

# Power BI Project

## Dataset

Columns in our dataset

Product_id	Sales_USD	quantity	Price_USD	COGS_USD	Date_Time	Account_id
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Product\_id — > Helps connect to product. Links with Plant\_Heirarchy product\_name\_id col

Account\_id → Helps connect to Accounts table

## Data Loading and Cleaning

Power BI >> Select Excel >> Choose our Dataset >> Transform

Change names of sheets to relevant names. Example if a table is a dimension table then dim\_name or if its a fact then fact\_name

Dimension:

Fact:

Transformations Applied:

- Remove duplicates from unique
- Rename columns and

Reason for creating Dim\_Date table → to make sure we only select date for which we have the information for when we compare the back dated data

```
Inpast =  
VAR lastsalesdate = MAX(Fact_Sales[Date_Time])  
VAR lastsalesdatePY = EDATE(lastsalesdate,-12)  
RETURN  
Dim_Date[Date]<=lastsalesdatePY
```

The **Inpast** variable is designed to filter dates that are on or before the same period from the previous year. Here's how it works:

1. `lastsalesdate = MAX(Fact_Sales[Date_Time])` retrieves the latest recorded sales date from the `Fact_Sales` table.

2. `lastsalesdatePY = EDATE(lastsalesdate, -12)` shifts this last sales date back by **12 months**, effectively giving the same day and month from **one year ago**.
3. `Dim_Date[Date] <= lastsalesdatePY` filters the `Dim_Date` table to include only dates that are **on or before** this prior year date.

This logic ensures that only dates from a period **ending one year before the last sales date** are considered. If you intended to compare the past 12 months to the present, you might need to adjust the logic accordingly.

#### Create a Measures Table

```
Sales = SUM(Fact_Sales[Sales_USD])
```

```
Quantity = sum(Fact_Sales[quantity])
```

```
COGs = SUM(Fact_Sales[COGS_USD])
Gross Profit = [Sales]-[COGs]
```

```
PYTD_Sales =
CALCULATE(
    [Sales],
    SAMEPERIODLASTYEAR(Dim_Date[Date]),
    Dim_Date[Inpast]=True
)
```

The **PYTD\_Sales** measure calculates **Prior Year-to-Date (PYTD) Sales**, but it includes an additional condition to filter past dates. Here's how it works:

1. `[Sales]` – This is the base measure that calculates total sales.
2. `SAMEPERIODLASTYEAR(Dim_Date[Date])` – This shifts the current selected date range **back by one year**, ensuring the measure calculates sales for the same period in the previous year.
3. `Dim_Date[Inpast] = TRUE` – This ensures that only dates flagged as “Inpast” (from the earlier DAX expression) are considered. The `Inpast` flag ensures dates are within the valid historical range, preventing issues where future dates might exist in the data.

#### Key Use Case:

This measure is useful for **year-over-year comparisons**, particularly when dealing with incomplete years or datasets where future dates should be excluded.

Would you like help refining it for a specific reporting scenario?

Similarly create for gross profit and quantity

```
YTD_Sales =  
TOTALYTD(  
    [Sales],  
    Fact_Sales[Date_Time]  
)
```

The **YTD\_Sales** measure calculates the **Year-to-Date (YTD) Sales** using the **TOTALYTD** function. Here's how it works:

1. **[Sales]** – This is the base measure that calculates total sales.
2. **Fact\_Sales[Date\_Time]** – This specifies the date column from the **Fact\_Sales** table that determines the YTD range.

### How It Works:

- **TOTALYTD** accumulates sales **from the beginning of the year** up to the latest available date in the current filter context.
- The default behavior assumes the fiscal year starts on **January 1st** unless specified otherwise.

### Use Case:

- This measure helps track cumulative sales performance from the start of the year up to a specific point.
- It's useful for comparing **current YTD sales vs. prior YTD sales** by pairing it with **PYTD\_Sales**.