

POWER BI



POWER BI

Power Business Intelligence

- Microsoft tool for Business Intelligence (BI) and data visualization.
- Connects to many data sources to create reports and dashboards.
- Designed for self-service BI → also easy for non-technical users.

Main Components

- Power BI Desktop → Build reports and models.
- Power BI Service → Online sharing and dashboard management.
- Power BI Mobile → Access on phone/tablet.
- Power BI Gateway → Bridge between local data and cloud.
- Power BI Report Server → On-premise report publishing.

Main Views

- Report View → Create visuals and dashboards.
- Data View → Explore tables and columns.
- Model View → Manage relationships and data model.

Data Model

- Structure that connects different tables together.
- Best practice → use Star Schema.
- Good model = better performance + easier DAX formulas.

Visual Tools

- Bar / Column Chart → Compare categories.
- Line Chart → Show trends over time.
- Pie / Donut Chart → Show proportions.

Visual Tools

- Map / Filled Map → Geographic analysis.
- Card / KPI → Show single metrics.
- ⚡ Tip: Avoid too many visuals → keep reports simple.

Measure

- A calculation formula written in DAX.
- Total Sales = SUM(Sales[Amount])**
- Key points:
 - Responds to filters and slicers.
 - Does not add rows → only calculates values.

Power Query

- Tool for data cleaning and transformation.
- Works like an ETL process (Extract-Transform-Load).
- Examples: remove nulls, change data type, add columns.

Common DAX Functions

- SUM / AVERAGE → Basic aggregations.
- CALCULATE → Change calculation context.
- FILTER → Create subsets of data.
- RELATED → Pull data from another table.
- IF / SWITCH → Conditional logic
- TIME INTELLIGENCE → YTD, MTD, QTD, etc.

