Microsoft Power BI

Amit Bose

Data Modelling

Data Modelling - Agenda

- Introduction to Data Modelling & DAX
- Calculated Columns
- Calculated Measures
- Calculated Tables
- New Quick Measures

Data Modelling

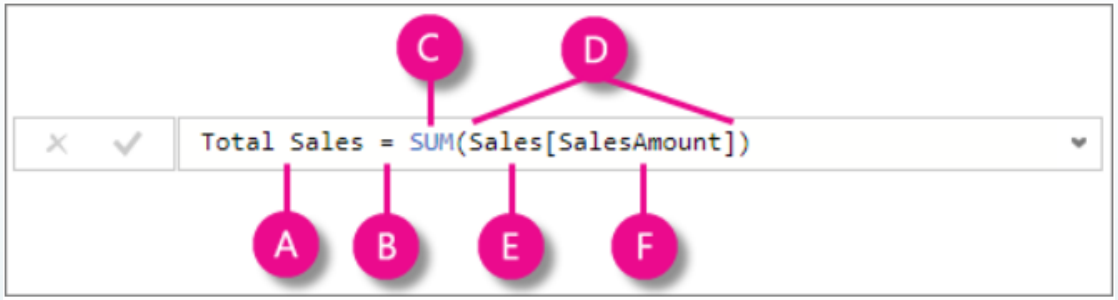
- Connect multiple data sources in BI tool using a relationship.
- Relationship defines how data sources are connected with each other.
- Can build custom calculations on the existing tables.
- DAX expression is the medium of communication in Data Modelling.

DAX – Data Analysis Expressions

DAX is a library of functions and operators that can be combined to build formulas and expressions in Power BI Desktop, Azure Analysis Services, SQL Server Analysis Services, and Power Pivot in Excel.

- Understand how to create common calculations for dates, time, and duration.
- Create key performance indicators (KPIs) and other business calculations
- Develop general DAX calculations that deal with text and numbers
- Discover new ideas and time-saving techniques for better calculations and models
- Perform advanced DAX calculations for solving statistical measures and other mathematical formulas
- Handle errors in DAX and learn how to debug DAX calculations
- Understand how to optimize your data models

DAX



This formula includes the following syntax elements:

A. The measure name, Total Sales.

B. The equals sign operator (=), which indicates the beginning of the formula. When calculated, it will return a result.

C. The DAX function SUM, which adds up all of the numbers in the Sales[SalesAmount] column. You'll learn more about functions later.

D. Parenthesis (), which surround an expression that contains one or more arguments. All functions require at least one argument. An argument passes a value to a function.

E. The referenced table, Sales.

F. The referenced column, [SalesAmount], in the Sales table. With this argument, the SUM function knows on which column to aggregate a SUM.

DAX

- M vs DAX
- Formatting a DAX Measure
- Space complexities of using Calculated Measures and Column
- SUM() and SUMX()
- AVG(), MIN(), MAX()
- Divide() ------- Profit %, Margin %
- Count() & CountRows()
- Calculate() ---------- sameperiodlastyear, Subcatagory sales
- Filter()---------- Highest no. of sales by salesman
- All()------ count all customers, % sales by all state

DAX – Advance Time-Intelligence

- Create a Date Table in DAX ---- CALENDARAUTO(), CALENDAR()
- Create a Date Table in M(Power Query)
  1. Add conditional Column
  2. Date option in Add column
- PREVIOUS()
- YTD and Cummulative or Running totals TOTALXXX()
  1. Last Year YTD Sales
  2. Visuals on comparing YTD & Last Year YTD
  3. Databars on YTD Column
- How to use DATEADD()
  1. DATEADD()----Year,Qtr
  2. Diff between DATEADD() Year and SAMEPERIODLASTYEAR
  3. PARALLELPERIOD() EXCLUDES Days

Thank You

Happy Learning