

Power BI Report: Sales, Employees & Global Population Analysis

1. Project Overview

This project demonstrates end-to-end data analysis using **Power BI** and **Power Query**, covering data extraction, cleaning, transformation, modeling, and insights generation. Multiple Excel datasets were used and uploaded to **GitHub** for version control and transparency.

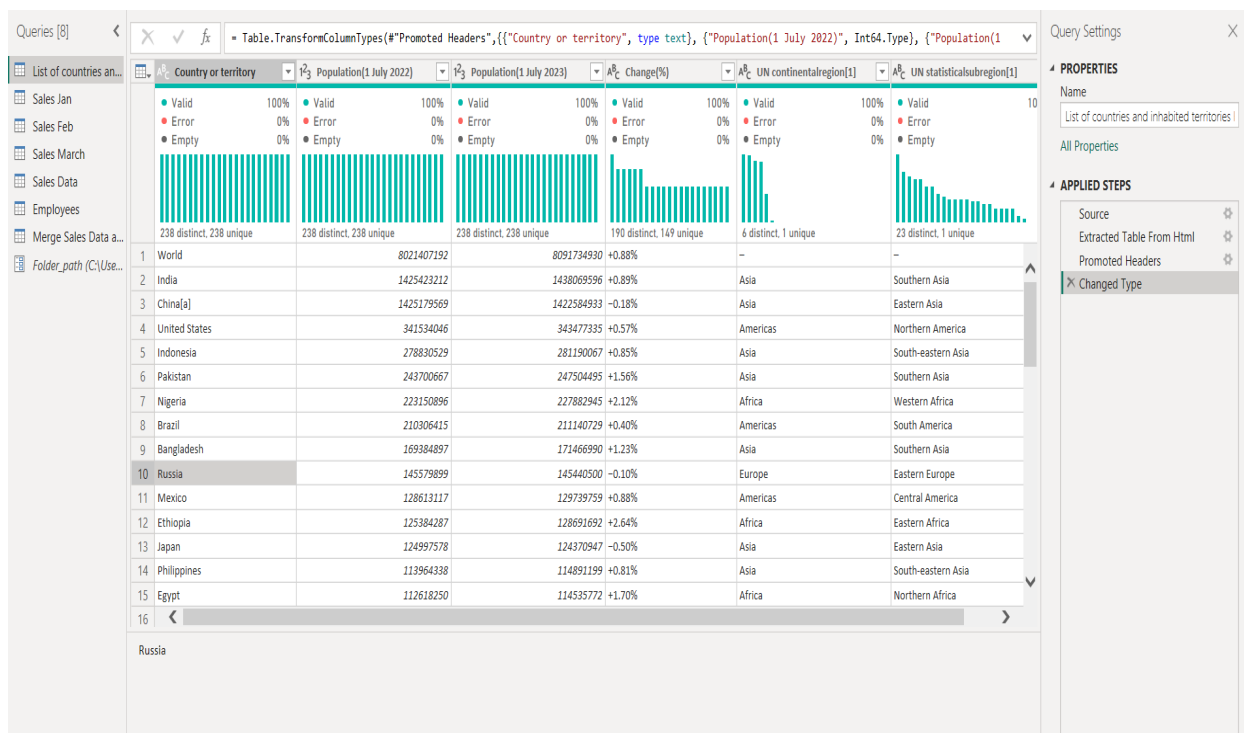
2. Data Sources (Excel – GitHub)

- Sales Jan, Sales Feb, Sales March – Monthly sales transaction data
- Sales Data (Combined) – Cleaned and transformed sales dataset
- Employees – Employee master data
- List of Countries and Inhabited Territories – Global population dataset
- Folder Path Parameter – Dynamic folder-based data loading

3. Data Transformation (Power Query)

3.1 Global Population Dataset

- Extracted data from HTML table
- Promoted headers
- Changed data types (Text, Whole Number, Percentage)



3.2 Sales Data

- Cleaned text (Trim, Clean, Uppercase)
- Split columns using delimiters
- Renamed and reordered columns
- Converted Order Date to Day column
- Added conditional columns and Index column

Queries [8] This preview may be up to 3 days old. Refresh

Table.ReorderColumns(#"Added Index",{"Index", "OrderID", "Order Date", "Day", "Customer Name", "City", "State", "EmployeeID", "Region",

Query Settings

PROPERTIES

Name

Sales Data

All Properties

APPLIED STEPS

Source

Uppercased Text

Cleaned Text

Trimmed Text

Cleaned Text1

Split Column by Delimiter

Changed Type

Renamed Columns

Rounded Off

Added Custom

Changed Type1

Inserted Day

Reordered Columns

Added Conditional Column

Renamed Columns1

Reordered Columns1

Added Index

Reordered Columns2

	Index	OrderID	Order Date	Day	Customer Name	City	State
1	06817	01781	04-01-2025	4	CUSTOMER 2	City2	State2
2	06629	06629	20-01-2025	20	CUSTOMER 3	City3	State3
3	03204	03204	05-03-2025	5	CUSTOMER 4	City4	State4
4	04395	04395	11-02-2025	11	CUSTOMER 5	City5	State5
5	06615	06615	15-01-2025	15	CUSTOMER 6	City6	State6
6	04652	04652	12-01-2025	12	CUSTOMER 7	City7	State7
7	07452	07452	13-03-2025	13	CUSTOMER 8	City8	State8
8	06438	06438	09-02-2025	9	CUSTOMER 9	City9	State9
9	02142	02142	26-03-2025	26	CUSTOMER 10	City10	State10
10	08950	08950	22-01-2025	22	CUSTOMER 11	City11	State11
11	07175	07175	07-02-2025	7	CUSTOMER 12	City12	State12
12	03284	03284	14-03-2025	14	CUSTOMER 13	City13	State13
13	02219	02219	13-02-2025	13	CUSTOMER 14	City14	State14
14	01427	01427	15-03-2025	15	CUSTOMER 15	City15	State15
15	09212	09212	14-02-2025	14	CUSTOMER 16	City16	State16
16	05009	05009	15-03-2025	15	CUSTOMER 17	City17	State17
17	03713	03713	20-03-2025	20	CUSTOMER 18	City18	State18
18	04731	04731	08-02-2025	8	CUSTOMER 19	City19	State19
19							
20							

3.3 Employees Dataset

- Promoted headers and changed data types
- Added Age column using formula: Age = Current Year – Birth Year

Queries [8] fx = Table.AddColumn("#Changed Type", "Age", each Date.Year(DateTime.LocalNow()) - Date.Year([Birthdate]))

Query Settings

PROPERTIES

Name: Employees

APPLIED STEPS

Source

Navigation

Promoted Headers

Changed Type

Added Custom

	EmployeeID	Name	Department	Region	Join Date	Birthdate	Age
1	101	Employee 101	IT	South	07-02-2020	06-02-1995	
2	102	Employee 102	Finance	West	18-04-2020	10-02-1995	
3	103	Employee 103	HR	East	14-12-2020	13-09-1995	
4	104	Employee 104	Sales	East	17-01-2020	13-01-1995	
5	105	Employee 105	IT	West	10-02-2020	07-06-1995	
6	106	Employee 106	Sales	North	12-05-2020	13-07-1995	
7	107	Employee 107	Finance	North	13-08-2020	03-01-1995	
8	108	Employee 108	IT	East	13-11-2020	19-12-1995	
9	109	Employee 109	Sales	West	12-04-2020	26-07-1995	
10	110	Employee 110	Finance	East	15-05-2020	22-06-1995	

3.4 Merge & Aggregation

- Merged monthly sales datasets
- Grouped data by Region
- Calculated Total Sales, Average Order Value, and Transaction Count

Queries [8] fx = Table.Group(Source, {"Region"}, {"Total Sales", each List.Sum([Revenue]), type number}, {"Avg Order Value", each List.Average([Revenue]),

Query Settings

PROPERTIES

Name: Merge Sales Data and Feb

APPLIED STEPS

Source









Grouped Rows

	Region	Total Sales	Avg Order Value	Transaction Count
1	North	130955.22	9353.944286	14
2	West	147442.66	9829.510667	15
3	East	131193.21	9370.943571	14
4	South	172792.81	10164.28294	17

Folder Path Parameter

Queries [8]



-  List of countries an...
-  Sales Jan
-  Sales Feb
-  Sales March
-  Sales Data
-  Employees
-  Merge Sales Data a...
-  *Folder_path (C:\Use...*

Current Value

C:\Users\Arnob\OneDrive\Desktop\Sales

Manage Parameter

4. Data Modeling

Region was used as a common key across Sales and Employees, forming a clean star-like structure suitable for dashboard visualization.

5. Key Insights

- South Region has the highest total sales
- West Region shows strong average order value
- North & East regions show stable transaction counts

6. Tools & Technologies Used

- Power BI Desktop
- Power Query (M Language)
- Microsoft Excel
- GitHub

7. Conclusion

This project showcases practical Power BI skills including data cleaning, transformation, merging, parameter usage, and aggregation. The project is fully reproducible using GitHub-hosted datasets.

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Course: BCA / Data Analytics & AI■ML

Tool: Power BI