POWER BI PROJECT

INTRODUCTION:

Power BI is a powerful business intelligence tool developed by Microsoft that allows users to visualize, analyze and share insights from data. In today's data-driven world, organizations rely on clear and interactive reports to make better decisions. Power BI makes it possible to transform raw data into visually appealing dashboards that provide actionable insights.

WHAT IS POWER BI?

Power BI is a data visualization and business analytics tool that connects to various data sources and helps users create interactive reports and dashboards. It combines data preparation, visualization, and sharing in one platform. Tata Motors Sales Dashboard This may include:

- **Data Connectivity** – Importing or connecting live data from sources like Excel, SQL, or cloud platforms.
- **Data Transformation** – Cleaning, shaping, and modeling data using Power Query and DAX.
- **Data Visualization** – Creating interactive charts, graphs, maps, and KPI cards.
- **Dashboard Creation** – Building user-friendly dashboards that highlight key business metrics.
- **Data Sharing** – Publishing reports to the Power BI Service for collaboration and decision-making.

WHAT IS POWER QUERY EDITOR?

Power Query Editor is a data transformation tool in Power BI (also available in Excel). It allows users to connect, clean, and shape data before loading it into Power BI for analysis and visualization.

It provides an easy-to-use interface with point-and-click options as well as an underlying M language (Power Query Formula Language) for advanced transformations.

Key Features of Power Query Editor:

- **Data Import** – Connect to multiple sources like Excel, SQL, Web APIs, CSV, etc.

- **Data Cleaning** – Remove duplicates, handle missing values, filter out irrelevant rows, and correct errors.

- **Data Transformation** – Split columns, merge tables, pivot/ unpivot, change data types, and create custom columns.

- **Data Shaping** – Reorganize data structures to make them analysis-ready.

- **Applied Steps** – Every transformation is recorded as a step, making the process transparent and reversible.

- **Automation** – Once defined, the same query can be refreshed automatically with updated data.

"TATA MOTORS SALES DASHBOARD"

INTRODUCTION TO THE TATA MOTORS SALES DATASET

This dataset provides cleaned sales data for *Tata Motors*, covering multiple years and regions. It tracks performance metrics across car models including sales volume, revenue, dealer margin, and profit making it ideal for sales analysis, revenue forecasting, and performance comparison.

COLUMN DETAILS –TATA MOTORS SALES DATASET

1. **Year** -- The year of the recorded sales data. (e.g. 2015, 2016, 2020)

   Used for trend analysis, year-over-year growth, and forecasting.

2. **Month** -- Month of the sales transaction. (e.g. Jan, Feb, Mar)
   Helps identify seasonal trends or monthly sales variation.
3. **Region** -- Geographic sales region within India. (e.g. North, South, East, West India)
   Useful for regional performance comparisons.
4. **Model** -- Car model sold under Tata Motors. (e.g. Tiago, Nexon, Harrier)
   Used to analyze model-wise sales performance.

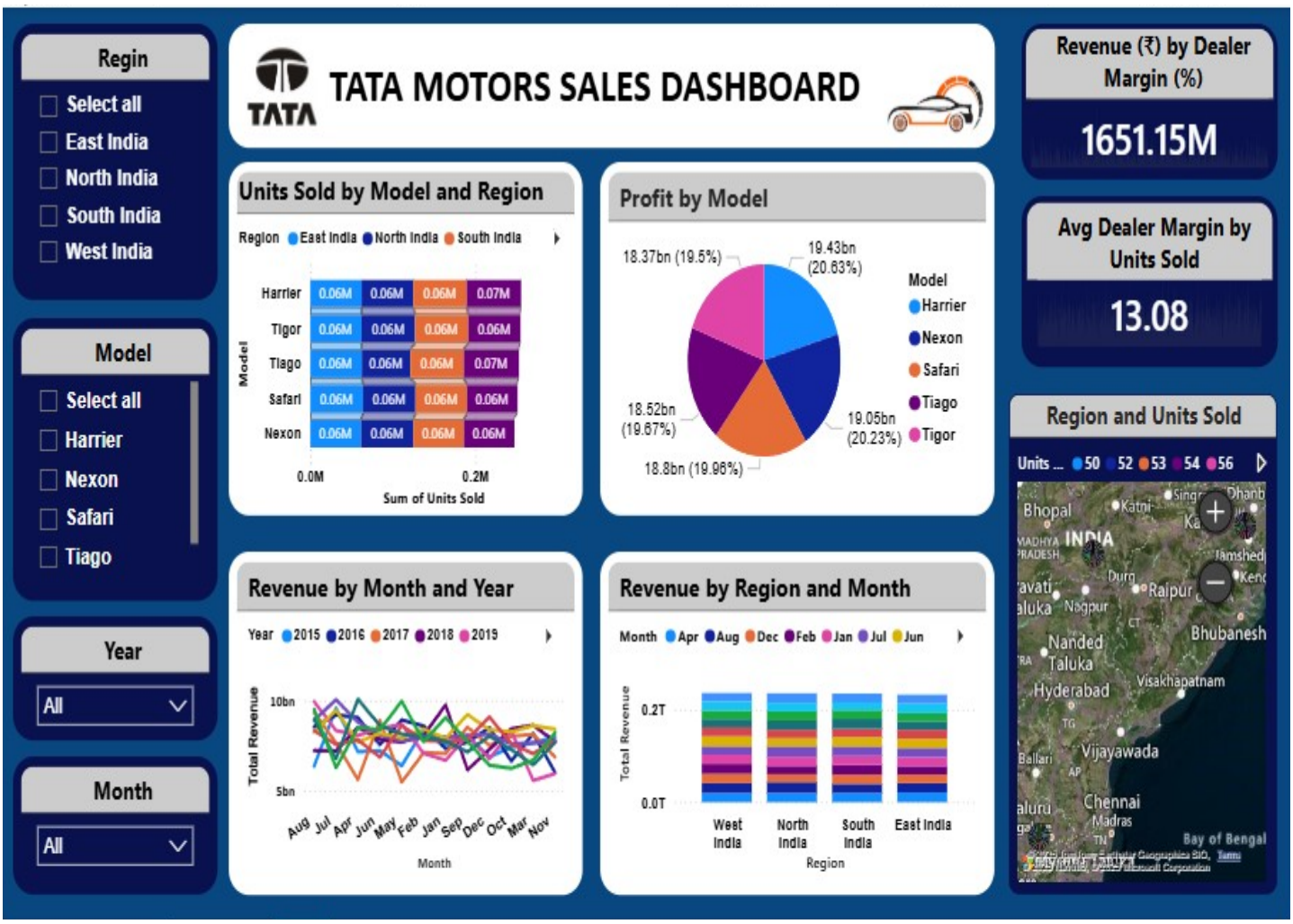
5. **Units Sold** -- Number of cars sold for the given month, model, and region. (e.g. 104, 546, 674) Key metric for volume-based KPIs.
6. **Revenue (₹)** -- Total revenue generated from sales (in Indian Rupees). (e.g. 88524280) Used to calculate total sales and revenue growth.
7. **Dealer Margin (%) --** Percentage of revenue retained by the dealer as margin. (e.g. 8.73, 13.59) Helps measure dealer profitability.
8. **Profit (₹)** -- Net profit after deducting costs, in Indian Rupees. (e.g. 11,764,880) Used in profitability reports, ROI analysis, etc.

DATA CLEANING & PREPARATION NOTE

The dataset was directly imported into Power BI from Kaggle. Normally, in supply chain analytics, the Power Query Editor is used to clean and preprocess the dataset (e.g., handling missing values, removing duplicates, renaming columns, fixing data types).

However, in this case:

- The dataset contained no missing values.
- There were no duplicates.
- Column data types were correctly assigned (numeric, categorical, etc.).
- Values were already in a clean and consistent format.



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