

# Introduction To Power BI - Lecture 1

05 October 2024 21:21

## Introduction To Power BI - Lecture 1

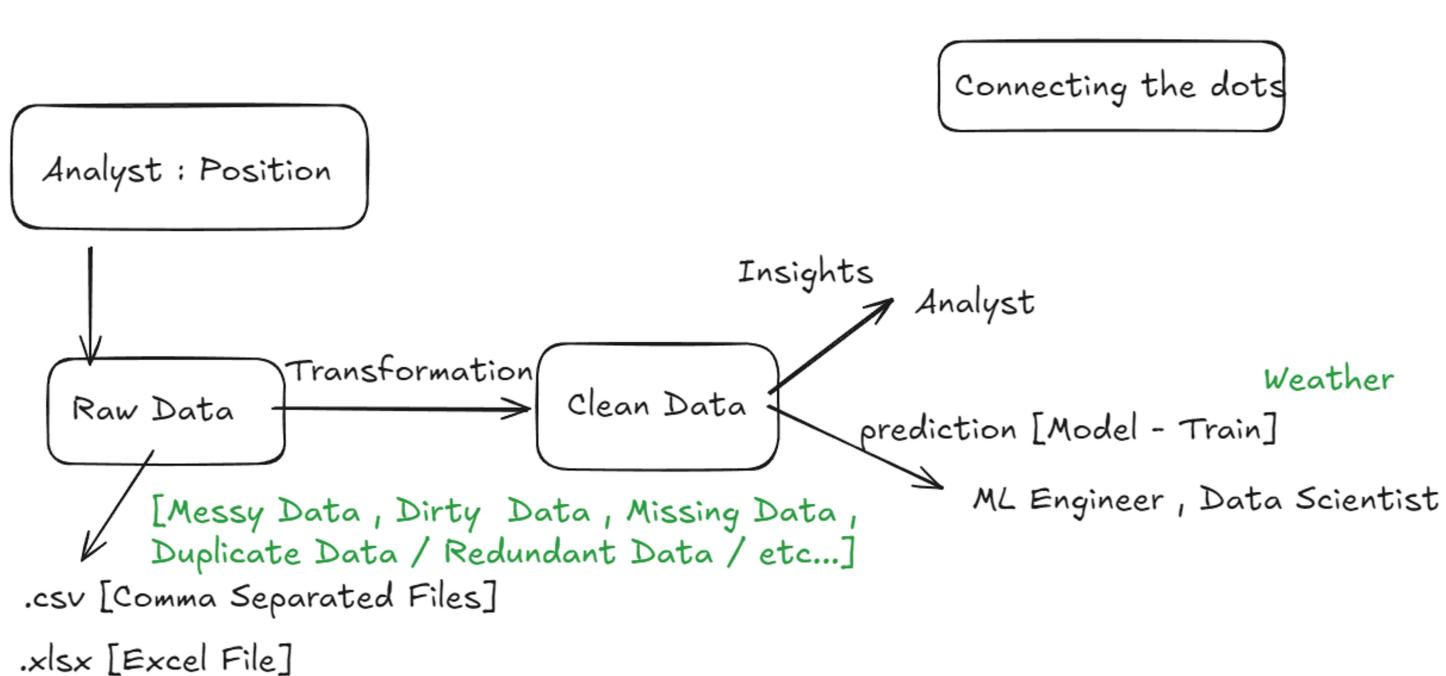
- Interact on chat. [Energy]
- English [80% English] [20% Hindi]

- 1 - You guys are clear with the concepts.
- 0 - You are asking me to repeat.

- This project is dependent on many Lectures. [Momentum].

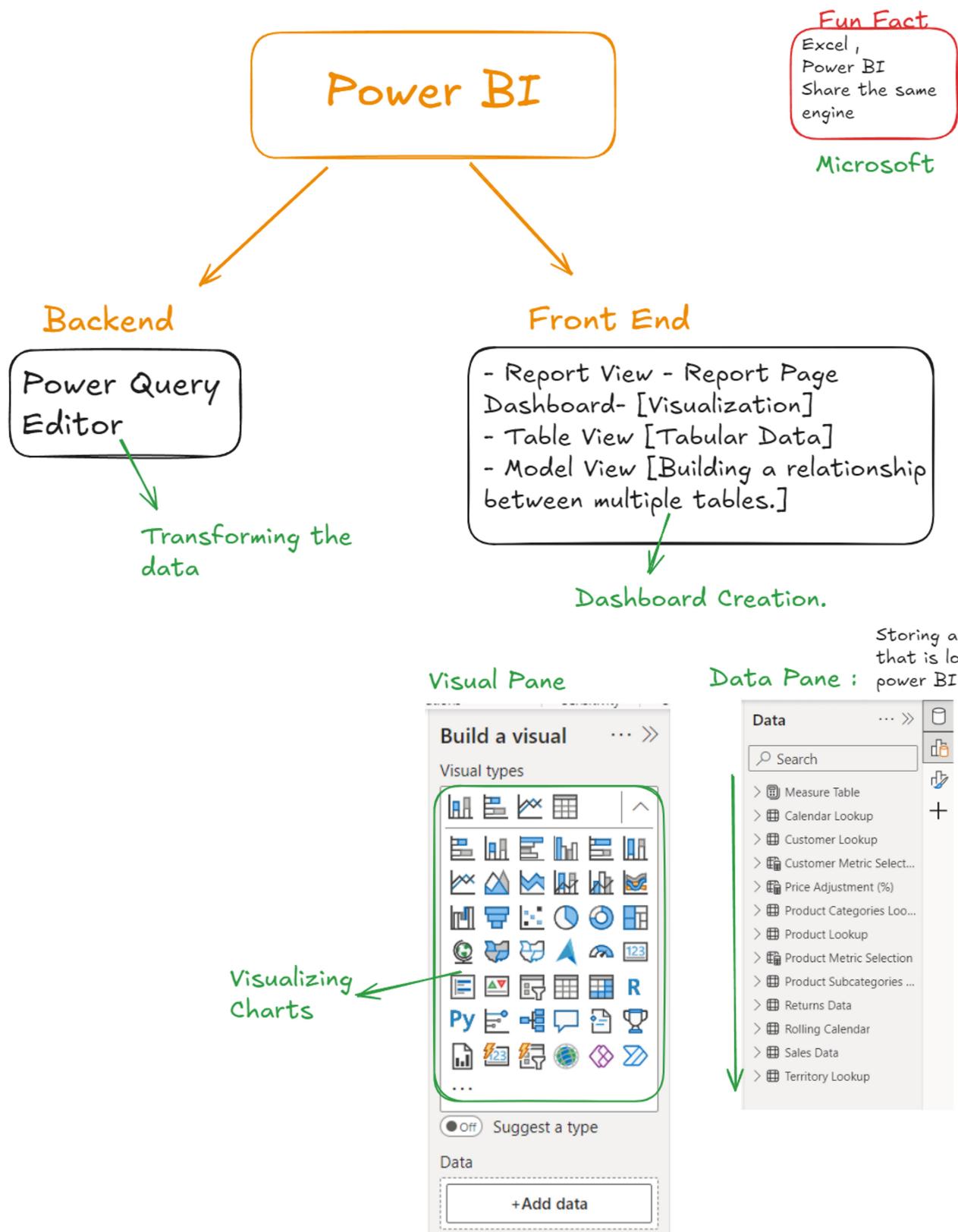
- SQL , Power BI

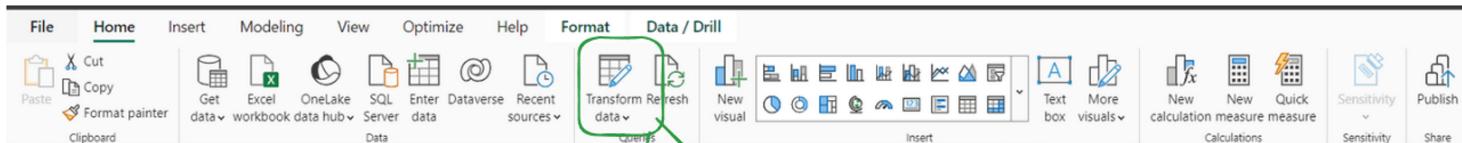
- SQL : Cardinality [Relationship : 1:\* , \*;\* , 1:1, \*;1]  
[Joins : Inner Join , Left Join , Right Join]



Churn Customer -> The Customer who switch to another company.  
[Jio] --> [Airtel] [Vodafone] [Idea]

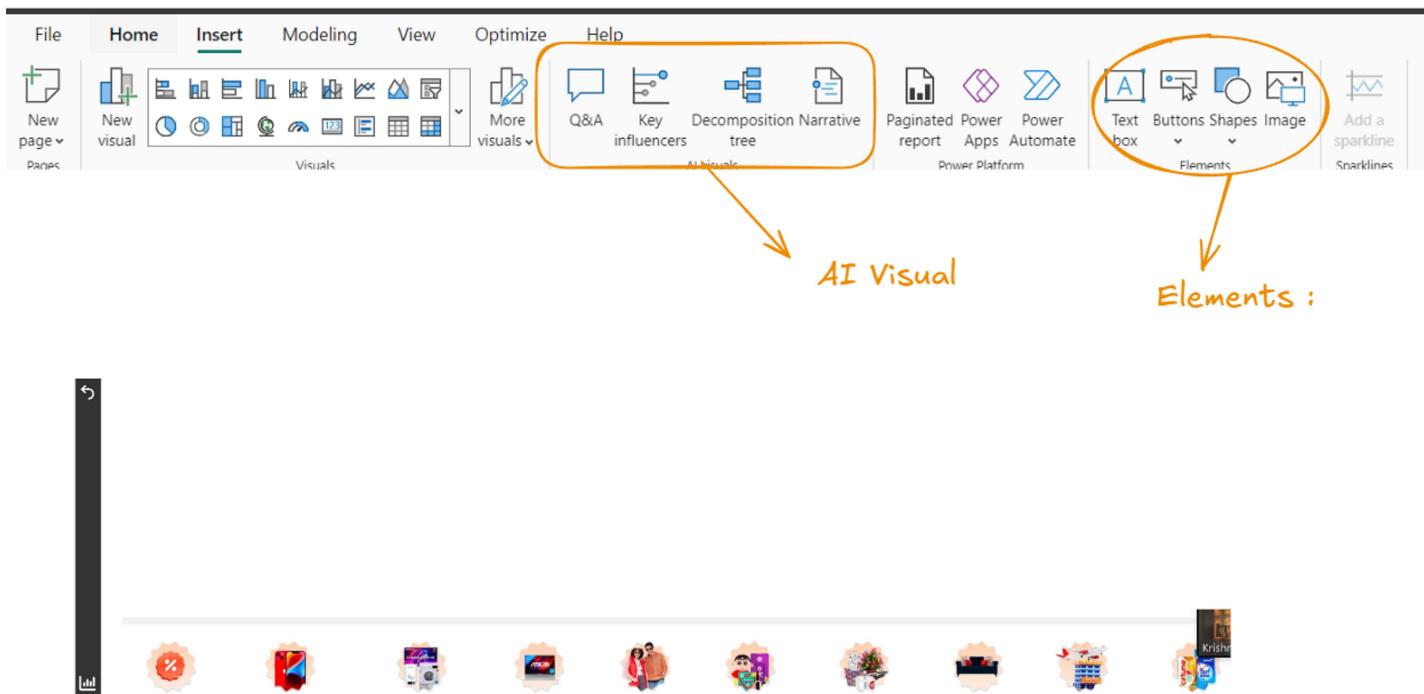
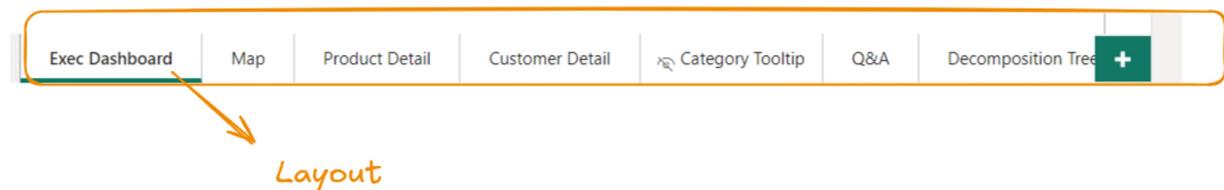
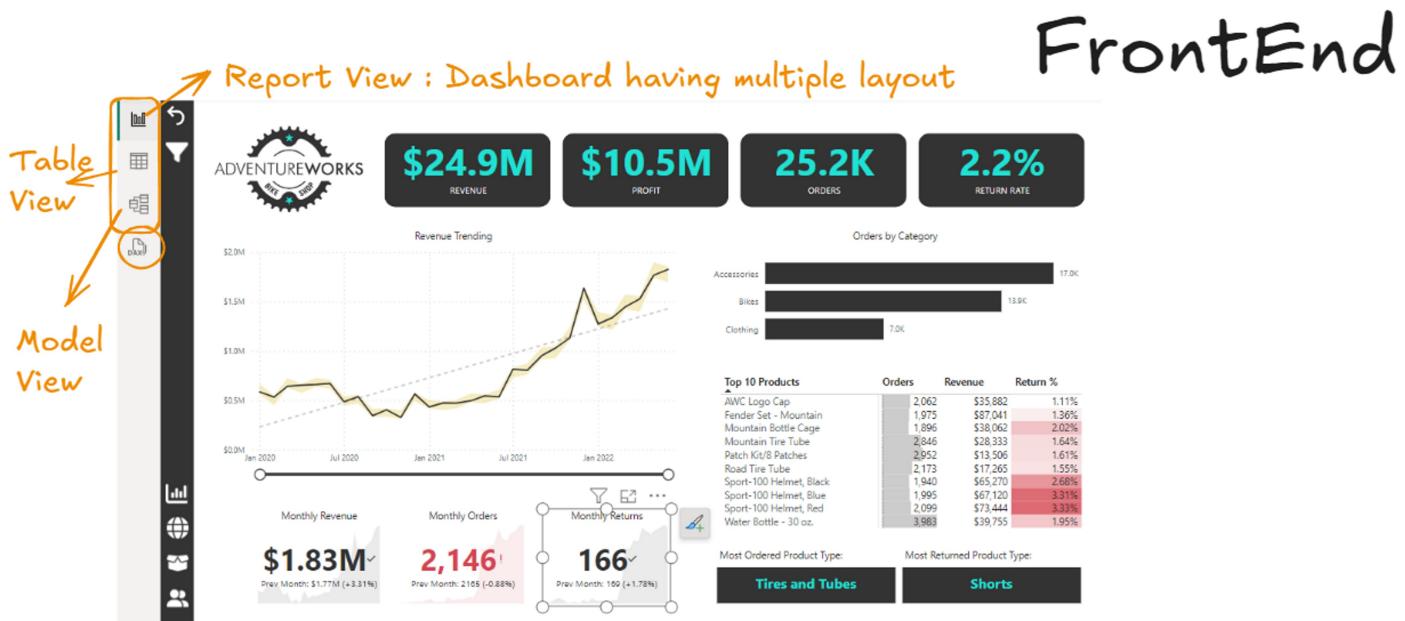
--> 60% - 70% of our time goes on Cleaning out the data.





Menu Bar  
Tool Bar  
Shortcuts

By clicking on this : you gonna activate the power Query Editor.



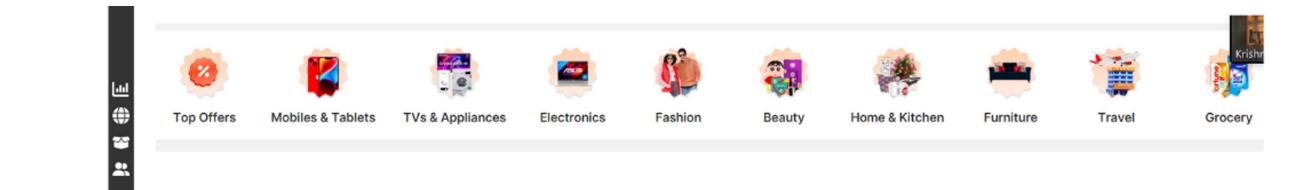


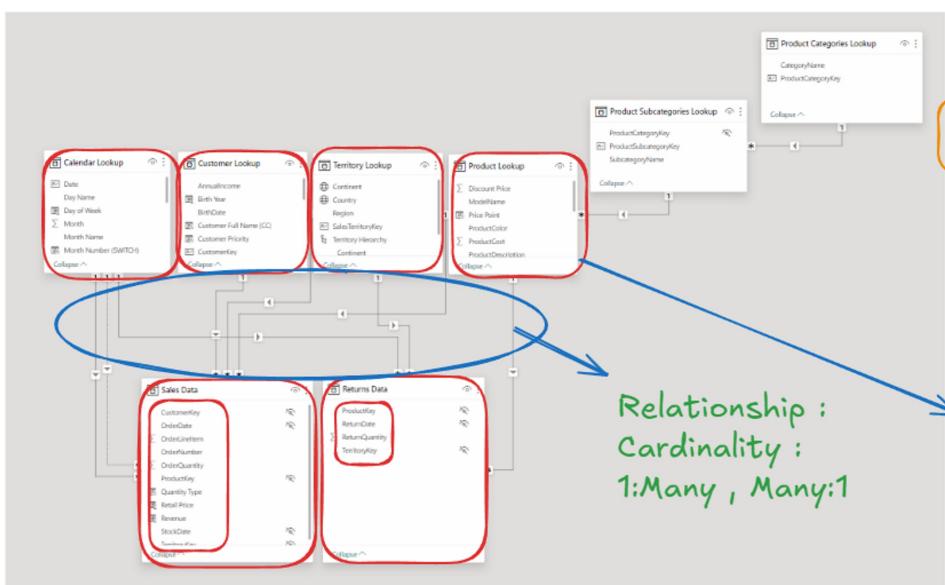
Table View : It basically showing all of our data, that we load so far in Tabular Format.

The screenshot shows a table view in Power BI with approximately 50 rows of data. The columns are: OrderDate, StockDate, OrderNumber, ProductKey, CustomerKey, TerritoryKey, OrderLineItem, OrderQuantity, Quantity Type, Retail Price, and Revenue. The 'Data' pane on the right lists various data sources and lookups, including Measure Table, Calendar Lookup, Customer Lookup, Customer Metric Selection, Price Adjustment (%), Product Categories Lookup, Product Lookup, Product Metric Selection, Product Subcategories Lookup, Returns Data, Rolling Calendar, Sales Data, and Territory Lookup.

Disclaimer:

Whatever we do any changes to our project in a positive direction.  
Don't Forget to save it.

Model View : It just store multiple table building a relationship around it.



Schema : Giving Idea of table

DESC <TableName>

SQL : Structure

Relationship :  
Cardinality :  
1:Many , Many:1

Individual Schemas  
- Connected with another  
Schemas building  
a relationship.

Schema :

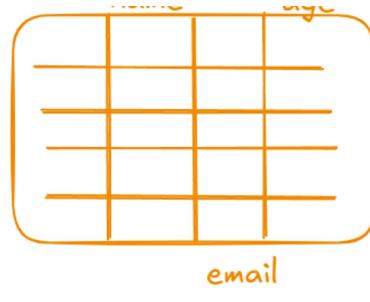
MUL - F.K

id	name	age
1	John	25
2	Mike	30
3	Sarah	28
4	Alice	22
5	David	32

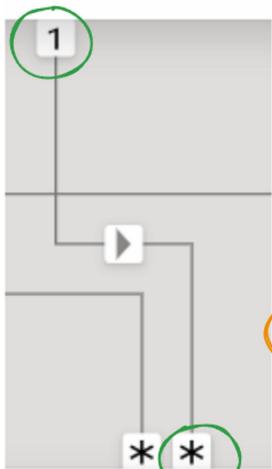
Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	
name	varchar(50)	YES		NULL	
email	varchar(100)	YES		NULL	
age	int(11)	YES		NULL	

Col Name

Data Type : What all type of data you want to store corresponding to column Name



Structure Table  
- Organised



Majority of your relationship is coming from 1;\*, \*;1.

1 as referencing to Many on the other Table



Product Table

Primary Key

[1]

- Product Key

- 1k21 ..... 500 times
- 1k22 .... 250 times,
- 1k23 --- 50 times
- 1k24 --- 275 times.

Sales Table

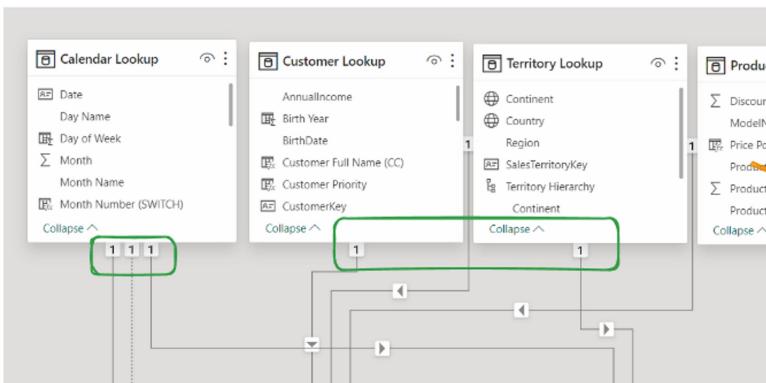
Foreign Key

[\*]

Model View

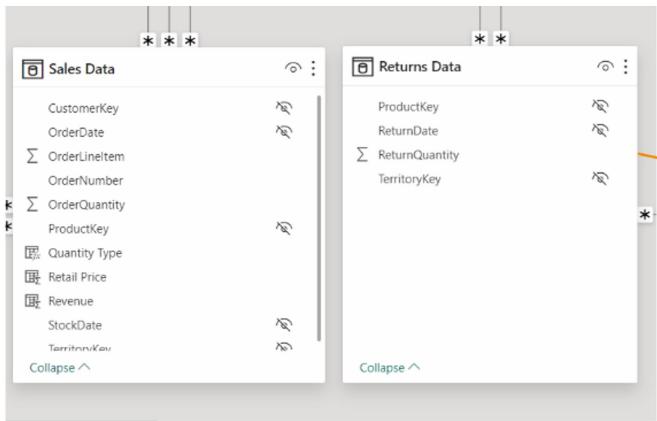
- Dimension Table Vs Fact Table
- Star Schema VS Snowflake Schema

Filter Flow :



Dimension Table : Primary Key



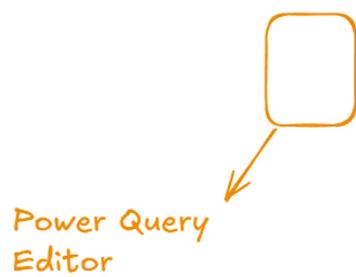


fact Table : Foreign Key

Analytical Mindset.

BackEnd : Power Query Editor.

Salesforce - Tableau  
Microsoft - Power BI  
Google - Google Data Studio



Power Query  
Editor

Insights : Solid ---> Decision Making.

Power Query Editor : Its a backend and used to clean the data. -->  
Once , it is clean , we have to Load it back to Frontend.

**Column Quality**

1. Merging Data.
2. Appending Data.
3. Basics Features of Adding Column.
4. Column From Examples , Invoke Custom Columns'.
5. Split the text into multiple columns.
6. Counts the rows.
7. Date Data-type : Liking Start of Month , Extracting [Year].
8. Statistic Usage.
9. Pivoting / Un-Pivoting.
10. M-Code - System Code

**APPLIED STEPS**

- Source
- Promoted Headers
- Changed Type with Locale
- Changed Type with Locale1
- > **Changed Type**

→ Steps NoteDown

M-Code : Coded by system itself corresponding to task you perform.

```
Table.TransformColumnTypes(#"Changed Type with Locale1",{{"Row ID", Int64.Type}, {"Postal Code", Int64.Type}, {"Sales", Currency.Type}, {"Quantity", Int64.Type}, {"Discount", Currency.Type}, {"Profit", Currency.Type}})
```

**Data Types** : Referencing to what type of data you would like to store.

Ship Date	Ship
12	Decimal Number
\$	Valid
%	Error
123	Whole Number
Date/Time	Emp
Date	
Time	
Date/Time/Timezone	
Duration	
Text	
True/False	
Binary	
Using Locale...	
14-06-2014	Standard
14-06-2014	Standard

## MEET POWER BI

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In this section we'll introduce Power BI Desktop, review the download and installation process, adjust default settings, and explore the Power BI interface and workflow

### TOPICS WE'LL COVER:

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- Introducing Power BI
- Installation Options
- Interface & Workflow
- Power BI vs. Excel
- Adjusting Settings
- Helpful Resources

### GOALS FOR THIS SECTION:

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- Download and install Power BI Desktop, and adjust the settings for our course project
- Understand the role that Power BI plays within the broader Microsoft ecosystem.
- Explore core components of the Power BI Desktop interface.
- Review the business intelligence workflow that we'll follow as we build our course project.

## What is POWER BI

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Microsoft Power BI is a self-service



Microsoft Power BI is a self-service business intelligence platform, which includes both desktop and web-based applications for connecting, modeling, and visualizing data.



## FEATURE OF POWER BI?

### 1. Connect, transform and load millions of rows of data

- Access data from virtually anywhere (database tables, flat files, web, cloud services, folders, etc.), and create fully automated workflows to extract, transform and load data for analysis

### 2. Build relational models to blend data from multiple sources

- Create table relationships to analyze holistic performance across an entire relational data model

### 3. Define complex calculations using Data Analysis Expressions(DAX)

- Enhance datasets and enable advanced analytics with powerful and portable DAX expressions

### 4. Bring data to life with interactive reports and dashboards

- Build professional-quality reports and dashboards with best-in-class visualization tools

### 5. Develop a versatile, in-demand skill set

- Power BI is the industry leader in self-service BI, and the skills you build in this course will be highly transferrable

# Why We Use Power BI



## 1. Data Visualization:

- Power BI helps transform raw data into interactive and visually appealing reports and dashboards.  
It makes complex data easy to understand.

## 2. Integration:

- Power BI integrates seamlessly with various data sources like Excel, SQL Server, cloud services, and more, allowing you to consolidate and analyze data from different platforms.

## 3. Business Intelligence:

- With Power BI, you can gain insights into your business performance, track key metrics, and make data-driven decisions..

## 4. Real-time Data:

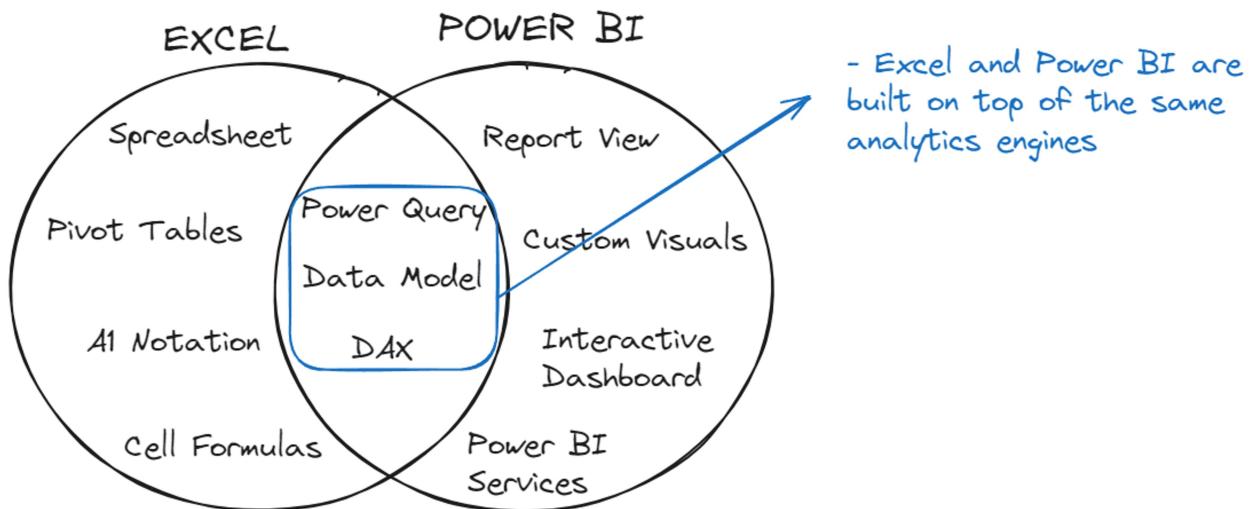
- You can connect to real-time data sources to ensure your reports and dashboards reflect the most up-to-date information.

## 5. User-Friendly Interface

- The intuitive interface makes it accessible for users of all skill levels, from beginners to advanced analysts.

# EXCEL VS. POWER BI

## EXCEL VS. POWER BI



- Excel and Power BI are built on top of the same analytics engines

- Power BI takes the same data transformation and modeling capabilities and adds powerful visualization and publishing tools
- Transitioning is easy; you can import an entire data model directly from Excel!

## Power BI Desktop Installation

### Microsoft Power BI Desktop

Microsoft Power BI Desktop is built for the analyst. It combines state-of-the-art interactive visualizations, with industry-leading data query and modeling built-in. Create and publish your reports to Power BI. Power BI Desktop helps you empower others with timely critical insights, anytime, anywhere.

Important! Selecting a language below will dynamically change the complete page content to that language.

Select language

English

Download

#### - Minimum Requirement :

1. Excel / Google Sheet [Lookups, Index Match, Pivot Table, Pivot Charts, Find, Left, mid, right [dynamic], Conditional Formatting, Data Validation, etc.]
2. Power BI [Model View, DAX, etc]
3. SQL [Advance Query : Window Function, Joins, Subquery, CASE, GROUP BY, ORDER BY, Aggregations, String Functions, etc.]

2. Power BI [Model View , DAX , etc]
3. SQL [Advance Query : Window Function , Joins , Subquery , CASE , GROUP BY, ORDER BY, Aggregations , String Functions, etc.]

- Full Time : [Skills]  
Part Time , Free Lancing, etc.

- Python
- EDA [Numpy ,  
Pandas, Matplotlib ,  
Seaborn, Plotly,  
Beautiful, etc]