**Designing ADNOC Historical Stock Prices Dashboard**

When I set out to create a Tableau dashboard that effectively communicates essential stock market data, my primary objective was to design a visually engaging and analytically robust interface. My goal was to ensure that users could quickly glean useful insights without being overwhelmed by the complexity of the data.

**Selecting the Visualizations**

The process of selecting the visualizations was driven by my understanding of the data and the insights I wanted to highlight. The dataset included stock attributes such as opening and closing prices, high and low values, volume, and average prices across several years. I aimed to present this data in a way that would allow users to easily track trends, compare key metrics across different years, and identify significant highs and lows.

I chose line charts to display trends over time because they are particularly effective for showing the progression of the stock’s closing price year by year. To visualize the opening, closing, high, and low prices in a single view, I opted for a candlestick chart, which is well-suited to illustrating fluctuations within a specific time frame.

For categorical data like the volume of stocks sold across different years, I decided to use bar charts. I implemented a Top N function to filter and highlight the top quarters with the highest stock volumes, making it easier for users to focus on the most critical data points. For detailed insights, I included tables that present precise values of stock attributes for specific years, ensuring that the dashboard retained a high level of analytical detail.

**Handling Tradeoffs**

One of the key tradeoffs I faced was balancing detail with clarity. While line charts and bar charts provide a broad view of the data, they can sometimes obscure finer details. On the other hand, tables offer detailed insights but can overwhelm users if not carefully structured. To address this, I made sure that the table was accompanied by filters and interactive elements, allowing users to focus on specific years or data points without cluttering the interface.

Another tradeoff was between interactivity and maintaining a streamlined, visually coherent layout. While interactive filters, such as the single value dropdown for year selection, enhance user engagement, they also require careful placement to avoid disrupting the flow of information. I used vertical containers to organize these elements, which helped me maintain a clean and orderly dashboard design.

**Designing the Layout for Effective Communication**

When designing the layout, my focus was on the user’s experience. I wanted the layout to guide the user’s eye logically through the data, from high-level overviews to detailed insights. I used vertical and horizontal containers to group related elements, which helped create a cohesive narrative across the dashboard.

Color played a significant role in my design. I chose a (light blue) palette that ensured clarity and visual harmony, using gradient colors under line charts to emphasize the area under the curve. This subtly highlighted the data trends without overpowering other elements. Consistency in color schemes across different charts and tables was crucial in keeping the dashboard visually balanced.

**Overcoming Challenges**

One of the most challenging aspects of the design was ensuring that the filters and interactive elements were both functional and intuitive. Early in the process, I encountered issues with filters not displaying correctly and calculated fields appearing in separate columns instead of aligning under the correct year. These challenges required a deep understanding of Tableau’s functionalities, particularly in using calculated fields and parameter-driven filters. I spent time fine-tuning these elements to ensure they interacted correctly with the data and contributed to a seamless user experience.

Another significant challenge was developing the dashboard was the absence of data from the second and third quarters of 2020. This gap in data required me to make informed decisions to ensure the integrity and consistency of the visualizations. The missing data created a challenge in maintaining a smooth and continuous representation of stock trends, particularly for the ADNOC stock prices, which were being traded during this period. However, despite the ongoing trading activity, the data I was working with did not include those crucial quarters. This required a careful approach to handle and represent the available data accurately while acknowledging the gaps.