

2.ETL using PowerBI

Absolutely! Here's a step-by-step guide on how to perform ETL and build visualizations in Power BI using your uploaded sales_data.xlsx file.

STEP-BY-STEP GUIDE TO PERFORM ETL IN POWER BI

STEP 1: EXTRACT – Load the Dataset into Power BI

1. Open Power BI Desktop.
2. Click on Home > Get Data > Excel.
3. Select your file: sales_data.xlsx.
4. Choose the appropriate worksheet (e.g., Sheet1) from the Navigator.
5. Click Load.

STEP 2: TRANSFORM – Clean and Shape the Data

1. After loading, click on Home > Transform Data to open Power Query Editor.

A. Remove Missing/Blank Values

- Click on any column with missing data.
- Use Remove Rows > Remove Blank Rows or Remove Errors.

B. Change Data Types

- Ensure correct data types:
 - o Order Date → Date
 - o Sales, Profit, Quantity → Decimal Number or Whole Number

C. Create New Columns

1. Select the Order Date column.
2. Go to Add Column > Date > Month > Name of Month.
 - o This will add a column named Month.
3. Optionally add Year the same way if required.

D. Group and Aggregate Sales

- Go to Home > Group By.
- Group by: Month
- Operation: Sum of Sales

- Name the new column: Total Sales by Month

E. Rename Columns

- Double-click column headers to rename for clarity.

Final Step

- Click Close & Apply to return to the main Power BI screen.

STEP 3: LOAD – Create Visualizations

A. Bar Chart – Monthly Sales

1. Click Clustered Bar Chart from Visualizations.

2. Drag:

o Month → Axis

o Sales → Values

B. Pie Chart – Sales Share by Month

1. Click Pie Chart in Visualizations.

2. Drag:

o Month → Legend

o Sales → Values

C. Heatmap – Sales by Product and Month

1. Click Matrix visual.

2. Drag:

o Product Category or Product → Rows

o Month → Columns

o Sales → Values

3. Format it:

o Click Matrix → go to Format pane > Cell elements.

o Turn ON Background color under Values.

o It will now show color intensity based on sales.

STEP 4: Optional Enhancements

- Slicers:

- o Insert a Slicer visual.
- o Add Region or Segment to let users filter the visuals interactively.
- Title and Formatting:
- o Click on any visual > go to Format pane to edit titles, colors, fonts.

RESULT:

You will now have a dynamic Power BI dashboard with:

- A bar chart showing monthly sales.
- A pie chart showing proportion of sales by month.
- A matrix heatmap showing sales across products and months.
- Optional slicers for interactivity.