

## Introduction To Power BI

→ Need more attention to the learning rather than doing it side by side

→ Power BI Offer Dynamic Visualization.

### Power BI Pattern of Learning

- Understanding the Visuals
- Creating a Data Model
  - Primary Key  
Foreign Key
- Calculating Measures with DAX
- Visualizing your data with Dashboard.

It helps to build relationship between tables.

Data Analysis Expression

### Business Analyst

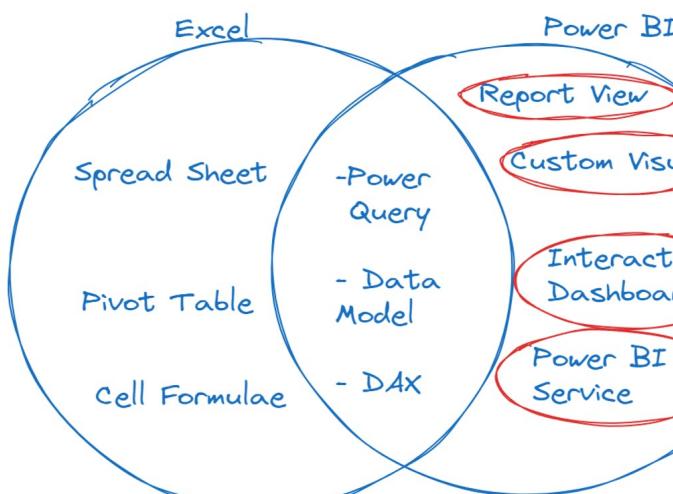
- KPIs -
1. Compare Regional Performance.
  2. Analyze Product Level Trends.
  3. Identify the high value customer

### Power BI Desktop

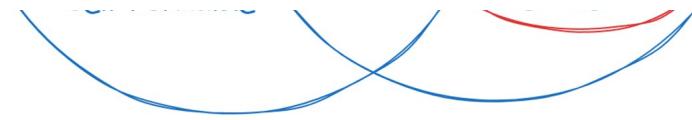
- Connect & transform the raw data.
- Building a relational model.
- Create the calculated columns and measure with DAX.
- Designing the interactive dashboard to visualize the data

Publish - Making your dashboard live for public.

For Eg : A working website. [Link]



They both uses the same analytical engine backed by Microsoft



→ Settings to be changed for better understanding of Power BI.

Check Each & Every Setting of Preview Feature.

#### Preview features

The following features are available for you to try in this release. Preview features might change or be removed.

- Shape map visual [Learn more](#)
- Spanish language support for Q&A [Learn more](#)
- Q&A for live connected Analysis Services databases [Learn more](#)
- Connect to external semantic models shared with me [Learn more](#) | [Share feedback](#)
- Modern visual tooltips [Learn more](#) | [Share feedback](#)
- Sparklines [Learn more](#)
- Metrics visual [Learn more](#)
- Quick measure suggestions [Learn more](#) | [Share feedback](#)
- Field parameters [Learn more](#)
- Enhanced row-level security editor [Learn more](#)
- On-object interaction [Learn more](#) | [Share feedback](#)
- Power BI Home in Desktop [Learn more](#) | [Share feedback](#)
- Set sensitivity label on exported PDF [Learn more](#)
- Dynamic format string for measures [Learn more](#)
- Save to OneDrive and SharePoint [Learn more](#)
  - Share to OneDrive and SharePoint [Learn more](#)
- Enhanced publish dialogs [Learn more](#)
- Power BI Project (.pbip) save option [Learn more](#)
- Store semantic model using TMDL format [Learn more](#)

→ Data load , uncheck few features.

#### Relationships

Import relationships from data sources on first load ⓘ

Update or delete relationships when refreshing data ⓘ

Autodetect new relationships after data is loaded ⓘ

[Learn more](#)



Uncheck

#### Time intelligence

Auto date/time ⓘ [Learn more](#)

→ Change the regional setting to English[United States]

#### Locale for import

Locale determines the regional settings used to interpret numbers, dates, and time in imported text for this file.

Report View

Data View

Model View

→ Power Query Editor - After Loading the data -> Transformation [Power Query].

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## Power Query Editor

The screenshot shows the Microsoft Power BI Data Editor interface. The ribbon menu at the top includes File, Home, Transform, Add Column, View, Tools, and Help. The 'Transform' tab is selected. Below the ribbon, there are several buttons for data management: Close & Apply, New Query, Recent Sources, Enter Data, Data source settings, Parameters, Refresh Preview, Advanced Editor, Manage, Properties, Choose Columns, Remove Columns, Keep Rows, Remove Rows, Manage Columns, Group By, Split Column, Replace Values, Data Type: Whole Number, Use First Row as Headers, Transform, Merge Queries, Append Queries, Combine Tables, and Combine. The main area displays a table titled 'Table.Sort(#"Column\_Rename", {"[Product\_Price]", "Order\_Ascending"})'. The table has columns: Product Key, Product Subcategory Key, Product S K U, Product Name, Model Name, and Product Description. The rows contain data such as 480, Patch Kit/B Patches, Patch kit, Includes 8 different size patches, 529, Road Tire Tube, Road Tire Tube, Conventional all-purpose tube, 477, Water Bottle - 30 oz., Water Bottle, AWC logo water bottle - holds 3C, 530, Touring Tire Tube, Touring Tire Tube, General purpose tube, 528, Mountain Tire Tube, Mountain Tire Tube, Self-sealing tube, 484, Bike Wash - Dissolver, Bike Wash, Washes off the toughest road grl, 223, AWC Logo Cap, Cycling Cap, Traditional style with a flip-up br, 482, Racing Socks, L, Racing Socks, Thin, lightweight and durable wrt, 479, BC-R009-L, Road Bottle Cage, Aluminum cage is lighter than ou, 481, SO-R009-M, Racing Socks, M, Thin, lightweight and durable wrt, 218, SO-B009-M, Mountain Bike Socks, M, Combination of natural and syntl, 219, SO-B009-L, Mountain Bike Socks, L, Combination of natural and syntl, 478, BC-M005, Mountain Bottle Cage, Mountain Bike Socks, Affordable cage holds bott, 450, TT-1990, Taillights - Battery-Powered, Mountain Bottle Cage, Tallight, Affordable light for safe rid, 448, PU-O452, Minipump, Minipump, Designed for convenience, fits in, 559, CH-0234, Chain, Chain, Superior shifting performance, 538, TI-R092, LL Road Tire, LL Road Tire, Same great treats as more exp, 485, FE-6654, Fender Set - Mountain, Fender Set - Mountain, Clip-on fenders fit most mountai, 464, GL-H102-M, Half-Finger Gloves, M, Full padding, improved finger fe, 462, GL-H102-S, Half-Finger Gloves, S, Full padding, improved finger fe, 466, GL-H102-L, Half-Finger Gloves, L, Full padding, improved finger fe, 539, TI-R628, ML Road Tire, ML Road Tire, Full padding, improved finger fe, 449, PU-M044, Mountain Pump, Mountain Pump, Higher density rubber., 535, TI-M267, LL Mountain Tire, LL Mountain Tire, Simple and light-weight, Emerge, 447, LO-C100, Cable Lock, Cable Lock, Compatrable triction, less expens, 521, SE-T312, LL Touring Seat/Saddle, LL Touring Seat/Saddle, Wraps to fit front and rear tires, 515, SE-M236, LL Mountain Seat/Saddle, LL Mountain Seat/Saddle 2, Comfortable, ergonomically shag, 518, SE-R581, LL Road Seat/Saddle, LL Road Seat/Saddle 1, Synthetic leather. Features gel fe, 29, , , , , Lightweight foam-padded saddle

→ Transform : In-place changing data  
Add Column - We are creating new column and applying the required changes.

## Report View

The screenshot displays a Microsoft Power BI interface with multiple dashboards and data visualizations:

- Top Left:** A dashboard featuring a large circular logo for "ADVENTUREWORKS BI" and four key metrics: REVENUE (\$24.9M), PROFIT (\$10.5M), ORDERS (25.2K), and RETURN RATE (2.2%).
- Top Center:** A line chart titled "Weekly Revenue" showing revenue trends from January 2020 to January 2022.
- Top Right:** A bar chart titled "Orders by Category" showing the number of orders for Accessories (17.0K), Bikes (13.9K), and Clothing (7.0K).
- Middle Left:** A dashboard titled "Monthly Revenue" showing a value of \$1.83M.
- Middle Center:** A circular callout titled "Monthly Orders" showing a value of 2,146.
- Middle Right:** A dashboard titled "Monthly Returns" showing a value of 166.
- Bottom Left:** A navigation bar with links: Exec Dashboard, Map, Product Detail, Customer Detail, Category Tooltip, AI-Q&A, AI-Decomposition Tree, and AI-Key Influencers.
- Bottom Right:** A navigation bar with links: +, Page 1 of 8, and a zoom control (88%).
- Right Side:** A sidebar titled "Filters" containing sections for "Filters on this page" and "Filters on all pages".

KPIs,  
Score Card.  
Selection Tool  
Grouping

→ calculate [DAX]  
Reset Button , Filter Button.

CALCULATE LAYER  
Reset Button , Filter Button.

## Data View

The screenshot shows the Power BI Data View interface. A table titled "Customer Lookup" is displayed with columns: Prefix, Gender, Occupation, CustomerKey, FirstName, LastName, BirthDate, MaritalStatus, EmailAddress, AnnualIncome, TotalChildren, Education, and StateProvince. A green arrow points from the "Table tools" ribbon to the "New Measure" button, which is highlighted with a blue oval. Another green arrow points from the "Data" tab in the ribbon to a large blue oval containing the text "DAX [Data Analysis Expression]". A third green arrow points from the "Measure Table" option in the DAX context menu to the word "DAX" in the menu itself. The context menu also lists other options like "Customer Lookup", "Customer Metric Selection", "Metric Selection", "Price Adjustment (%)", "Product Categories Lookup", "Product Lookup", "Discount Price", "Model Name", "Product Point", "Product Color", "Product Cost", "Product Description", "Product Key", "Product Name", "Product Price", "Product SKU", "Product Style", "Product Subcategory Key", "SKU Category", "SKU type", "Product Subcategories Lookup", "Returns Data", and "Rolling Calendar".

Gauge Chart -> Target Measure.  
→ DAX

## Model View

The screenshot shows the Power BI Model View interface. It displays a diagram of data relationships between several tables: Calendar Lookup, Customer Lookup, Territory Lookup, Product Lookup, Sales Data, and Returns Data. Red arrows indicate relationships between Customer Lookup and Sales Data, and between Sales Data and Returns Data. A green oval highlights the "Relationships" section of the ribbon. A red arrow points from the "Relationships" section to the word "Relationship" in the bottom right corner. A green circle highlights the "Measure Table" and "Metric Selection" sections of the ribbon. The "Properties" pane on the right side shows details for the "Product Category" and "Measure Table" sections.

Why we are storing different information in different Table

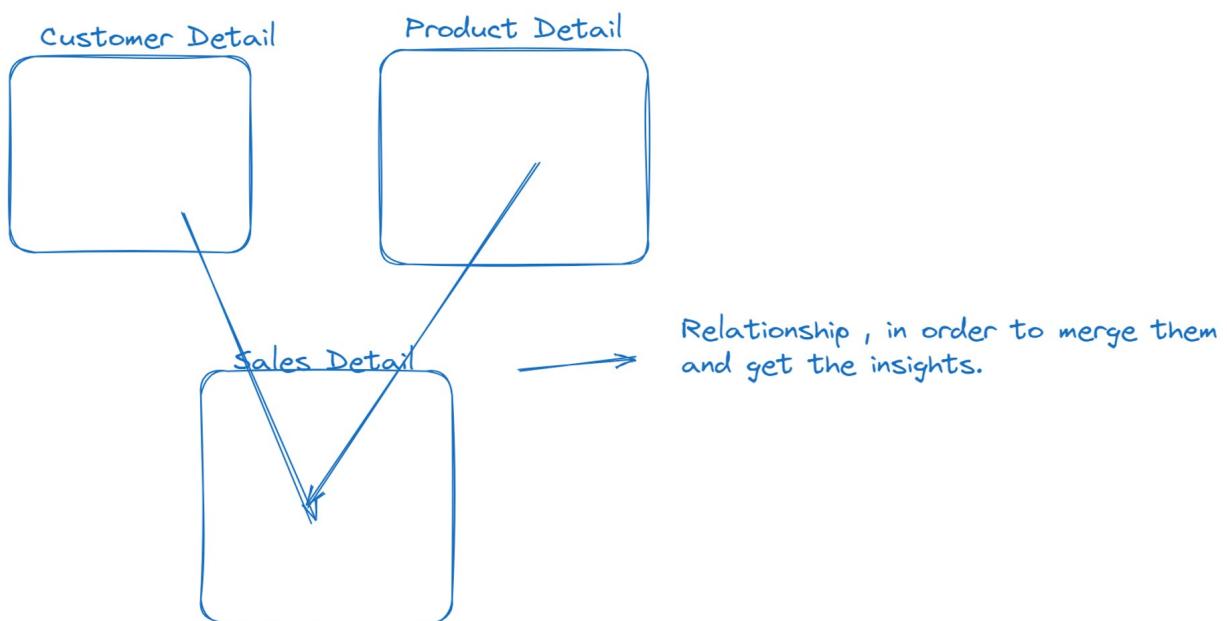
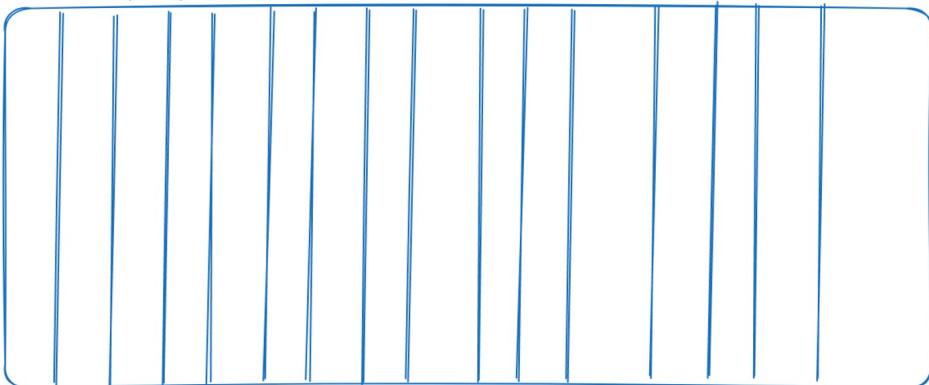
- Whenever requirement comes , I'll merge them.

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To work Efficiently , and having low computational Power.

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Unnecessary columns are executed every time ,  
consuming high computational Power



Front End Vs Back End

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Front End - Data, Models , Report Views.

Back End - Power Query Editor. - Transform