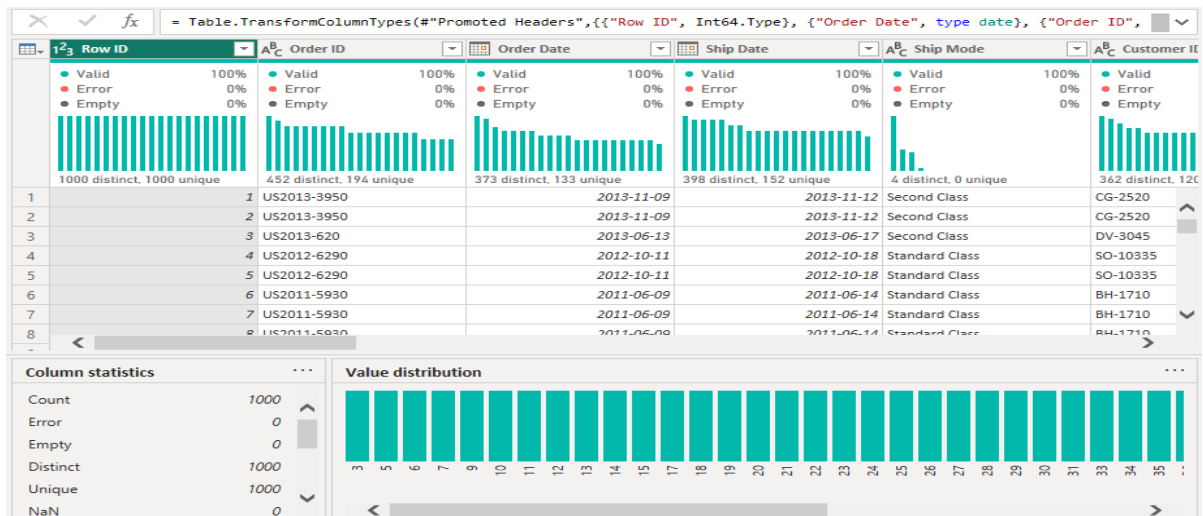


Superstore Sales Analysis

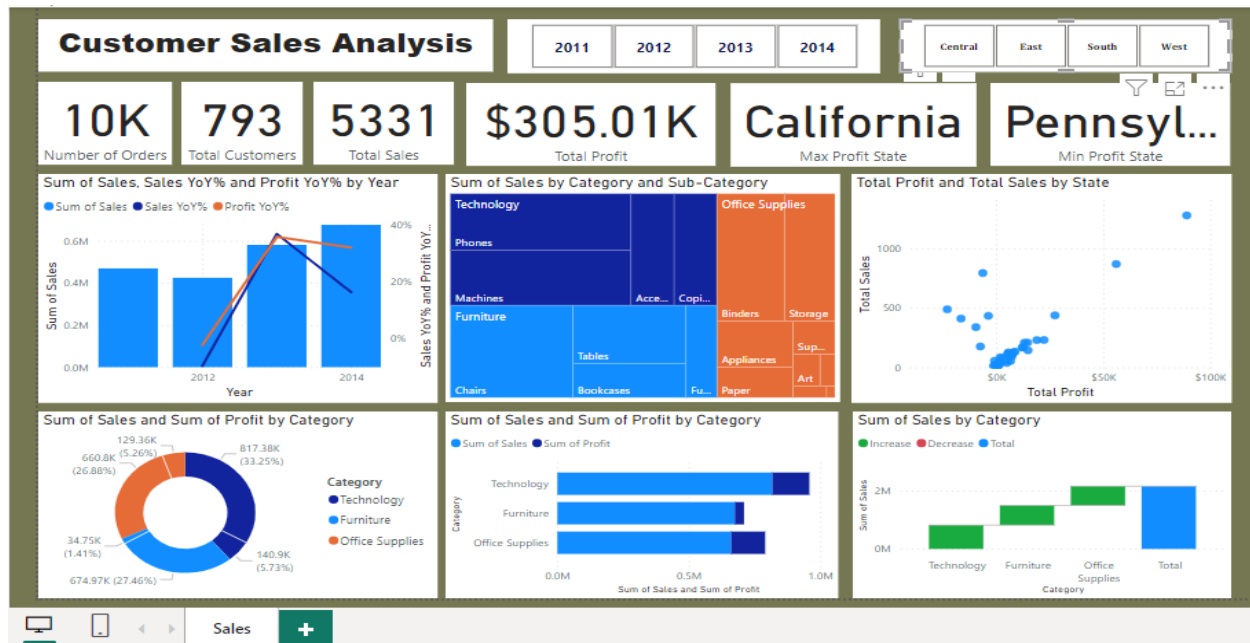
Abstract: This project aims to analyze sales data from a superstore in the United States for the years 2011-2014, with a focus on various shipping modes, total sales, and their respective profits. Using Data Analysis Expressions (DAX) functions, the primary objectives of this analysis are to identify the maximum profitable state and the state with the minimal profitability during the specified period.

Collect and Prepare Data for Visualization

- Data Collection: Gather data from various regions in the United States and create a CSV file named "orders.csv" with columns including Order ID, Product ID, Category, Subcategory, Shipping Mode, Total Sales, and Profit.
- Choose a Data Source and perform data transformation in Power BI's query editor. Verify for any null values and define the data Type accordingly.



- Generate calculated measures using the following formulas:
 Total Customers = **DISTINCTCOUNT**(Orders[Customer ID])
 Total Profit = **SUM**(Orders[Profit])
- Build visualizations, such as graphs, utilizing Total Sales and Total Profit.
- Determine the state with the maximum and minimum profitability using the following DAX functions:
 Calculate Total Profit for each state, excluding the effects of the Year, Region, and State:
 T Profit = **CALCULATE**(SUM(Orders[Profit]), **ALLEXCEPT**(Orders, Orders[Order Date].[Year], Orders[Region], Orders[State]))
- Find the state with the maximum profit:
 Max Profit State = **CALCULATE**(MAX(Orders[State]), **FILTER**(Orders, Orders[T Profit] = MAX(Orders[T Profit])))
- Identify the state with the minimum profit:
 Min Profit State = **CALCULATE**(MIN(Orders[State]), **FILTER**(Orders, Orders[T Profit] = MIN(Orders[T Profit])))



Observation:

- **Profitability Comparison:** California (Most Profitable), Pennsylvania (Least Profitable)
- **Regional Profitability 2011-2014:** East (New York), West (California), Shared Most Profitable States
- **Consistent Low Profitability:** Colorado (West Region), Varied Least Profitable States in Other Regions
- **West Region Sales Performance:** West Region Outperforms in Sales
- **Customer Base:** New York - Largest Customer Base
- **Most Profitable Category:** Technology Sector
- **Peak Year:** 2013 - Peak in Sales and Profits
- **Sales-Profit Correlation:** Strong Correlation between High Sales and Profits

Recommendations:

- **Regional Analysis:** Given that New York consistently stands out as the most profitable state in the East region, and California dominates in the West, it would be beneficial to allocate more resources and marketing efforts to these regions.
- **Cost Management:** Since Colorado consistently experiences low profitability in the West region, it's essential to closely examine the cost structures in that state and identify opportunities for cost reduction or process improvement.
- **Focus on the Technology Sector:** Given that the technology sector generates the highest profits, consider expanding your product range in this sector or investing more in marketing and sales efforts related to technology products.
- **Sales and Profit Alignment:** The observation that high sales correspond to high profits indicates that sales strategies are effective. Continue to optimize and refine these strategies to maintain profitability as sales grow.
- **Yearly Analysis:** Since 2013 witnessed the highest sales and profits, analyze the factors contributing to this success and consider replicating those strategies in subsequent years.