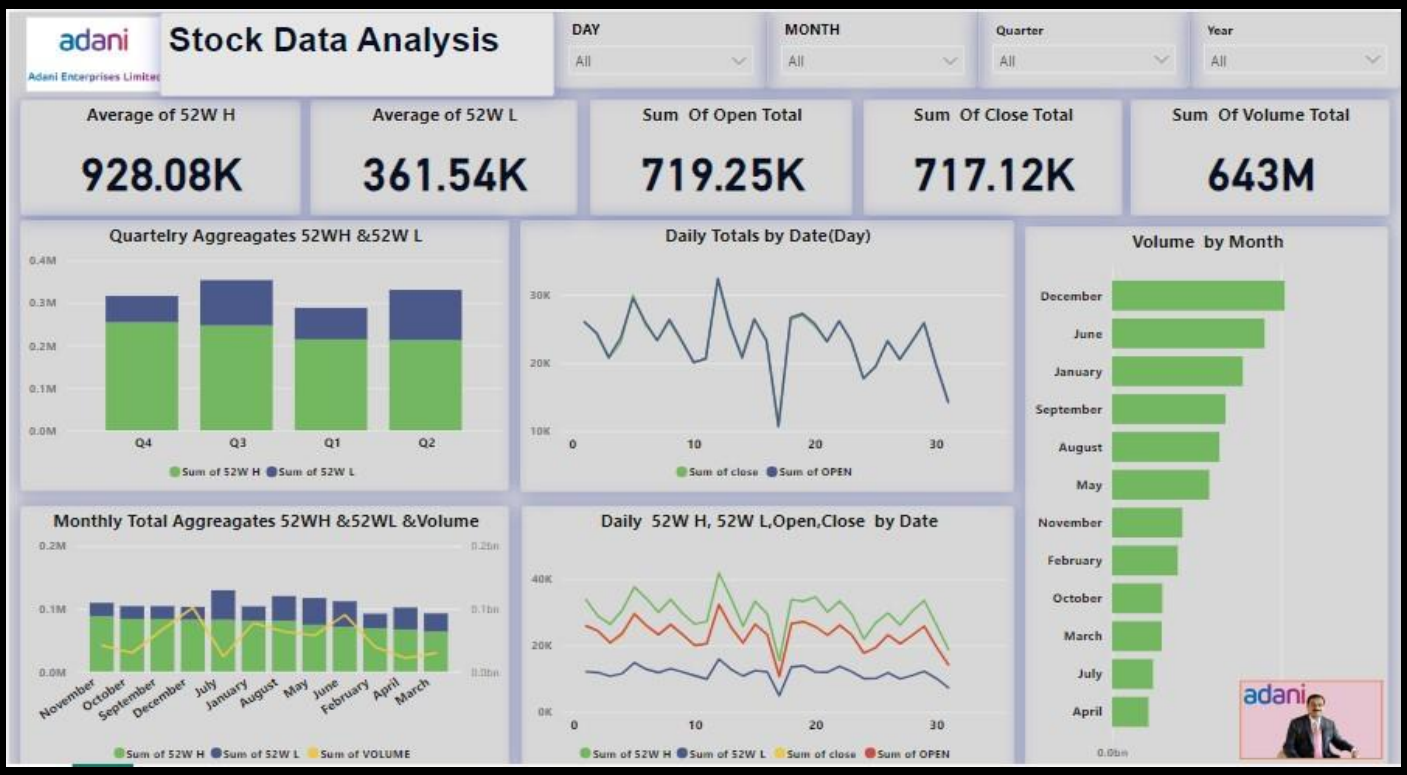
Stock Market Analysis using Power BI-2024

Stock Analysis: Adani Enterprises Ltd. in 2024 using Power BI



Case study 4:

Problem Statement:

In 2024, Adani Enterprises is facing fluctuating stock performance, leading to challenges in understanding key market trends and making informed investment decisions. The goal of this project is to analyze historical stock data using Power BI to identify key performance indicators (KPIs) such as monthly price changes, trading volume trends, and volatility patterns. This analysis will provide insights into stock behaviour, enabling stakeholders to optimize their investment strategies and make data-driven decisions. I've downloaded the data from 25-07-2023 to 25-08-2024.

How to get real time data:

Steps to Download Data for Adani Enterprises Limited from NSE:

1. Go to Google Search: Open your browser and search for NSE.

2. Click on the NSE Website Link: Click on the link to the official NSE (National Stock Exchange) website.

3. Search for Adani Enterprises Limited:

   - In the NSE search bar, type Adani Enterprises Limited and select the equity option.

4. Navigate to Historical Data:

   - Go to the Historical Data section on the Adani Enterprises page.

5. Select Year and Apply Filter:

   - Choose the specific year you want to download data for and apply the filter.

6. Download the Data:

   - Click the download option to save the data to your computer, usually in CSV format.

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Learning Outcomes:

- **Data Extraction:** How to download and import historical stock data from NSE into Power BI.
- **Data Transformation:** Techniques for cleaning and transforming stock data to ensure accuracy and relevance.
- **Trend Analysis:** Understanding how to create visualizations that highlight stock trends, performance metrics, and key insights.
- **Custom Measure Creation:** How to create custom measures and KPIs in Power BI to track specific stock performance metrics like closing prices, trading volume, and price changes.
- **Dashboard Design:** Skills in designing a professional and interactive dashboard that effectively communicates stock performance and insights.

Understand data:

Equity(EQ) represents ownership in a company. If you own equity in a company, it means you have a share in that company's assets and profits. It's like owning a part of a business, which gives you a claim on its earnings and assets.

Example:

Think of equity like owning a piece of a company. If you buy a share of a company's stock, you own a small part of that company. This means you can benefit from the company's success, like earning a share of the profits. It's similar to owning a slice of a pizza—if the pizza is good and makes a lot of money, your slice also gets more valuable.

1. Date: The specific day on which the stock data is recorded.

2. Series: Indicates the type of stock or equity (e.g., EQ for equity shares).

3. OPEN: The price at which the stock first traded when the market opened on that day.

4. HIGH: The highest price the stock reached during the trading day.

5. LOW: The lowest price the stock reached during the trading day.

6. PREV. CLOSE: The closing price of the stock from the previous trading day.

7. LTP(Last Traded Price): The most recent price at which the stock was traded.

8. Close: The price at which the stock was last traded at the end of the trading day.

9. VWAP (Volume Weighted Average Price): The average price at which the stock traded throughout the day, weighted by the volume of shares traded at each price level.

10. 52W H (52-Week High): The highest price the stock has reached over the past 52 weeks.

11. 52W L (52-Week Low): The lowest price the stock has reached over the past 52 weeks.

12. VOLUME: The total number of shares traded during the trading day.

13. VALUE: The total monetary value of the shares traded during the day (often calculated as Volume * Last Traded Price, but may be provided directly).

14. No of Trades: The total number of individual trades executed for the stock during the trading day.

Key Performance Indicators (KPIs):

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1. Average Monthly Closing Price:
2. Average Monthly Opening Price
3. Monthly Price Range
4. Quarterly Performance Comparison
5. Monthly Trading Volume: In December and June, the trading volume was highest, indicating peak investor activity during these months

Data Preparation:

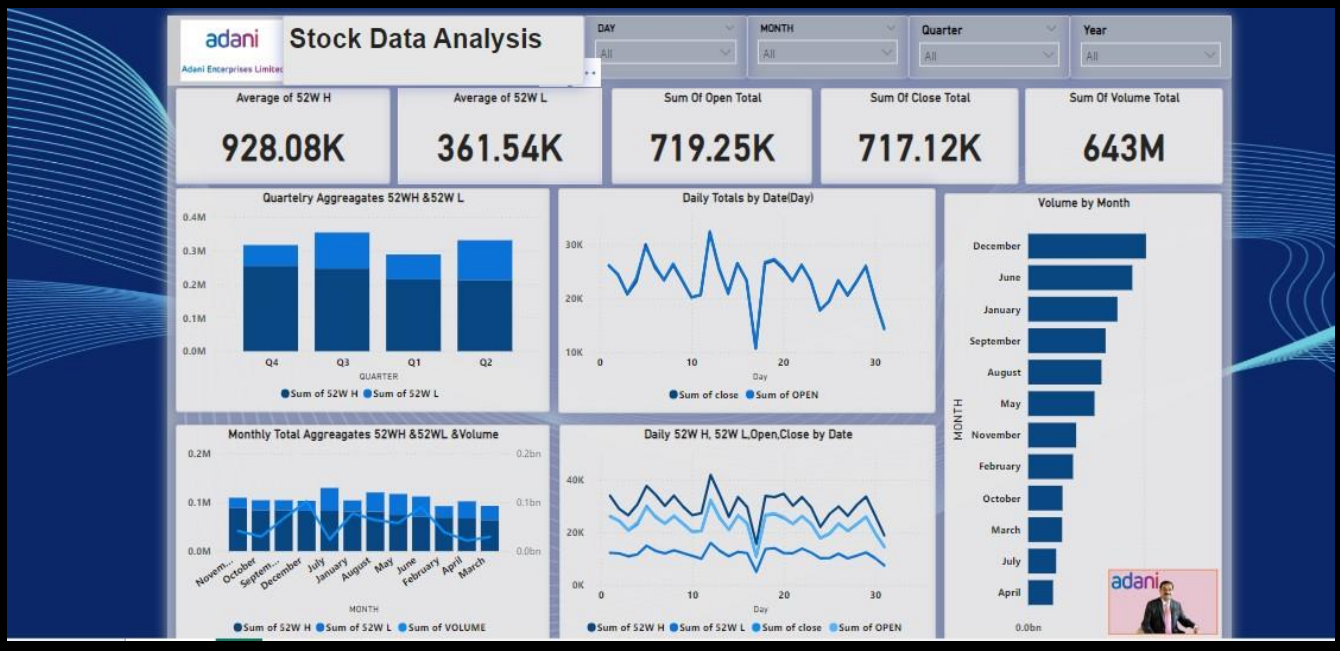
- Data **Cleaning**:

  In Microsoft excel,

  1. Identify the VALUE column and any old VOLUME or No of trades columns that you want to remove.
  2. For columns with numbers requiring decimal precision, select the relevant columns.
  3. **Format** VOLUME **and No. of Trades Columns**: Using NUMBERVALUE formula changed both column and deleted old columns.
  4. Extract the year, month, and day from the Date column in Excel: =TEXT(A2, yyyy),TEXT(A2, mmmm) ,TEXT(A2, dddd) and find quarter =Q&ROUNDUP(MONTH(A2)/3,0) converts a date in A2 into its quarter, prefixed with Q (e.g., Q3 for the third quarter).

Conclusions:

The analysis reveals that Gautam Adani's stock maintained overall stability in its value throughout the year, with significant trading activity in December and June. These insights can guide investors in making informed decisions on buying or selling.



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Study :

1. Average Monthly Closing Price:

   - KPI: The average closing price per month helps to understand the typical value of the stock over time.

2. Highest Trading Volume Month:

   - KPI: The month with the highest trading volume shows when the stock was most actively traded.

3. Monthly Price Range:

   - KPI: The monthly price range (high minus low) indicates the volatility of the stock each month.

4. Quarterly Performance Comparison:

   - KPI: Comparing the average closing price across different quarters reveals how the stock's performance changed throughout the year.

5. Volume vs. Number of Trades:

   - KPI: Analyzing the relationship between volume and the number of trades provides insights into trading activity and market liquidity.

6. Percentage Change from Previous Close:

   - KPI: The average percentage change from the previous close helps gauge daily stock price fluctuations.