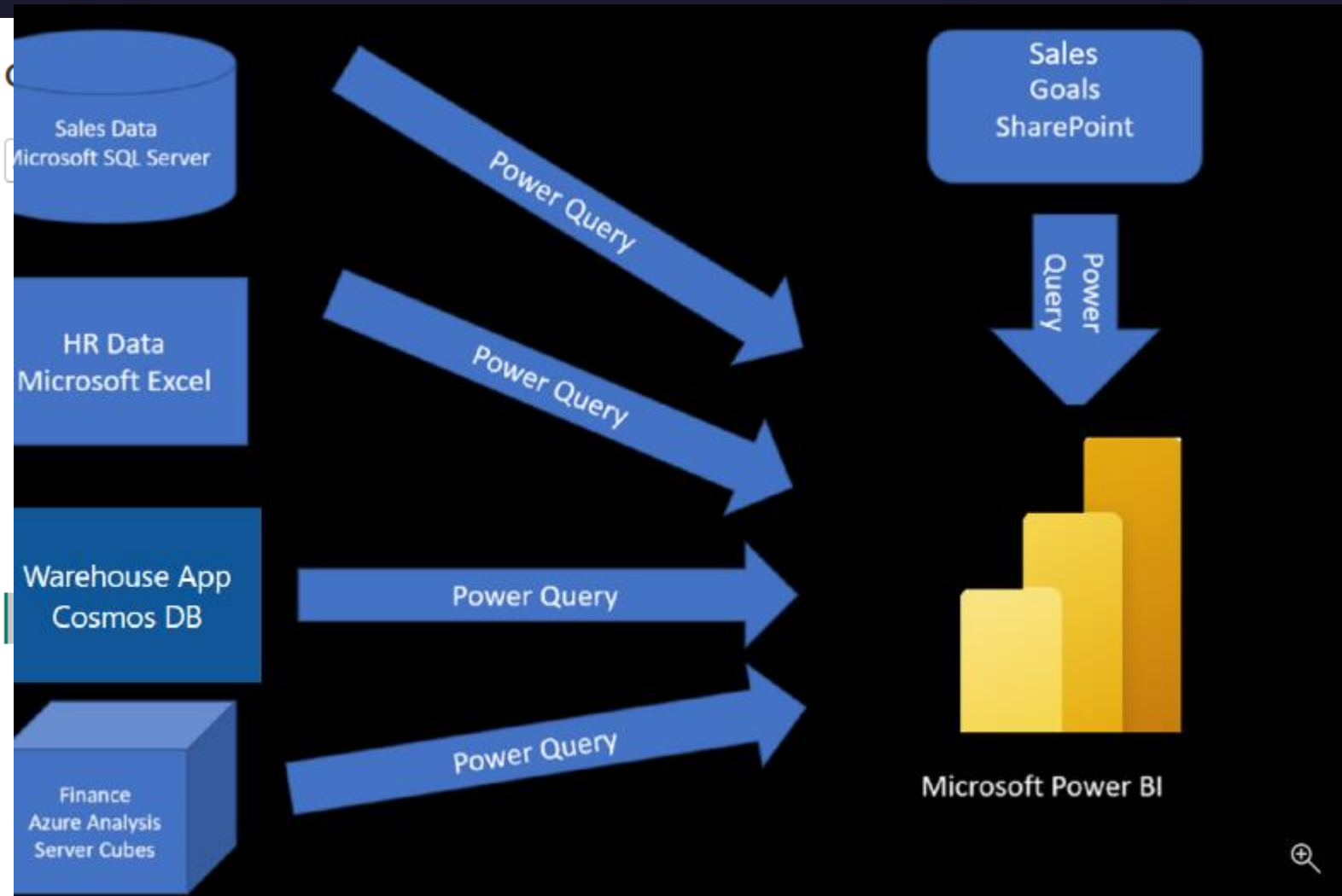


# Datasets

	B	C	D	E	F	G	H
1	Year	Month	Month Name	Calendar Month	Births	Births Per Day	Births (Normalized)
2119	2004	1	January	1/1/2004	2,937	94.7	2842
2120	2004	2	February	2/1/2004	2,824	97.4	2921
2121	2004	3	March	3/1/2004	3,128	100.9	3027
2122	2004	4	April	4/1/2004	2,896	96.5	2896
2123	2004	5	May	5/1/2004	3,008	97.0	2911
2124	2004	6	June	6/1/2004	3,047	101.6	3047
2125	2004	7	July	7/1/2004	2,981	96.2	2885
2126	2004	8	August	8/1/2004	3,079	99.3	2980
2127	2004	9	September	9/1/2004	3,219	107.3	3219
2128	2004	10	October	10/1/2004	3,547	114.4	3433
2129	2004	11	November	11/1/2004	3,365	112.2	3365
2130	2004	12	December	12/1/2004	3,143	101.4	3042
2131	2005	1	January	1/1/2005	2,921	94.2	2827
2132	2005	2	February	2/1/2005	2,699	96.4	2892
2133	2005	3	March	3/1/2005	3,024	97.5	2926
2134	2005	4	April	4/1/2005	3,037	101.2	3037
2135	2005	5	May	5/1/2005	3,231	104.2	3127
2136	2005	6	June	6/1/2005	3,163	105.4	3163
2137	2005	7	July	7/1/2005	3,119	100.6	3018
2138	2005	8	August	8/1/2005	3,156	101.8	3054
2139	2005	9	September	9/1/2005	3,439	114.6	3439

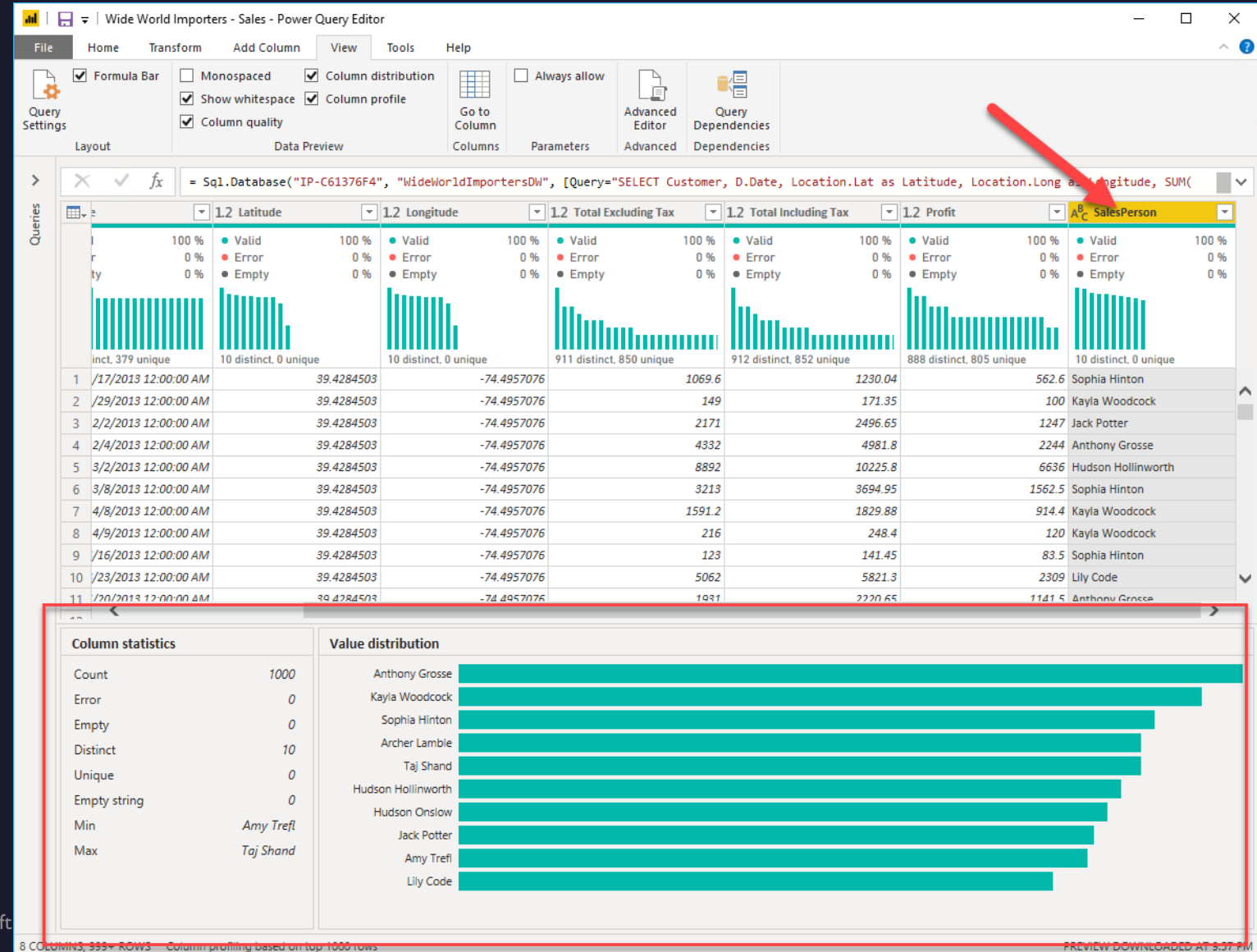


# Get Data

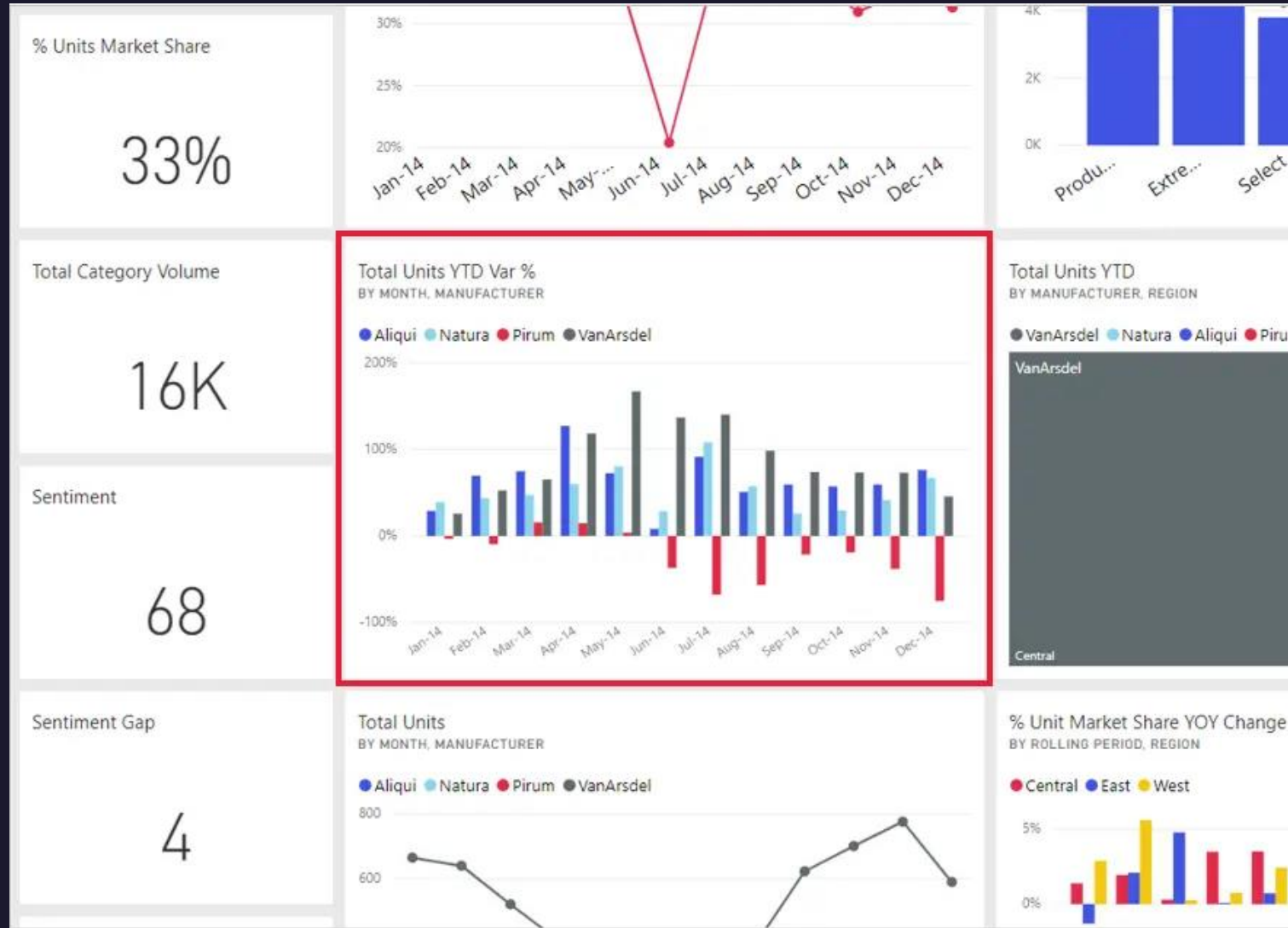


# Data preparation

- Merge data
- Data quality
- Data cleansing

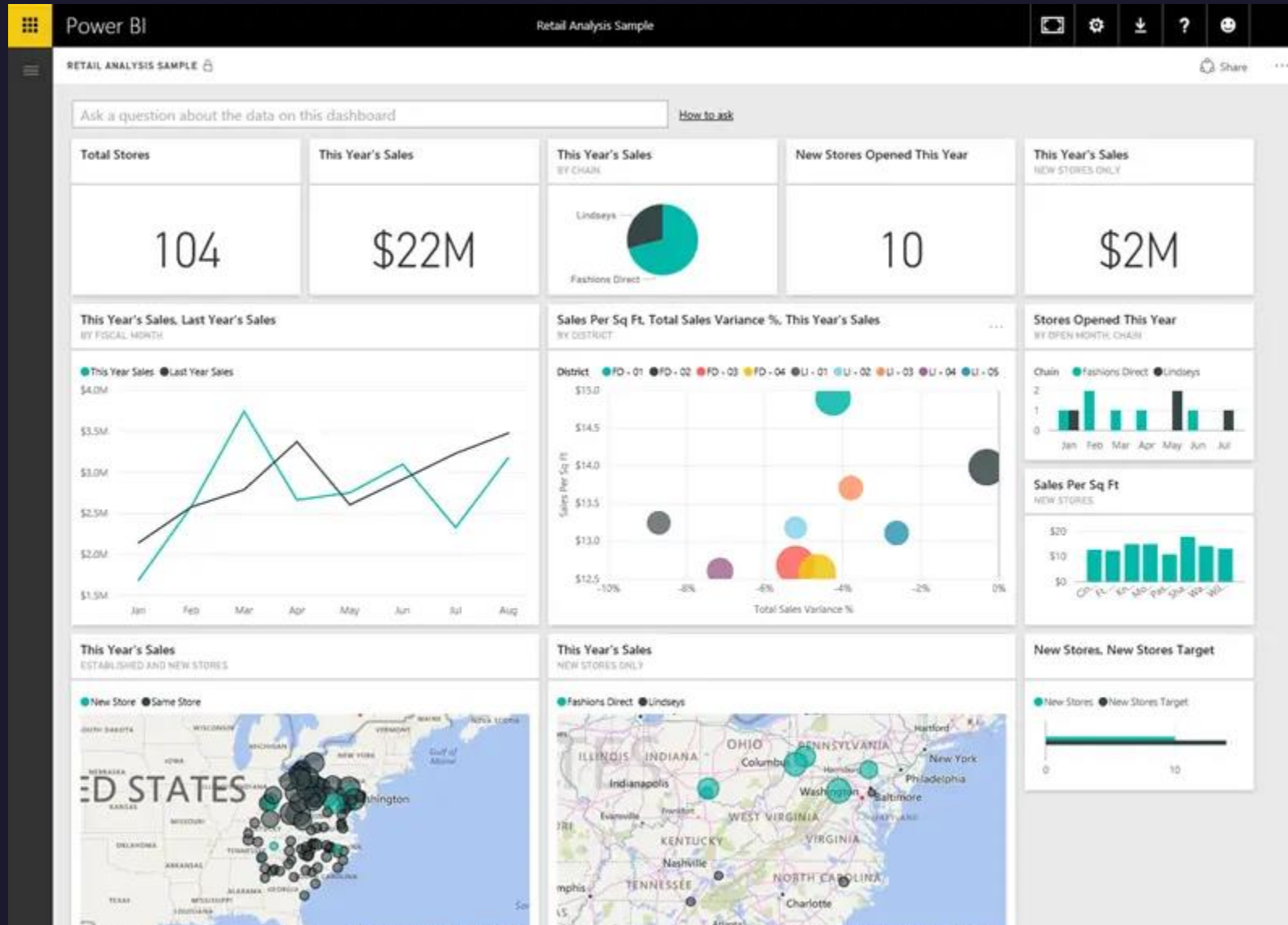


# Tiles

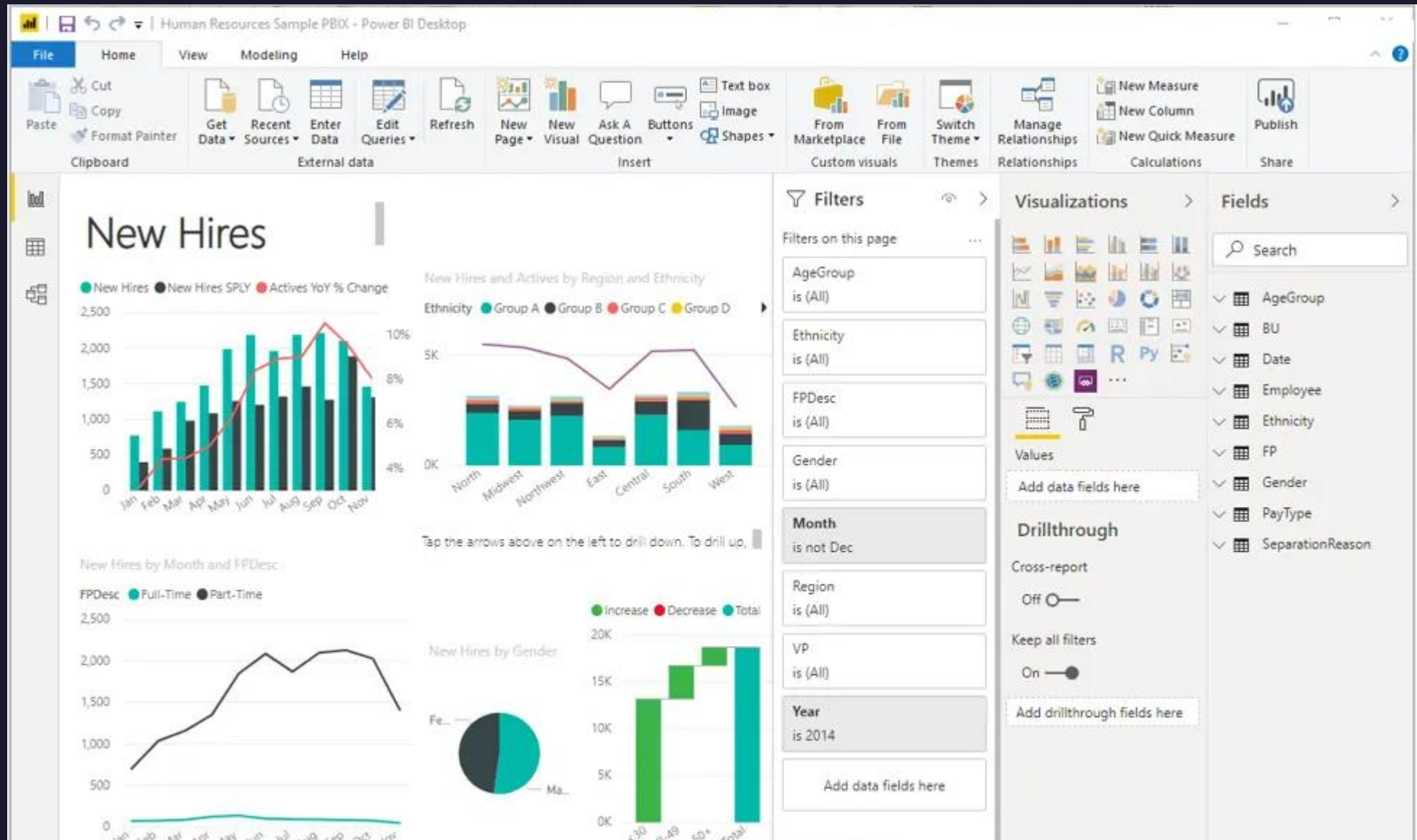




# Visualizations



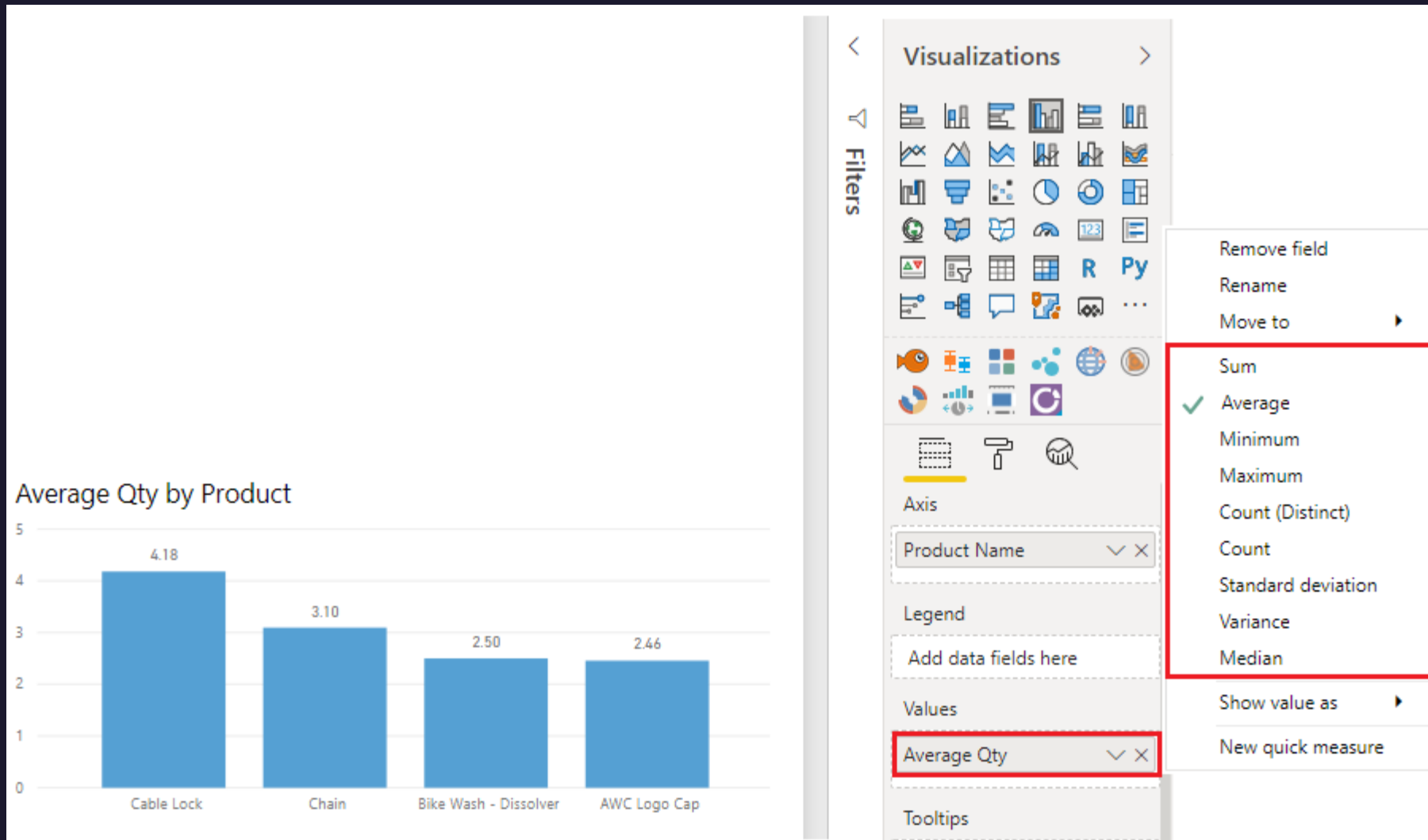
# Reports & Dashboard



# Demo time

# Analytics more on theory

# Analytics – Statistics and DAX





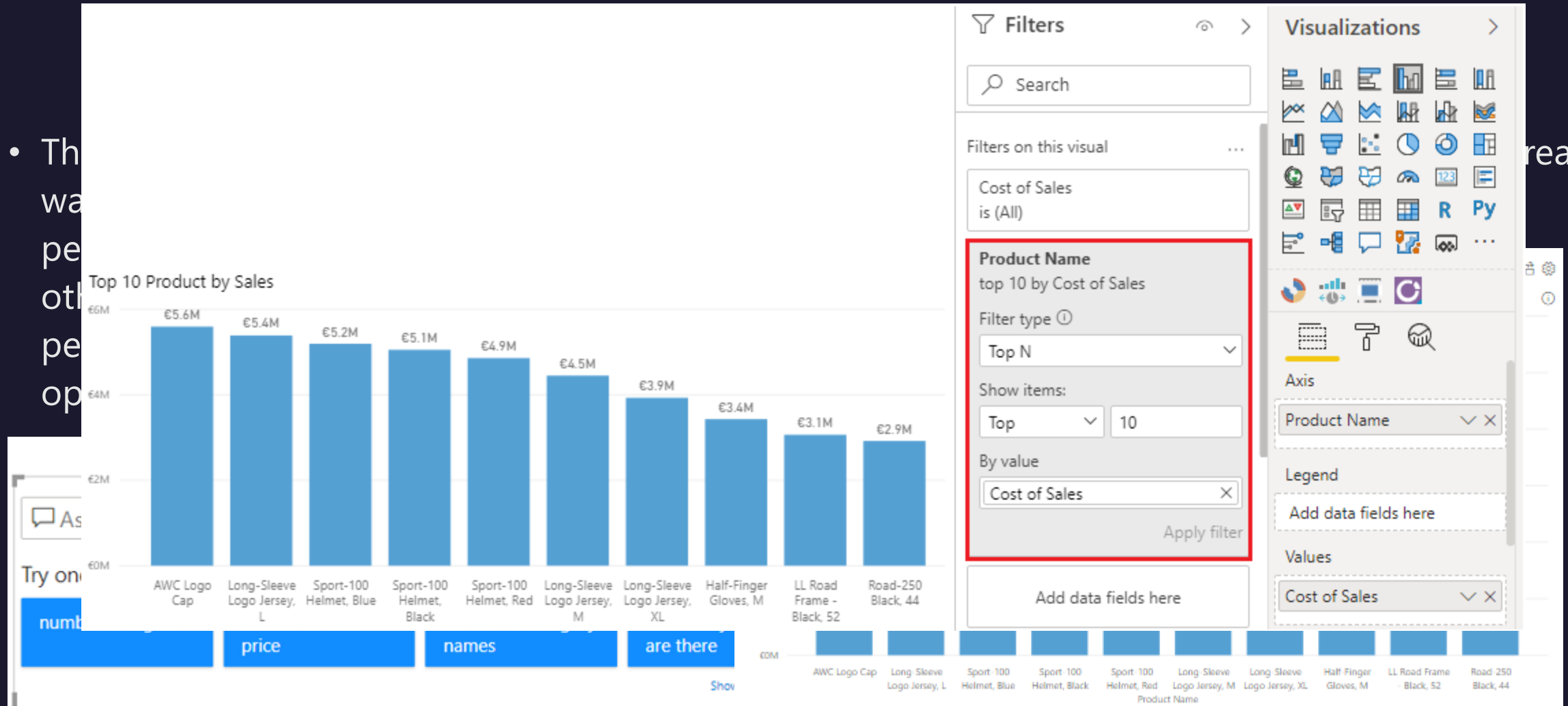
# Analytics - Histogram

- Histograms and bell curves are the most common way to display statistics about your datasets. In Power BI terms, you can represent a histogram with one of the bar or column chart visuals and represent a bell curve with an area chart visual, as illustrated in the following image. You can also use the Q&A visual to ask a direct question about the top or bottom items in a list.



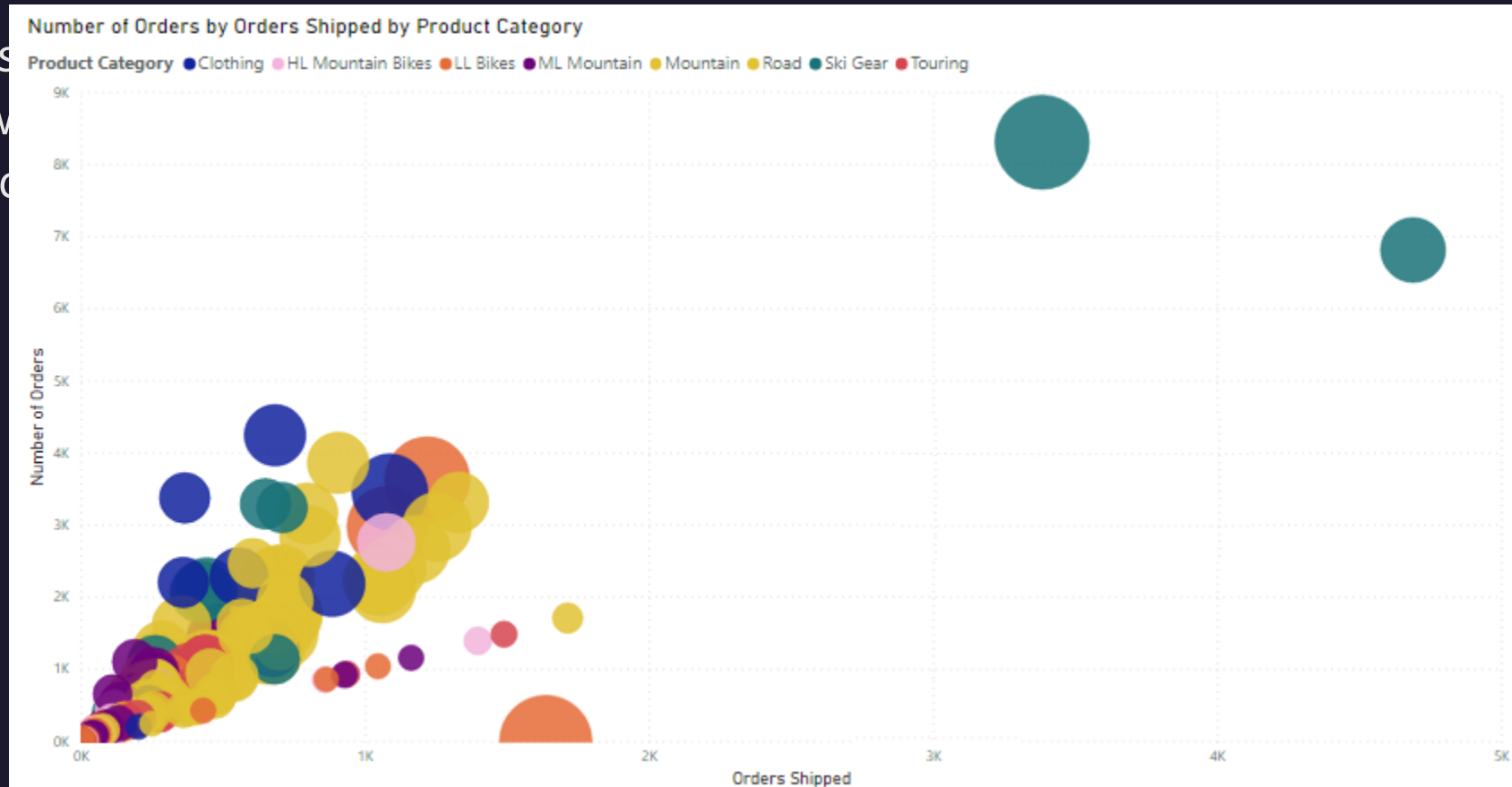
# Analytics – Top N analysis

- The way people operate



# Analytics – Outliers identification

- The best vis between tw therefore, id

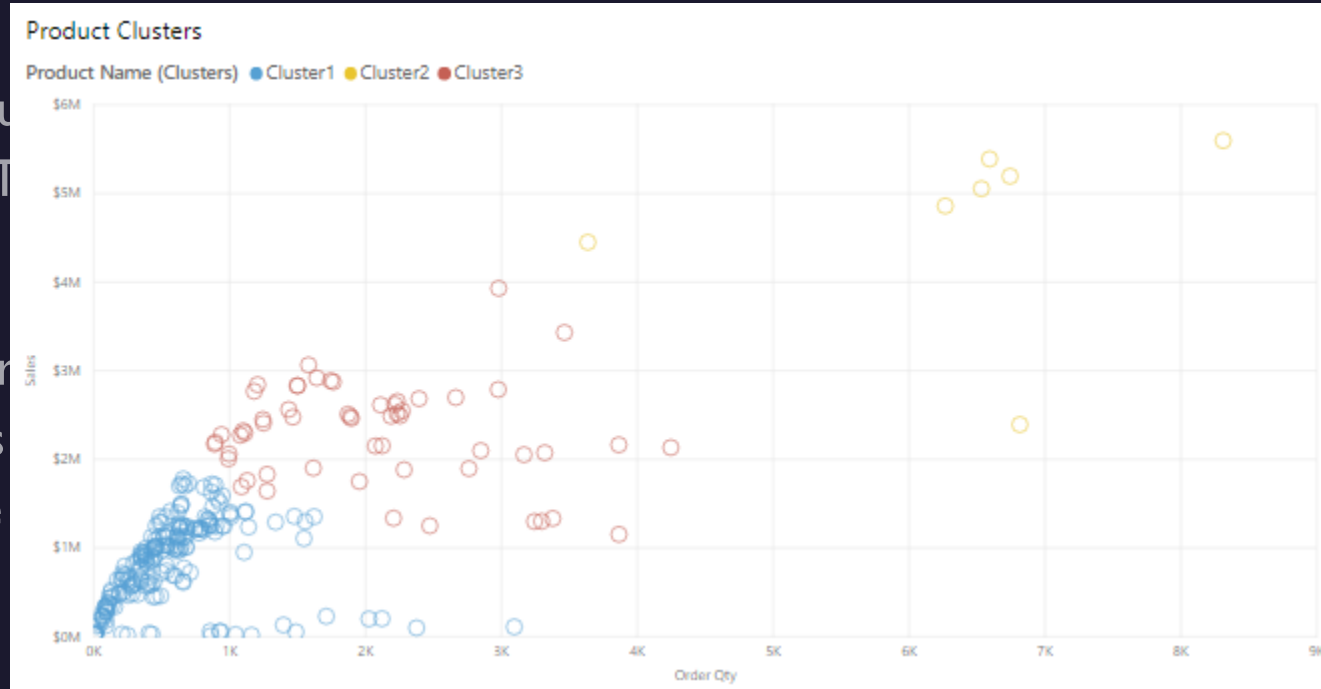


relationship  
and are,

# Analytics – Clustering technique

- Clustering allows you to group data points that are similar to the rest of the data. This is a technique you accomplished previously.

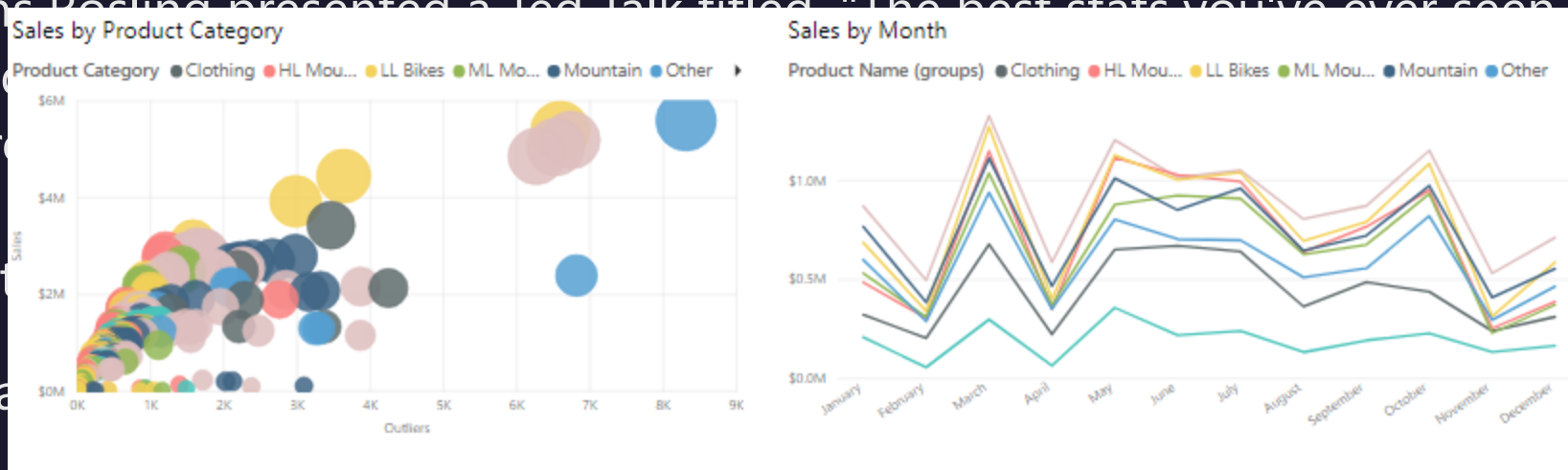
- The Power BI cluster tool identifies groups of data points in a subset of attribute values, and these groups of data are referred to as clusters.



- For example, you might want to look for patterns in your sales data, such as the behavior of customers overall. You can segment the customers into clusters according to their similarities, such as age or location.

# Analytics – Time series analysis

- In 2004, Hans Rosling presented a Ted Talk titled "The best stats you've ever seen." In that talk, Hans showed a bubble chart of sales by product category. The chart provided information that was not moved over time, demonstrating the power of data visualization.
- Time series analysis provides information on trends and makes predictions. The result of time series analysis is the best data that you can use for forecasting activities.





# More?

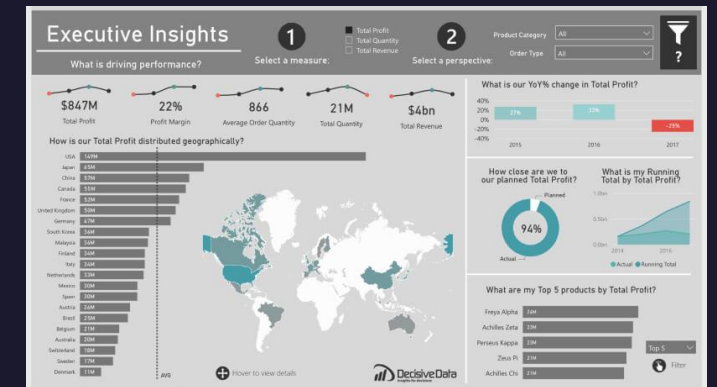
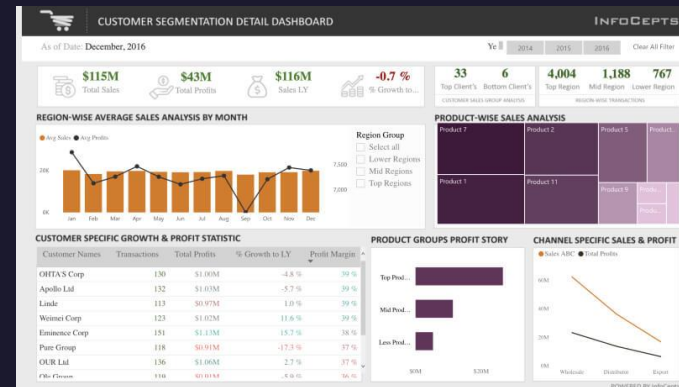
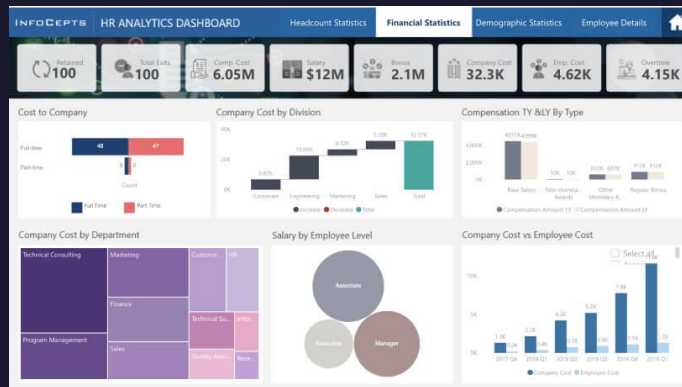
- [Data Science Courses: R & Python Analysis Tutorials | DataCamp](#)
- <https://www.kaggle.com/search?q=Analytics>



# Dashboard

# Introduction to Dashboard

- Business dashboard / Management Dashboard is a type of graphical user interface which often provides at-a-glance views of key performance indicators (KPIs) relevant to a particular objective or business process. ([Wikipedia](#))
- Data dashboard ([Power BI](#))



## Employee dashboards

- Customer support or IT tickets closed per hour
- Billable project hours per teammate
- Hours a team took to complete a given project

## Sales dashboards

- Sales funnel compared to previous year
- Total sales pipeline dollars
- Average time it takes to make a sale

## Financial dashboards

- Earnings before interest, tax, depreciation, or amortization
- Operating cash flow
- Net profit margin

More resources

[Tableau](#)

# How to create a data dashboard

## **Define your audience and goals:**

Ask who you are building this dashboard for and what do they need to understand? Once you know that, you can answer their questions more easily with selected visualizations and data.

## **Choose your data:**

Most businesses have an abundance of data from different sources. Choose only what's relevant to your audience and goal to avoid overwhelming your audience with information.

## **Double-check your data:**

Always make sure your data is clean and correct before building a dashboard. The last thing you want is to realize in several months that your data was wrong the entire time.

## **Choose your visualizations:**

There are many different types of visualizations to use, such as charts, graphs, maps, etc. Choose the best one to represent your data. For example, bar and pie charts can quickly become overwhelming when they include too much information.

## **Use a template:**

When building a dashboard for the first time, use a template or intuitive software to save time and headaches. Carefully choose the best one for your project and don't try to shoehorn data into a template that doesn't work.

## **Keep it simple:**

Use similar colors and styles so your dashboard doesn't become cluttered and overwhelming.

## **Iterate and improve:**

Once your dashboard is in a good place, ask for feedback from a specific person in your core audience. Find out if it makes sense to them and answers their questions. Take that feedback to heart and make improvements for better adoption and understanding.

# Dashboard sample

[COVID-19 Data Stories Gallery - Microsoft Power BI Community](#)

[#COVID-19 Dashboard - From Data to Insights - Microsoft Power BI Community](#)

[Supermarket Sales Report - Microsoft Fabric Community](#)

[Sales & revenue Dashboard - Microsoft Fabric Community](#)

[Cost Monitoring Report - Microsoft Fabric Community](#)

[Restaurant Food Delivery Analysis - Microsoft Fabric Community](#)

# Q&A



Last but not least

Where to find all resources?

<https://github.com/amnuaym/MsoftPowerBI>

Keep on working

<https://learn.microsoft.com/en-us/certifications/power-bi-data-analyst-associate/>

<https://learn.microsoft.com/en-us/training/browse/?filter-products=power%20BI&products=power-bi>

What else?

<https://www.tableau.com/learn>

<https://www.qlik.com/us/services/training>

<https://learning.sap.com/search?page=1&query=Businesssubject>

<https://www.gartner.com/reviews/market/analytics-business-intelligence-platforms>

Nerdy enough?

[Kaggle: Your Machine Learning and Data Science Community](#)

<https://www.datacamp.com>

# Thank you.

Amnuay M.

