KONGU ENGINEERING COLLEGE

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DEPARTMENT OF AI

Transform Yourself

TCS(Tata Consultancy Services) Stock Market Analysis

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TCS Stock Market Analysis Overview

- ✓ TCS stock market analysis project utilizes Power BI to visualize and analyze historical stock data to reveal critical trends and patterns in TCS's stock performance.
- ✓ This analysis provides a comprehensive view of TCS's stock movements over time by harnessing key attributes such as daily opening and closing prices, highest and lowest prices, and trading volumes.
- ✓ Power BI's visualization capabilities enable dynamic exploration of price fluctuations and volume trends, highlighting factors like seasonal performance, volatility, and price peaks.
- ✓ Through these insights, we can better understand investor behavior, identify periods of heightened trading activity, and potentially recognize influences that drive stock performance.
- ✓ The analysis is a strategic tool for assessing past trends and informing future investment decisions.

Dataset Summary for TCS Stock Analysis 📈

- 🕰️ **Open Price**: Where each day's journey begins.
- 🔚 **Close Price**: The final stop of the trading day.
- 📈 📉 **High/Low**: Peaks and dips in daily trading.
- 🔄 **Volume**: Total shares exchanged by investors daily.

This dataset, sourced from Kaggle, provides a snapshot of TCS's daily stock activities, capturing essential price movements and trading volumes over time.

Data Preprocessing Techniques

1. Data Splitting: Divided the dataset into training and testing sets to validate analysis and forecasting models.
2. Handling Missing Values: Used interpolation techniques to fill in missing data points, ensuring consistency without disrupting the time-series continuity.
3. Date Formatting: Standardized date formats for accurate time-series analysis, enabling seamless chronological sorting and analysis.
4. Data Normalization: Adjusted numerical data for uniformity, ensuring consistent precision in prices and volumes for accurate comparisons and insights.

- These preprocessing steps were essential to prepare the dataset for robust and reliable analysis in Power BI.

DATASET SOURCE

- The dataset for this TCS stock market analysis was sourced from Kaggle. This dataset offers a historical view of the stock performance of Tata Consultancy Services (TCS), a leading global IT services and consulting company headquartered in India. TCS is renowned for its extensive portfolio of technology and consulting solutions, serving clients across various industries worldwide.
- The dataset spans a specified period and provides daily records of TCS stock prices with essential attributes such as **Open Price** (price at market opening), **Close Price** (price at market close), **High/Low Prices** (highest and lowest prices during the day), and **Volume** (total daily shares traded).
- These metrics collectively offer valuable insights into TCS's stock performance over time, revealing patterns and fluctuations related to market demand and investor interest. This comprehensive data source supports a range of financial and trend analyses aimed at better understanding TCS’s historical stock trends and potential future performance.
- Link to Dataset: https://www.kaggle.com/datasets/harshalkasat/tcs-stock-market-dataset-analysis

QUESTIONS ANALYSED

1. Determine how the daily Tata Close price has changed over time (daily, monthly, and yearly).
2. Calculate the monthly and yearly average Tata Close prices from the dataset.
3. Compute the daily difference between Tata High and Tata Low prices, and illustrate how this range has evolved over time.
4. Analyze how often the daily closing price exceeds the opening price within each month.
5. Evaluate the average trading volume (Tata Volume) for each month and year.
6. Identify any significant spikes in trading volume and compare them with changes in the Tata Close price.
7. Examine how the adjusted closing price (Tata Adj Close) varies compared to the Tata Close price.
8. Track changes in the adjusted closing price over daily, monthly, and yearly periods.
9. Compare the cumulative return of the TCS stock over different specific periods (e.g., daily, monthly, yearly).
10. Interpret seasonal trends in TCS stock prices, such as months with consistent price increases or decreases.
11. Investigate how the day of the week affects stock performance and determine if certain days show consistent trends (e.g., Monday price drops, Friday increases).
12. Assess the correlation between the closing price (Tata Close) and the adjusted close price (Tata Adj Close) over time.
13. Identify the highest and lowest prices (Tata High and Tata Low) within each month or year.
14. Design a dynamic filtering mechanism to visualize trends for specific periods (e.g., days, months, or years).
15. Evaluate key metrics to monitor Tata Close performance and compare them against target benchmarks or values.

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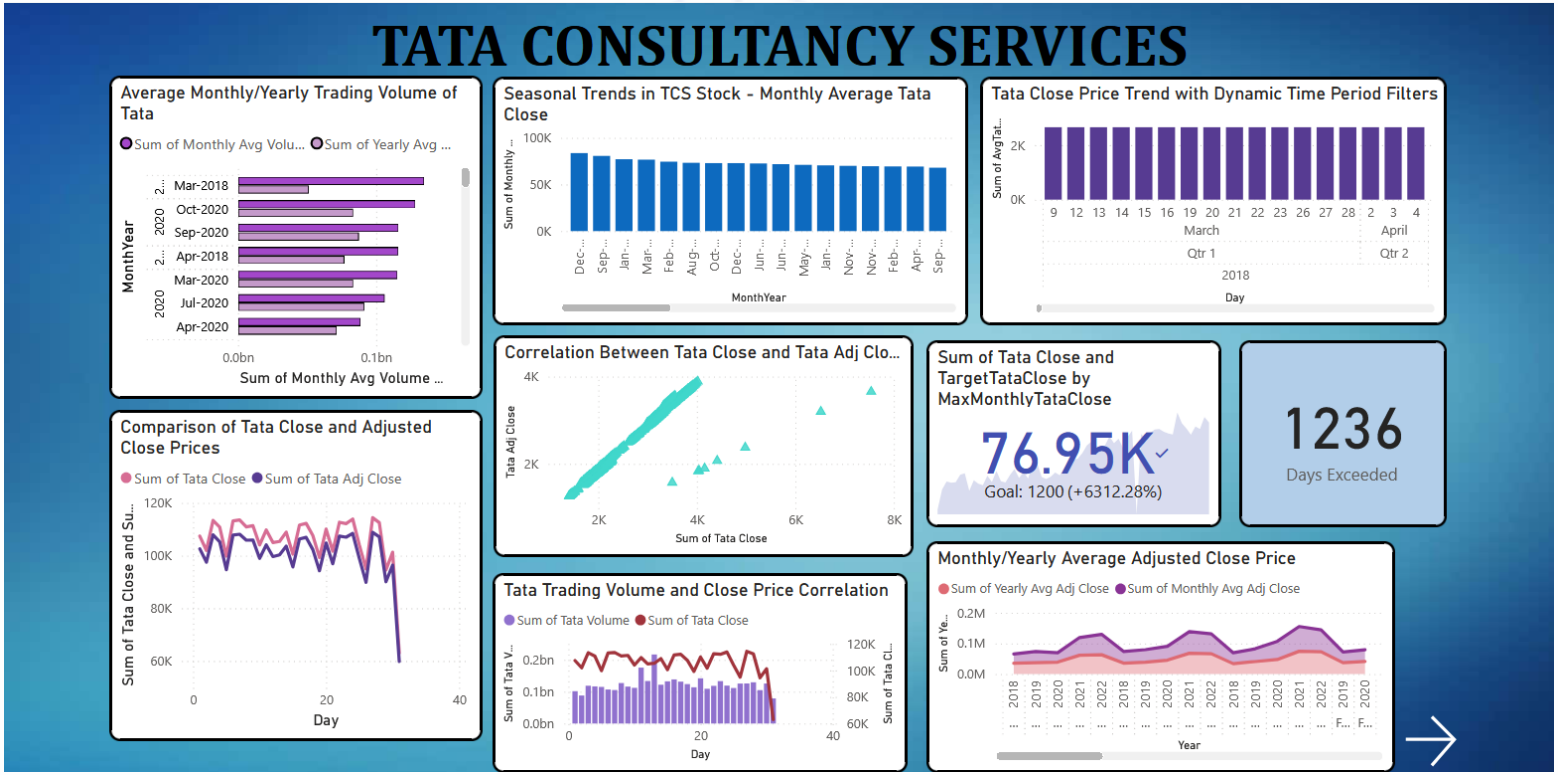
VISUALISATION



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Thank You !!