

Problem Background

A retail company is expanding rapidly across multiple regions. Their sales and operations teams are constantly working to boost revenue, but they're struggling to answer some key questions.

Which regions and states are performing well?

Where should they invest more resources?

Are their strategies improving year-over-year, or are there areas of decline?

How do seasonal or monthly trends impact their sales performance?

Without clear answers to these questions, the business risks missing opportunities or investing in areas that don't yield the best returns. The data they have is scattered, raw, and lacks a unified way to draw insights. They need a solution that's not just numbers on a page but a comprehensive view that empowers decision-making.

This is where the challenge begins—creating a dynamic solution that can answer these questions for every region, every state, and every year, while being simple and intuitive for stakeholders to use.

The company needed a tool that could:

- Show detailed regional sales performance.
- Provide year-over-year comparisons to track improvement.
- Uncover hidden trends or anomalies in sales and profit data.

Problem Statement

To develop a dynamic **Sales Overview Dashboard** in Power BI to track and visualize key metrics—Sales, Profit, and Quantity—across four regions (Central, East, South, and West). The dashboard enables year-on-year (YoY) comparisons, dynamic filtering, and comparison between current and previous year's performance.

Steps Undertaken

- **Requirement Gathering:** Collaborated with stakeholders to define key metrics and ensure the dashboard meets business needs for YoY comparisons.
- **Data Walkthrough:** Assessed the dataset to understand structure and determine necessary transformations.
- **Data Cleaning:** Removed inconsistencies, duplicates, and ensured proper formatting of numerical data.
- **Data Modeling:** Established relationships and optimized reporting using a star schema.
- **DAX Calculations:** Built measures for CY Sales, PY Sales, YoY Growth, and monthly averages.
- **Dashboard Design:** Created a user-friendly layout with filters for year and metric selection, and visual components such as Bubble Map, Bar Chart, and Bar Sparklines.

Key Features:

- **Dynamic Filters:** Toggle between years and metrics (Sales, Profit, Quantity).
- **Comparative Analysis:** Displays CY, PY, and YoY growth for key metrics.

- **Visual Insights:**

Bubble Map: Sales distribution by state.

Sparklines: Monthly trends with averages for quick insights.

Regional Analysis: Detailed metrics for each region to uncover growth opportunities.

SALES OVERVIEW DASHBOARD

Image:Sales 2024(CY)

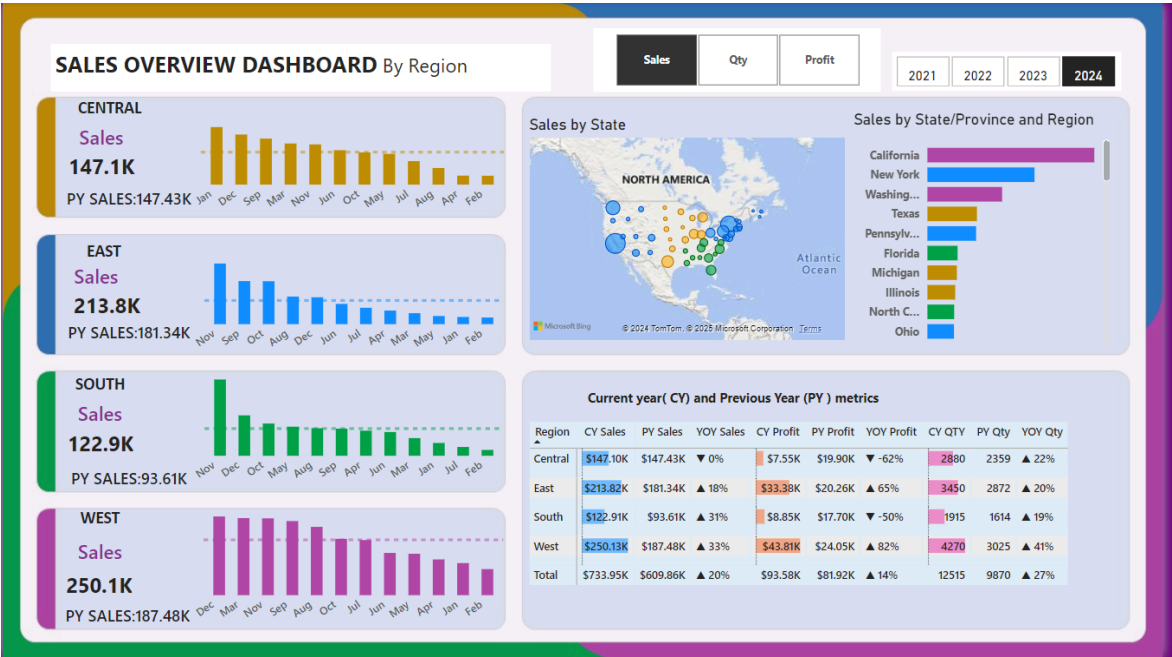


Image:Quantity sold in Year 2024(CY)

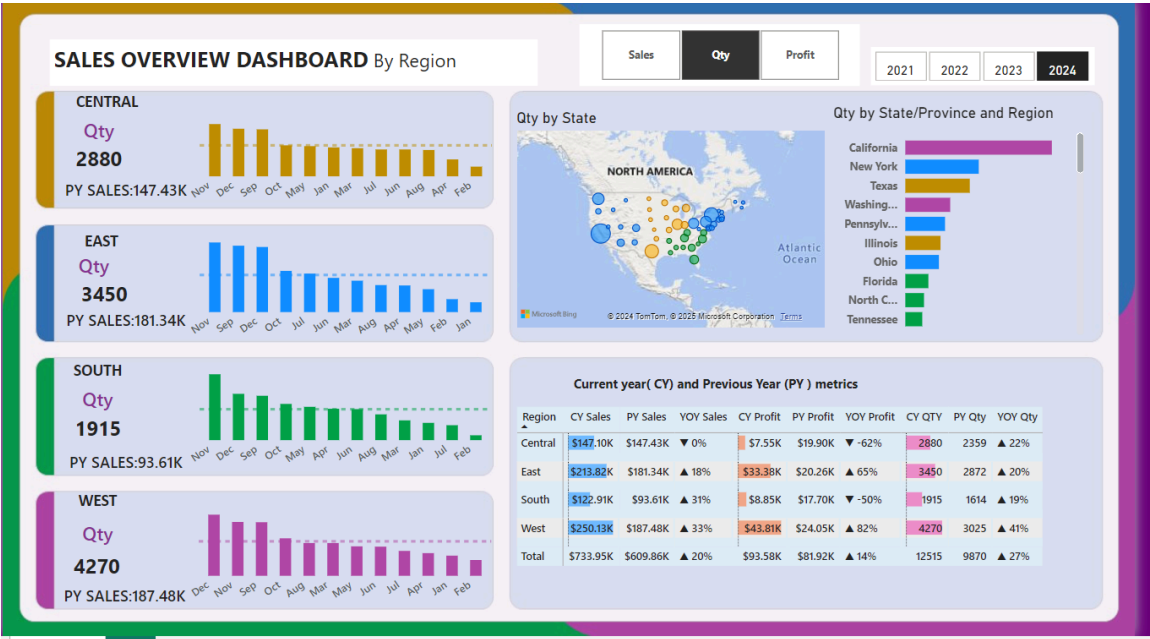
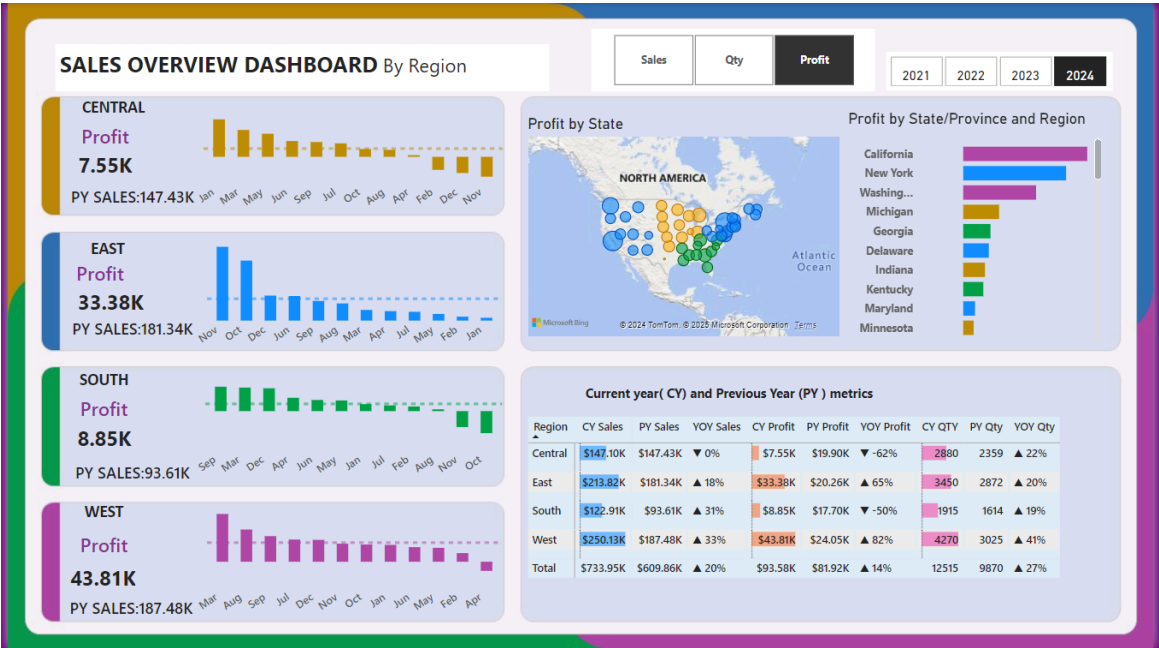


Image:Profit in Year 2024(CY)



INSIGHTS

Region Wise

Central Region:

- Sales: The Central region recorded \$147,098.13 in CY Sales, showing a slight decrease of 0.2% compared to \$147,429.38 in PY Sales.
- YOY Sales: YoY Sales for the Central region remained stable, showing no significant growth or decline.
- Profit: The CY Profit of \$33,375.13 showed a decline of 62% YoY, compared to \$19,899.16 in PY Profit, indicating a significant decrease in profitability.
- Quantity Sold: CY Quantity was 2,880 units, showing a 22% YoY increase from 2,359 units in PY Quantity.

East Region:

- Sales: The East region recorded \$213,816.00 in CY Sales, an 18% YoY growth compared to \$181,341.54 in PY Sales.
- Profit: CY Profit was \$7,550.84, a 62% YoY decline from \$19,899.16 in PY Profit.
- Quantity Sold: CY Quantity reached 3,450 units, reflecting a 20% YoY increase from 2,872 units in PY Quantity.

South Region:

- Sales: The South region had \$122,905.86 in CY Sales, showing a 31% YoY growth from \$93,610.22 in PY Sales.
- Profit: CY Profit was \$8,848.91, which is a 50% YoY decrease from \$17,702.81 in PY Profit.
- Quantity Sold: CY Quantity was 1,915 units, a 19% YoY increase from 1,614 units in PY Quantity.

West Region:

- Sales: The West region achieved the highest sales of \$250,128.37 in CY Sales, a 33% YoY growth from \$187,480.18 in PY Sales.
- Profit: CY Profit was \$43,808.96, showing an 82% YoY increase from \$24,051.61 in PY Profit.
- Quantity Sold: CY Quantity reached 4,270 units, a 41% YoY increase from 3,025 units in PY Quantity.

Year-Wise

Year 2021 Insights

Sales and YoY Comparison:

- Total sales reached \$484,439.66, showing a significant increase from \$49,523.27 in the previous year, marking a substantial YoY growth.
- The West region led with \$147,883.03 in sales, reflecting a major YoY increase.
- The East region followed closely with \$128,872.62, showing a strong YoY growth compared to \$17,038.90 in the previous year.
- The Central and South regions also showed good sales figures, \$103,838.16 and \$103,845.84 respectively, though their YoY growth details are not provided.

Profit Performance:

- The East region recorded the highest profit of \$2,009, marking a YoY increase from \$1,336.
- Profit data for the Central, South, and West regions is not provided, but the East region stands out with its profitability growth.

Quantity Sold:

- Total quantity sold reached 7,604 units, reflecting a significant YoY increase across all regions.
- The East region sold 2,009 units, up from 1,336 units, showing a growth of 673 units.
- The West region sold 2,533 units, with significant quantity growth.
- The Central region sold 1,726 units, indicating positive growth, but specific YoY data is unavailable.

Year 2022 Insights

Sales and YoY Comparison:

- Total sales for the current year reached \$484,439.66, showing a 3% YoY decrease compared to \$470,647.29 in the previous year.
- The East region achieved \$128,872.62, reflecting a 21% YoY growth compared to \$156,446.84 last year.
- The West region recorded \$147,883.03, experiencing a 5% YoY decline from \$139,966.25 in the previous year.
- The South region experienced a 31% YoY decrease, with \$103,845.84 in sales compared to \$71,359.98 in the previous year.
- The Central region had \$103,838.16 in sales, reflecting a slight decrease of 1% YoY compared to \$102,874.22 last year.

Profit Performance:

- Total profit for the year reached \$61,575.27, a 24% YoY increase from \$49,523.27 in the previous year.
- The East region saw a 24% YoY increase in profit, from \$17,038.90 to \$21,047.67.
- The West region experienced a 2% YoY increase in profit, from \$20,065.69 to \$20,492.19.

- The South region recorded a 30% YoY decline, with profits falling from \$11,879.12 to \$8,318.59.
- The Central region had a significant YoY profit increase from \$539.55 to \$11,716.80.

Quantity Sold:

- Total quantity sold was 7,604 units, reflecting a 5% YoY increase from 7,996 units last year.
- The West region sold 2,533 units, showing a 4% YoY decline compared to 2,438 units in the previous year.
- The East region sold 2,009 units, reflecting a 19% YoY increase from 1,815 units last year.
- The South region sold 2,533 units, showing a 5% YoY growth compared to 2,438 units.
- The Central region sold 1,726 units, indicating a 5% YoY increase from 1,726 units last year.

Year 2023 Insights

- Total sales for the current year reached \$609,861.32, showing a 30% YoY increase from \$470,647.29 in the previous year.
- The West region recorded the highest sales at \$187,480.18, reflecting a 34% YoY growth compared to \$139,966.25 last year.
- The East region achieved \$181,341.54, showing a 16% YoY increase compared to \$156,446.84 last year.
- The South region had \$93,610.22 in sales, marking a 31% YoY increase compared to \$71,359.98 last year.
- The Central region experienced \$147,429.38 in sales, reflecting a 43% YoY increase compared to \$102,874.22 last year.

Profit Performance:

- Total profit for the year reached \$81,917.12, showing a 33% YoY increase from \$61,575.27 in the previous year.
- The East region recorded a 4% YoY decline in profit, with \$20,263.54 compared to \$21,047.67 last year.
- The West region recorded a 17% YoY increase, with \$24,051.61 in profit compared to \$20,492.19 last year.
- The South region achieved \$17,702.81, reflecting a 113% YoY increase compared to \$8,318.59 last year.
- The Central region saw a 70% YoY increase in profit, reaching \$19,899.16 compared to \$11,716.80 last year.

Quantity Sold:

- Total quantity sold reached 9,870 units, reflecting a 23% YoY increase from 7,996 units last year.
- The West region sold 3,025 units, showing a 24% YoY increase compared to 2,438 units last year.
- The East region sold 2,872 units, reflecting a 20% YoY increase compared to 2,399 units last year.
- The South region sold 1,614 units, reflecting a 20% YoY increase compared to 1,344 units last year.
- The Central region sold 2,359 units, reflecting a 30% YoY increase compared to 1,815 units last year.

Year 2024 Insights

- Total sales for the current year reached \$733,948.35, reflecting a 20% YoY increase from \$609,861.32 last year.
- The East region recorded \$213,816.00 in sales, showing an 18% YoY increase compared to \$181,341.54 last year.
- The West region achieved \$250,128.37, a 33% YoY increase from \$187,480.18 last year.
- The South region reported \$122,905.86 in sales, reflecting a 31% YoY increase compared to \$93,610.22 last year.
- The Central region showed a slight decrease of 0.2%, with \$147,098.13 in sales compared to \$147,429.38 last year.

Profit Performance:

- Total profit for the year reached \$93,583.84, showing a 14% YoY increase from \$81,917.12 last year.
- The East region reported a 62% YoY decrease in profit, with \$7,550.84 compared to \$19,899.16 last year.
- The West region saw an 82% YoY increase in profit, achieving \$43,808.96 compared to \$24,051.61 last year.
- The South region recorded \$8,848.91 in profit, a 50% YoY decrease compared to \$17,702.81 last year.
- The Central region saw a decline of 62% in profit, with \$33,375.13 compared to \$19,899.16 last year.

Quantity Sold:

- Total quantity sold reached 12,515 units, reflecting a 27% YoY increase from 9,870 units last year.
- The West region sold 4,270 units, marking a 41% YoY increase compared to 3,025 units last year.
- The East region sold 3,450 units, showing a 20% YoY increase compared to 2,872 units last year.
- The South region sold 1,915 units, reflecting a 19% YoY increase compared to 1,614 units last year.
- The Central region sold 2,880 units, reflecting a 22% YoY increase compared to 2,359 units last year.

State-Wise Insights

Consistent Top Performers:

California, New York, and Texas were consistently in the top three for profit, sales, and quantity sold across all three years.

These states serve as key markets, contributing significantly to the overall performance.

Consistently Low Performers:

States such as **Ohio, Illinois, and Florida** were among the lowest for sales and quantity sold each year.

Maryland, Michigan, and Wisconsin repeatedly appeared as low performers in profits.

Notable Growth in 2024:

Regions like **Washington** and **New York** showed significant improvement in profits and sales in 2024, compared to 2022 and 2023.

Regional Trends:

West Coast (California, Washington) and **East Coast (New York)** dominated performance metrics, indicating these regions are strongholds.

Southern states like **Florida, Georgia, and Tennessee** consistently underperformed, highlighting areas for potential market penetration or improvement.

Opportunities for Improvement:

Low-performing states such as **North Carolina, Ohio, and Illinois** offer untapped potential and may require tailored strategies to boost sales and engagement.

Key Insights

Sales Performance:

- All regions, except the **Central region**, experienced **positive YoY sales growth**.
- The **West region** recorded the highest sales, while the **East region** showed a strong 18% growth in sales.

Profitability:

- The **West region** led in terms of profit, with a remarkable **82% YoY increase**.
- **Profit decline** in the **East and South regions** was notable, with **East** showing a **62% decrease**, and **South** a **50% decrease**.

Quantity Sold:

- All regions saw an **increase in quantity sold**, with the **West region** leading with a **41% YoY increase**, followed by the **East region** with a **20% YoY increase**.

Strategic Recommendations

Strengthen Focus on High-Performing Regions:

Prioritize **California, New York, and Texas** for continued investment, marketing campaigns, and resource allocation, given their consistent top-tier performance.

Explore Opportunities in Low-Performing Regions:

Develop tailored strategies for regions like **Ohio, Illinois, and Florida**, where sales and quantity sold are consistently low. Identify specific factors contributing to this underperformance and address them.

Leverage Growth in Washington and New York:

The growth in **Washington** and **New York** suggests that these regions are poised for further success. Invest in these regions and consider expanding operations or marketing efforts to capitalize on this positive trend.

Revise Strategies for Southern States:

States such as **Florida**, **Georgia**, and **Tennessee** have been underperforming. A comprehensive strategy review in these regions, including localized promotions and market research, could help improve sales and quantity sold.

Monitor Profit Trends

While **sales** and **quantity sold** are important, maintaining strong profit margins should remain a priority. Focus on maintaining profitability in regions like **California** and **New York**, where profits are high, while looking for ways to boost profitability in underperforming regions.

Key Questions Answered

Which region recorded the highest sales growth (YoY)?

The **West region** recorded the highest sales growth at **33% YoY** (from **\$187,480.18** in PY Sales to **\$250,128.37** in CY Sales).

Which region saw a decline in sales?

The **Central region** showed a **slight decline** in sales of **0.2%** (from **\$147,429.38** in PY Sales to **\$147,098.13** in CY Sales).

Which region has the highest quantity sold in CY?

The **West region** has the highest quantity sold, with **4,270 units** sold in CY, showing a **41% YoY increase** from **3,025 units** in PY.

Which region had the lowest YoY profit growth?

The **South region** had the lowest YoY profit growth, with a **50% YoY decrease** (from **\$17,702.81** in PY Profit to **\$8,848.91** in CY Profit).

Which regions have shown consistent growth across sales, profit, and quantity sold?

California has shown consistent growth across all metrics (sales, profit, and quantity sold) over the past three years. It remains a dominant region across all years, with steady top-tier performance.

New York also demonstrates consistent growth, ranking in the top 3 for all metrics each year.

Texas similarly ranks highly for sales and quantity sold, though it fluctuates slightly in profit.

Which states need strategic intervention?

Florida, North Carolina, and Tennessee showed lower performance in quantity sold each year. These regions need targeted strategies, such as localized promotions or market research, to boost sales.