

Power BI Modular Data Model Report

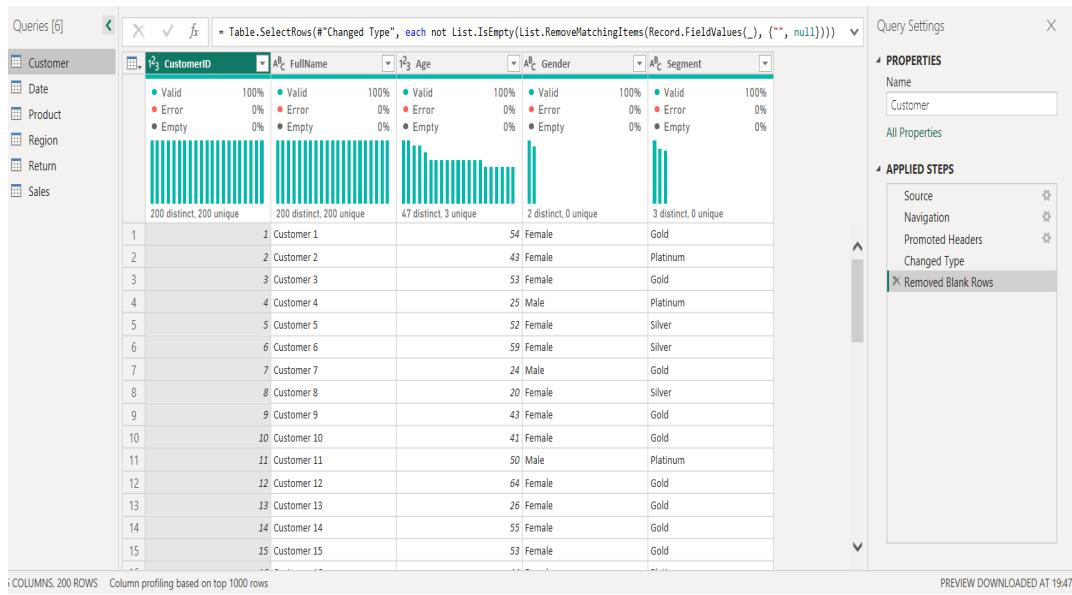
Author: Arnob Maity

Course: BCA / Data Analytics & AI■ML

Tool: Power BI

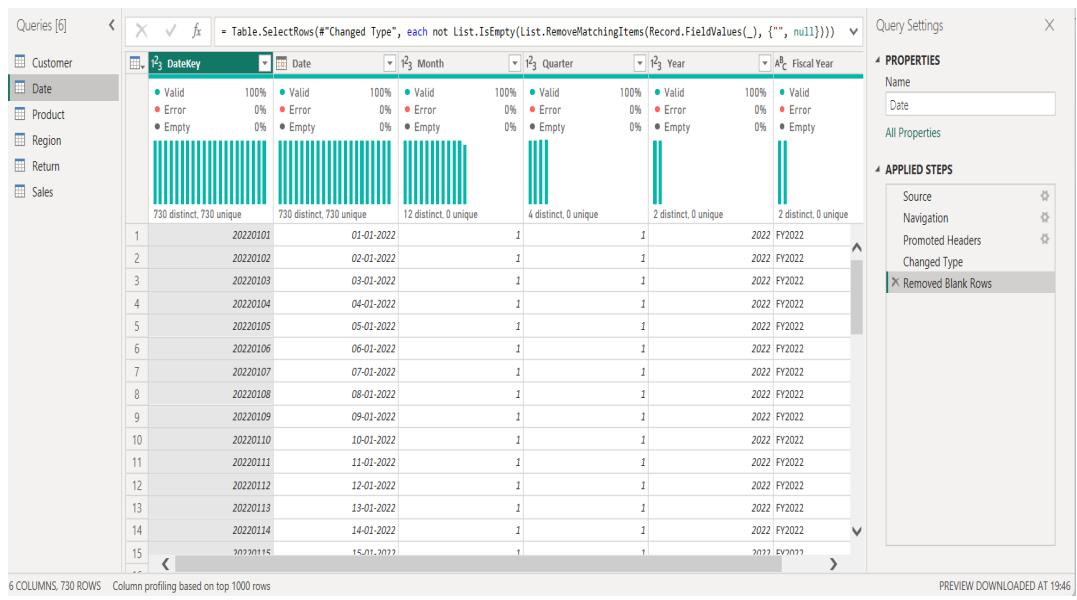
Customer Table

The Customer table acts as a dimension table containing customer-related details such as CustomerID, Full Name, Age, Gender, and Segment. This table is cleaned using Power Query by removing blank rows and correcting data types. It helps analyze sales based on customer demographics.



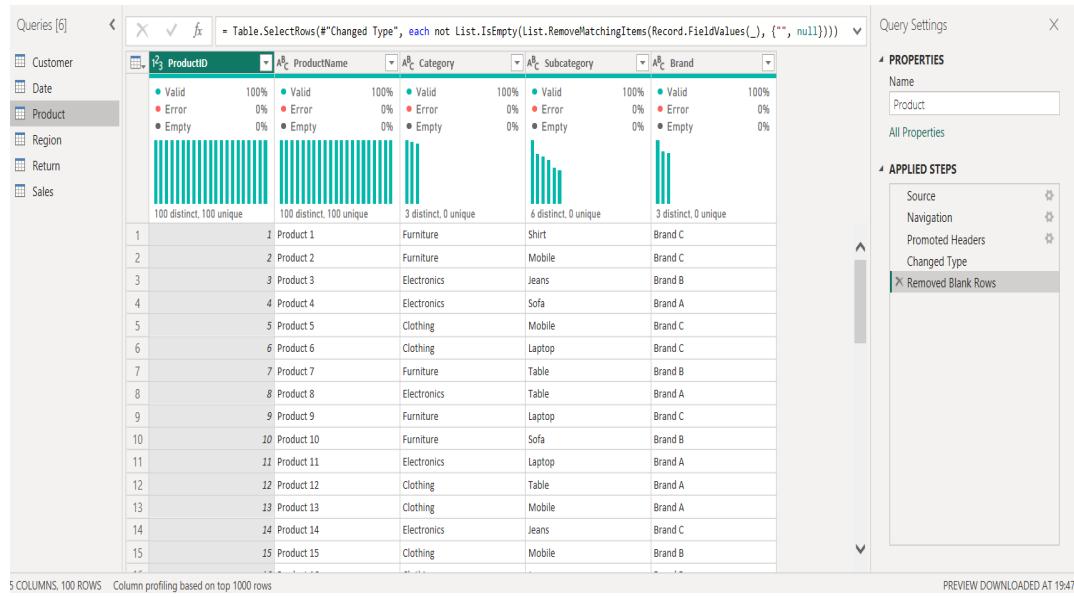
Date Table

The Date table is a time dimension table that enables time-based analysis. It includes DateKey, Date, Month, Quarter, Year, and Fiscal Year. This table allows filtering and comparison of sales data across different periods.



Product Table

The Product table stores product master data such as ProductID, Product Name, Category, Subcategory, and Brand. It enables product-wise and category-wise sales analysis.



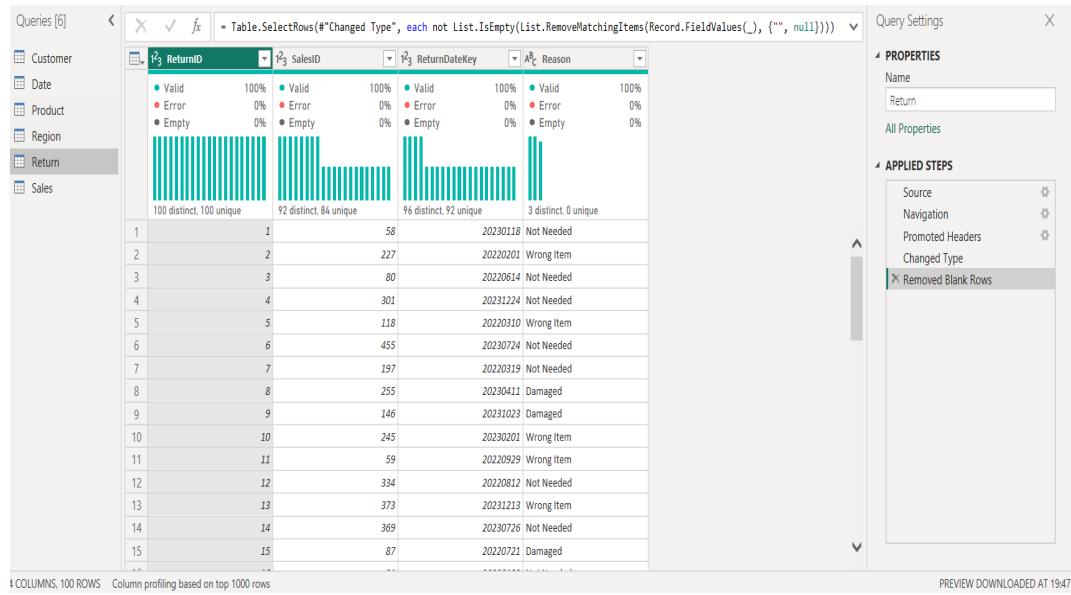
Region Table

The Region table contains geographical information including RegionID, Country, State, and City. This table supports region-wise sales performance and geographic comparison.

The screenshot shows the Power BI Query Editor interface with the 'Region' query selected. The left sidebar lists other queries: Customer, Date, Product, Region, Return, and Sales. The main area displays a table with four columns: RegionID, Country, State, and City. The table has 21 rows, each containing a RegionID, a country name, a state name, and a city name. The first few rows are: 1 USA CA City 1, 2 India DL City 2, 3 USA BW City 3, 4 USA MH City 4, 5 USA MH City 5, 6 India CA City 6, 7 Germany MH City 7, 8 USA CA City 8, 9 USA CA City 9, 10 Germany BW City 10, 11 Germany NY City 11, 12 USA NY City 12, 13 USA MH City 13, 14 USA BW City 14, 15 India MH City 15, 16 USA BW City 16, 17 USA DL City 17, 18 Germany BW City 18, 19 India TX City 19, 20 Germany DL City 20, 21 Germany MH City 21. Above the table, a formula bar shows: = Table.SelectRows("#'Changed Type", each not List.IsEmpty(List.RemoveMatchingItems(Record.FieldValues(_), {"", null})))". On the right, the 'Query Settings' pane shows the 'Name' is 'Region'. The 'APPLIED STEPS' pane lists: Source, Navigation, Promoted Headers, Changed Type, and Removed Blank Rows, with 'Removed Blank Rows' being the most recent step.

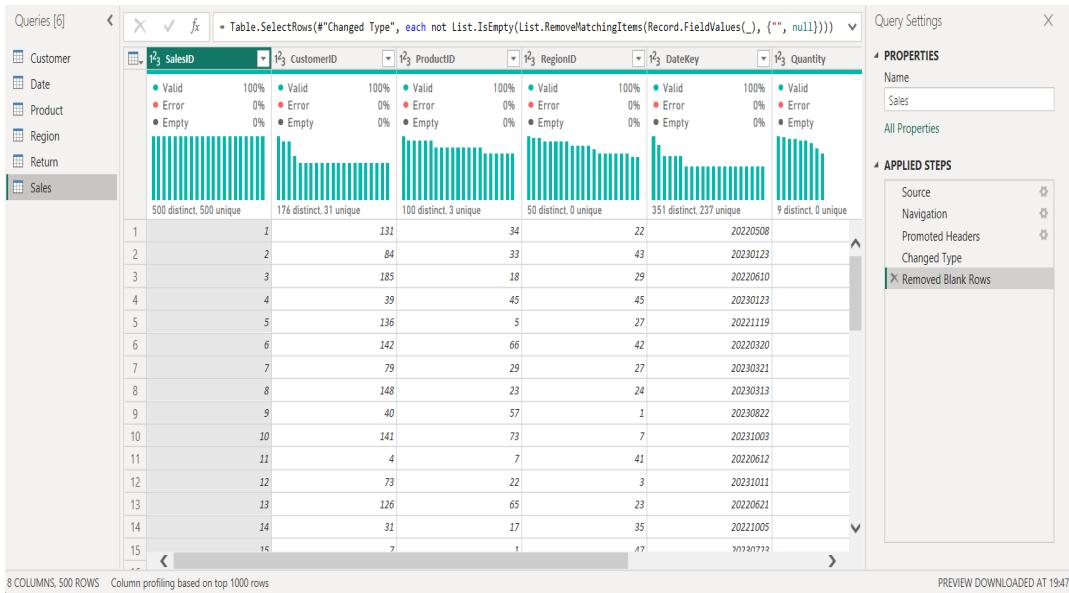
Return Table

The Return table records returned sales transactions along with reasons such as Wrong Item, Damaged, or Not Needed. It helps analyze return patterns and customer behavior.



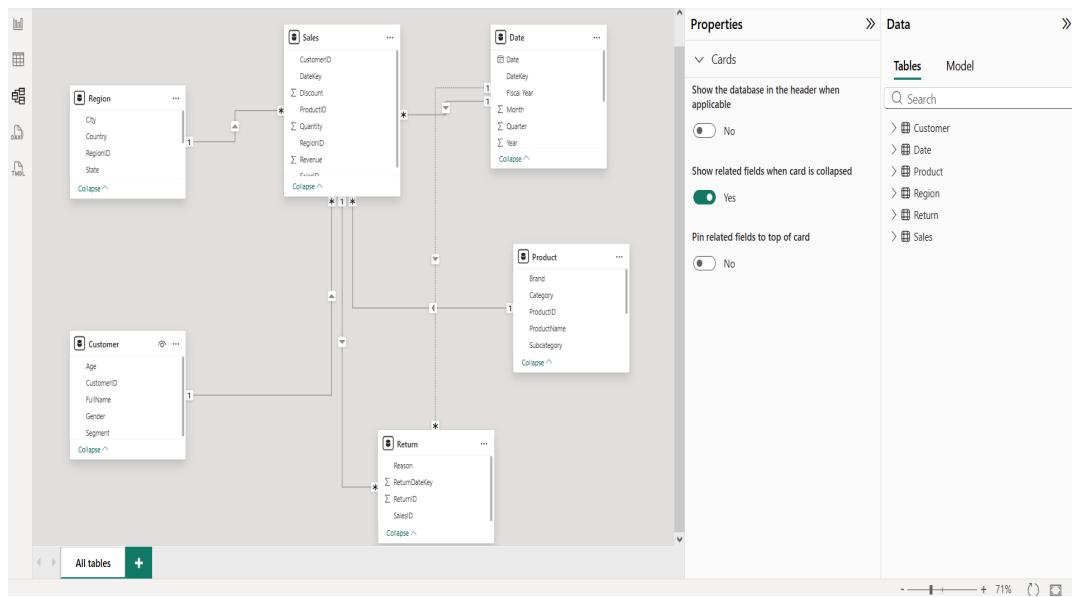
Sales Table

The Sales table is the central fact table containing SalesID, CustomerID, ProductID, RegionID, DateKey, and Quantity. It connects with all dimension tables and forms the foundation for analysis.



Data Model (Star Schema)

The data model follows a star schema design where the Sales table acts as the fact table connected to Customer, Date, Product, Region, and Return tables. This structure improves performance and simplifies reporting.



Dashboard & Insights

The final dashboard presents key insights such as total revenue, sales by category, country-wise performance, customer segment analysis, and return trends. These visuals help in quick decision-making.

The screenshot displays a Power BI dashboard with three main components:

- Top Left:** A table showing sales by category across Germany, India, USA, and Total. The data is as follows:

Category	Germany	India	USA	Total
Clothing	26521	27725	38015	92261
Electronics	26489	31692	44712	102893
Furniture	23990	26347	41435	91772
Total	77000	85764	124162	286926

- Top Right:** A table showing return trends by fiscal year (FY2022, FY2023) across Damaged, Not Needed, Wrong Item, and Total categories. The data is as follows:

Fiscal Year	Damaged	Not Needed	Wrong Item	Total
FY2022	15	17	15	47
FY2023	19	18	16	53
Total	34	35	31	100

- Bottom Center:** A summary value "287K" representing the sum of revenue, with a callout pointing to a table showing revenue by segment. The data is as follows:

Segment	Sum of Revenue
Silver	97456
Platinum	93893
Gold	95597
Total	286926

The right side of the dashboard features a sidebar with various visualization icons, a search bar, and filter settings.