

Power BI Assignment 1 – Data Transformation & Data Modeling

E-Commerce Sales Analysis

This assignment will help you explore e-commerce sales data analysis using Power BI. Below are the files you will be working with (click on each to download):

- ★ [List of Orders.csv](#)
- ★ [Order Details.csv](#)
- ★ [Sales target.csv](#)

In this exercise, you will leverage Power BI's capabilities to import, transform, model, and analyze the provided data.

Instructions:-

Import Data:

- Import “List of Orders.csv” into Power BI.
- Open “List of Orders” in Power Query Editor by clicking on ‘Transform’.
- Import “Order Details.csv” and “Sales target.csv” into Power Query Editor.

Data Transformation:

- Restrict the "List of Orders" table to only the first 500 rows.
- Ensure the “Order Date” column in the “List of Orders” table is set to data type 'Date'.
- Change the data type of “Amount” and “Target” columns to ‘Fixed Decimal Number’.
- Format the “CustomerName” column into proper case, ensuring consistent capitalization for each word.
- Merge the "State" and "City" columns to create a new column named "Location" in the format 'City, State'.
- Create a new custom column named "Profit Margin" as the percentage of "Profit" divided by "Amount".

- Add a new conditional column named "Profit Status" based on the values in the "Profit" column. The conditions are as follows: if the profit is less than 0, the label should be "Loss"; if the profit equals 0, the label should be "Break-Even"; and if the profit is greater than 0, the label should be "Profit".

Merging Data (Joins):

- Merge the "List of Orders" and "Order Details" tables into a new single table named "Orders Data" based on the "Order ID" relationship.

Handling Missing Data & Duplicate Data:

- Identify missing values in the data and determine a strategy to address them.
- Check for duplicate rows and define a strategy to handle duplicates.

Sorting and Filtering Data:

- In the 'Orders Data' table, utilize sorting and filtering techniques on columns like Order Date, State or Category to analyze data based on specific criteria:
 - ◆ Sort the orders by Order Date in descending order to analyze recent trends.
 - ◆ Filter the orders to focus only on a specific state (e.g., Tamil Nadu) for regional analysis.

Grouping and Aggregating Data:

- Duplicate the "Order Details" table and calculate the count of each Order ID, average profit by Category or total amount by Sub-Category.
- Duplicate the "Sales Target" table and aggregate the total target amount by Month of Order Date.

Data Modeling:

- Establish a relationship between the "List of Orders" and "Order Details" tables using the 'Order ID' column.
- Build a relationship between the "Order Details" and "Sales Target" tables based on the 'Category' column. Click "Manage relationships" and ensure this relationship is active.