

REGIONAL SALES EDA

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PROBLEM STATEMENT

- Sales teams often lack a clear, data-driven understanding of regional performance, making it difficult to identify growth opportunities and optimize resources. This project aims to analyze and visualize regional sales data to uncover trends, evaluate profitability, and support strategic decision-making.

APPROACH

- The objective was to analyze and visualize regional sales data to determine trends, evaluate profitability, and provide recommendations.

DATA OVERVIEW

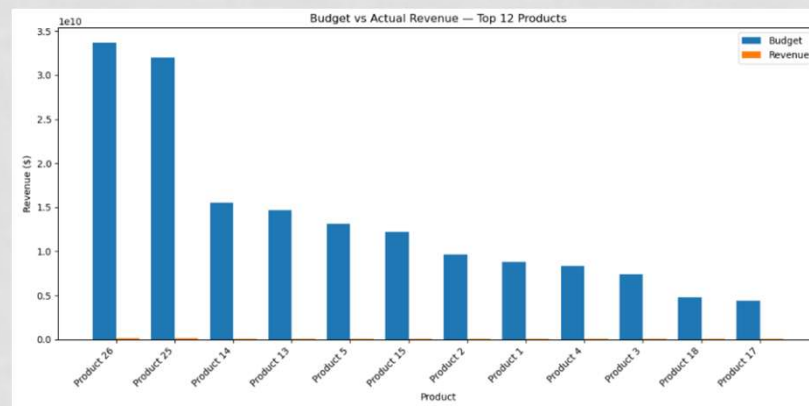
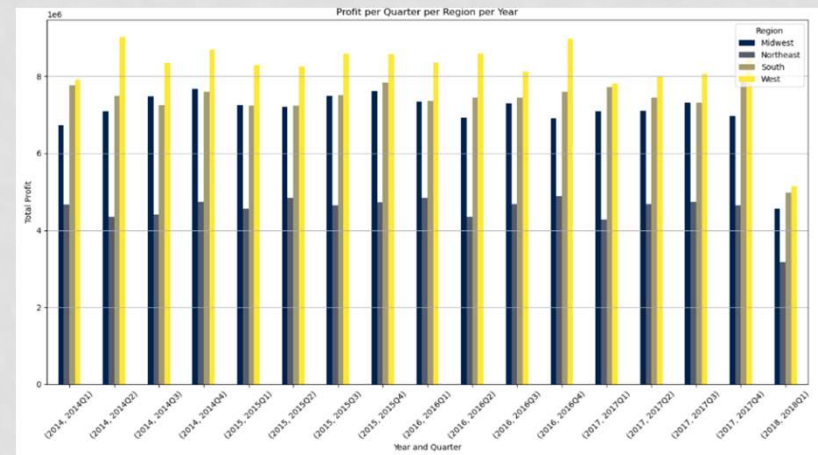
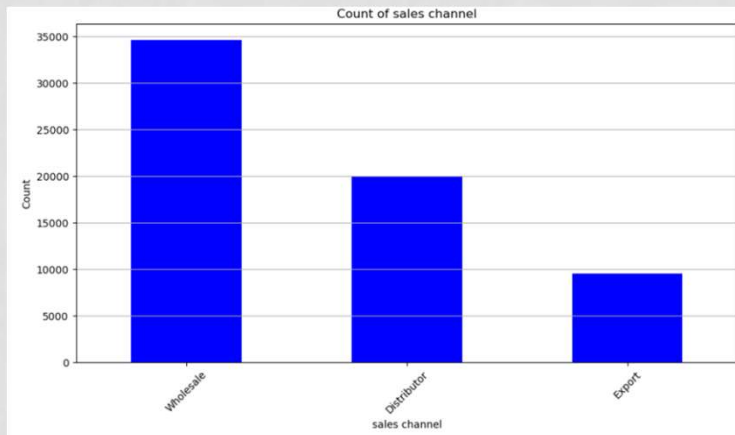
- The regional sales data consisted of sales orders, customer records, region and state information as well as product and budget information for the past 5 years.
- There was no missing data in this dataset.

PROJECT WORKFLOW

- Load and merge data
- Data inspection and cleaning
- Added computed columns to dataset
- Visualized the data
- Analyze visualizations
- Record observations
- Provide recommendations

EXPLORATORY DATA ANALYSIS

- Univariate and bivariate analysis was conducted on the dataset.



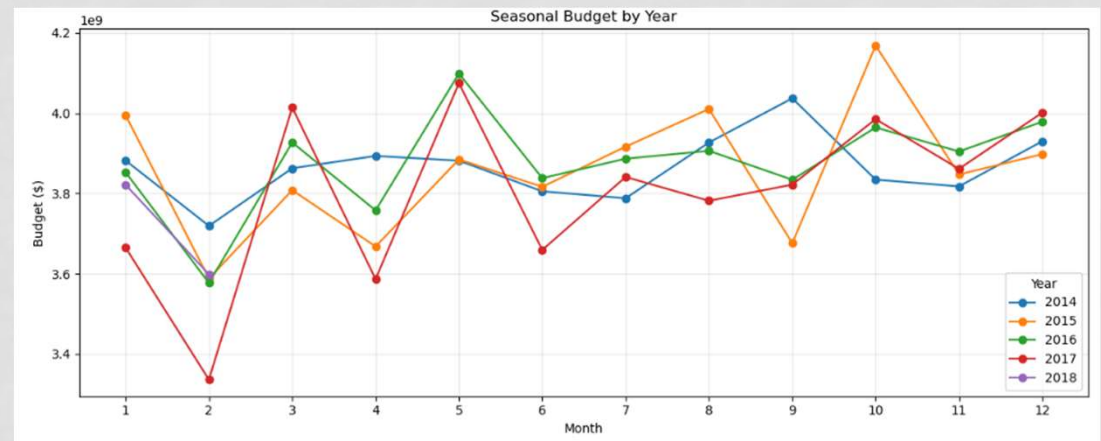
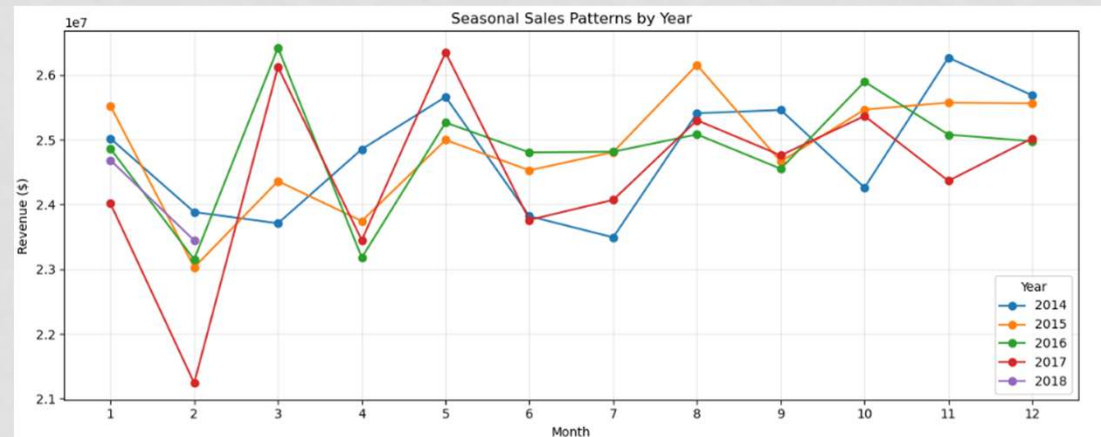
KEY INSIGHTS



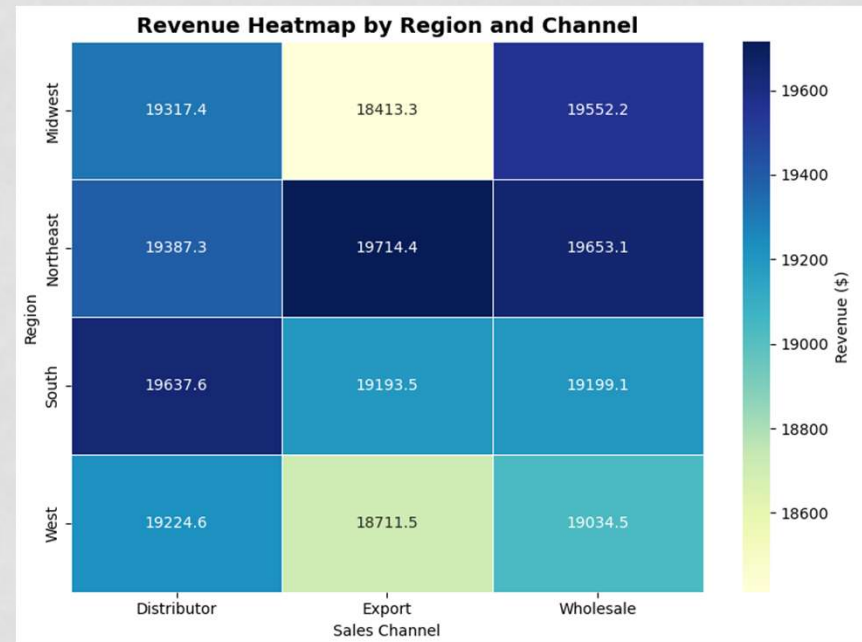
- Initial plots showed that wholesale was the largest sales channel,
- There were several products that were more sold than others. The top 10 products were product #25, 26, 13, 14, 15, 5, 2, 1, 4 and 3 in order of most sold to least sold.
- California, Illinois, Florida, Texas and Indiana were the states that made the most orders.
- Amongst the various region types, a majority of the purchases were made in cities.
- The Western and Southern regions made up a majority of the orders placed.
- The fourth quarter of each year continually had the most orders placed followed by the third quarter of each year.

- The Western and Southern regions made up a majority of the revenue and profit.
- In the Western region most profit was made in the second and fourth quarter, while in the Southern region most profit was made in quarter one and quarter four. While for the Northeast and Midwest the profit remained consistent throughout each quarter throughout the years.

- Monthly and Seasonal Sales trends showed that there were consistent large drops in sales in February and April. While there were spikes in March, May and August. October to December had mostly consistently high seasonal sales for the past 5 years.
- The yearly budget followed the same pattern as the monthly and seasonal sales for the past 5 years.



- Among the various sales channels, export was the highest profit channel for all of the regions.
- Overall for the Midwest, wholesale was the best revenue channel, export was the best for the Northeast region, distributor performed best for the Southern and Western regions.



RECOMMENDATIONS

- The budget should be a point of focus to determine how it can be more efficiently used to obtain a higher revenue with less budget use. Especially in relation to seasonal sales in lower performing months and quarters.
- The wholesale and distributor sales channels should be optimized to increase profit generated.
- More effort should be placed on generating additional revenue in Midwest, South and Western regions via the export sales channel.