**SUPERSTORE SALES DASHBOARD**

**Project Scope (FALSE)**

*The client has provided their sales dataset and requested insights from the data, focusing on several factors such as changes in sales orders over the years, a comparison of sales data across different states, monthly sales volume analysis, sales forecasting, and an evaluation of the performance of various product categories and sub – categories.*

**Selection of Key Performance Indicators (KPIs):**

* **Sales:** This sums up all sales transactions' values, providing an overview of the revenue generated by the store.
* **Profit:** This metric combines revenue and costs to show the net profit earned by the store.
* **Quantity:** This adds up all units or items sold, giving insights into customer demand.
* **Avg Shipping Days:** The average number of days it takes for the order to get shipping.

**Selection of Charts and Visualisation Options:**

1. **Sales By Category – Clustered Bar Chart:** Chose a stacked column chart to display "Sales By Category." In this chart, the categories' revenue is depicted along the X-axis, while the columns represent the respective categories on the Y-axis. This visualization helps illustrate how each category contributes to the overall revenue.
2. **Top 5 Sub Categories – Clustered Bar Chart:** In this chart, substituted the category values on the y-axis with sub-category values. Additionally, applied a filter to showcase the top 5 sub-categories that have contributed the most revenue to the company. This adjustment allows for a more detailed examination of the most profitable product segments.
3. **Sales By Ship Mode – Clustered Bar Chart:** The chart displays revenue generated by various shipping methods. To identify the shipping method that contributed the most revenue for the firm, look for the highest bar on the chart. Conversely, to determine the shipping method with the lowest revenue contribution, locate the lowest bar on the chart.
4. **Monthly Sales YoY – Area Chart:** The area chart displays the firm's monthly revenue, and it was chosen to facilitate a year-on-year comparison between 2019 and 2020. This chart enables a straightforward side-by-side assessment of sales between the two years. Notably, in 2020, the firm's revenue more than doubled, indicating substantial growth.
5. **Monthly Profit YoY – Area Chart:** A same approach was taken with the Monthly Profit Year-over-Year (YoY) chart for the same underlying reason.
6. **Sales by State – Map Chart:** The most effective way to display the total sales made by different states is through a bubble chart. In this chart, the size of each bubble corresponds to both the revenue from sales and the profit generated by each state. Larger bubbles indicate higher revenue for that particular state, providing a clear and visually informative representation of the data.
7. **Sales by Customer Segment – Donut Chart:** This chart illustrates the contribution of each customer segment to the total sales, revealing that the Consumer Segment is responsible for the largest share at 48.09% of the total sales.
8. **Sales by Payment Mode – Donut Chart:** Various payment methods and the percentage of the total transaction value associated with each of them.

**Data Cleaning**

1. After loading the data, clicked on "transform data" to start the data cleaning process. During this stage, examined all the columns to determine their data types and checked for any missing values. While doing this, noticed that two columns, namely 'ind1' and 'ind2,' had no data at all, with 100% of their values being empty. As a result, decided to remove these two columns from the dataset to streamline it for further analysis.
2. The 'Returns' column in the dataset originally had two values: #N/A indicating the customer did not return the product and '1' indicating a returned product. To enhance data clarity and avoid potential visualization issues, all instances of #N/A were replaced with '0', signifying that the customer did not return the product.
3. Added a new column in the table view called 'AvgDelivery.' This column calculates the number of days it took for orders to be shipped using the DAX function, AvgDelivery = DATEDIFF('SuperStore\_Sales\_Dataset'[Order Date], 'SuperStore\_Sales\_Dataset'[Ship Date], DAY).
4. For forecasting, created a new table called 'SalesForecast' using DAX function SalesForecast = SUMMARIZE('SuperStore\_Sales\_Dataset', SuperStore\_Sales\_Dataset[Order Date], "Total Dates", SUM(SuperStore\_Sales\_Dataset[Sales])). This table aggregates the number of orders for each date, enabling the plotting of daily order trends, which is essential for predicting future sales patterns.

**Data Filters (Slicer)**

* **Region Slicer:** To enhance data analysis and gain deeper insights, a region slicer has been introduced. This slicer enables users to focus specifically on the four major regions of the United States: Central, East, South, and West. This segmentation allows for a more detailed examination of data patterns and trends within these distinct geographical areas.

**Sales Forecasting**

* To forecast, made a new sheet called 'Forecasting' and opted for a line chart visualization. This choice was made because forecasting typically necessitates a time series representation. Positioned 'Order Date' on the X-axis (Filter: Day). For the Y-axis, employed the summation of sales, as forecasting is contingent on historical sales data.
* In the forecasting setup, determined a forecast length of 15 days and applied a 95% confidence interval. These parameters help in generating predictions with a certain level of accuracy and within a defined time frame, assisting in future planning and decision-making.

**Insights**

1. In both October of 2019 and 2020, there was a noticeable drop in the number of sales, but an interesting phenomenon was observed: the company's profits during those months were higher compared to other months. This could be attributed to potentially higher profit margins per unit sold during those periods or the influence of special offers or campaigns. Similar trends were noticed in December and March as well.
2. It's evident that most customers prefer to use the standard delivery mode. This preference may stem from customers being highly price-sensitive and not wanting to incur additional costs for premium product delivery services.
3. The predominant choice of payment method is cash on delivery. This inclination could arise from customer concerns about the certainty of product delivery when opting for other payment methods, indicating a level of trust and security associated with cash on delivery.
4. Since credit card payments account for the lowest percentage at 22%, there is an opportunity to encourage more credit card transactions by introducing special offers or incentives. This approach aims to boost credit card usage and potentially increase revenue through this payment method.

**End of report**