Adani Stock Data Analysis:

A Data-Driven Approach

Using Excel, Power BI & AI

# Introduction

The objective of this project is to analyze the stock performance of Adani Group companies over a one-year period—from April 1, 2024, to April 1, 2025—using data sourced directly from the NSE India website. By employing tools like Microsoft Excel, Power BI, and AI-driven insights, this project aims to present trends, performance metrics, and actionable intelligence that may assist investors and analysts in making data-informed decisions.

# Data Collection & Preprocessing

The dataset was collected from nseindia.com, focusing on daily stock prices of Adani Group companies. This includes: Open, High, Low, Close (OHLC) values, Volume traded, Percentage change, Market capitalization (if available). Data cleaning and preprocessing were initially done in Microsoft Excel, where missing values were treated, unnecessary columns were removed, and date formats were standardized.

# Tools & Technologies Used

**Excel:**

- Cleaned raw CSV data.

- Computed daily return percentages and moving averages.

- Generated preliminary visualizations.

**Power BI:**

- Designed interactive dashboards.

- Used slicers for date and company-wise analysis.

- Integrated DAX measures for dynamic KPIs.

- Created line graphs, bar charts, and cards.

**AI Integration**:

- Used forecasting tools and anomaly detection for trend analysis.

**Dashboard Overview**

**The Power BI dashboard consists of the following visuals:**

- Stock Price Trend Chart

- Volume Analysis Bar Graph

- Performance Metrics Cards

- Interactive Filters

- AI Forecasting Visuals

# Insights & Analysis

- Seasonal patterns were observed in price changes.

- Volatility increased around earnings releases.

- Forecasting tools suggested potential future growth trends.

# Conclusion

The project demonstrates the synergy between traditional tools and modern BI platforms. The dashboard simplifies stock analysis and highlights the effectiveness of integrating Excel, Power BI, and AI for financial analysis.

# Future Scope

- Automate real-time data refresh.

- Integrate more technical indicators.

- Expand forecasting techniques using machine learning.

# References

- National Stock Exchange of India: https://www.nseindia.com

- Microsoft Excel Documentation

- Power BI Community

- AI Forecasting in Power BI