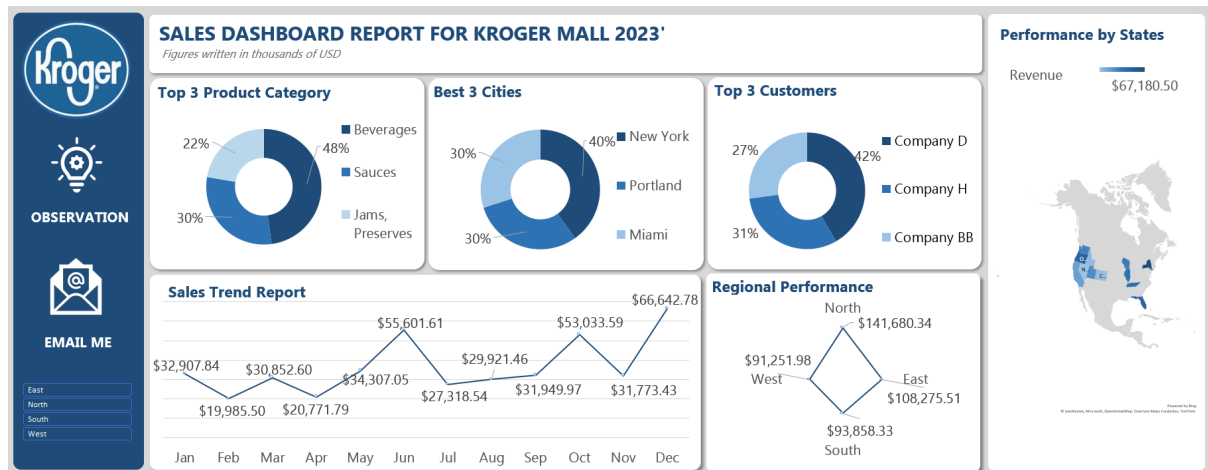


Kroger Mall Sales Analysis: Insights for Growth



Kroger Mall Sales Report, 2023.

Introduction:

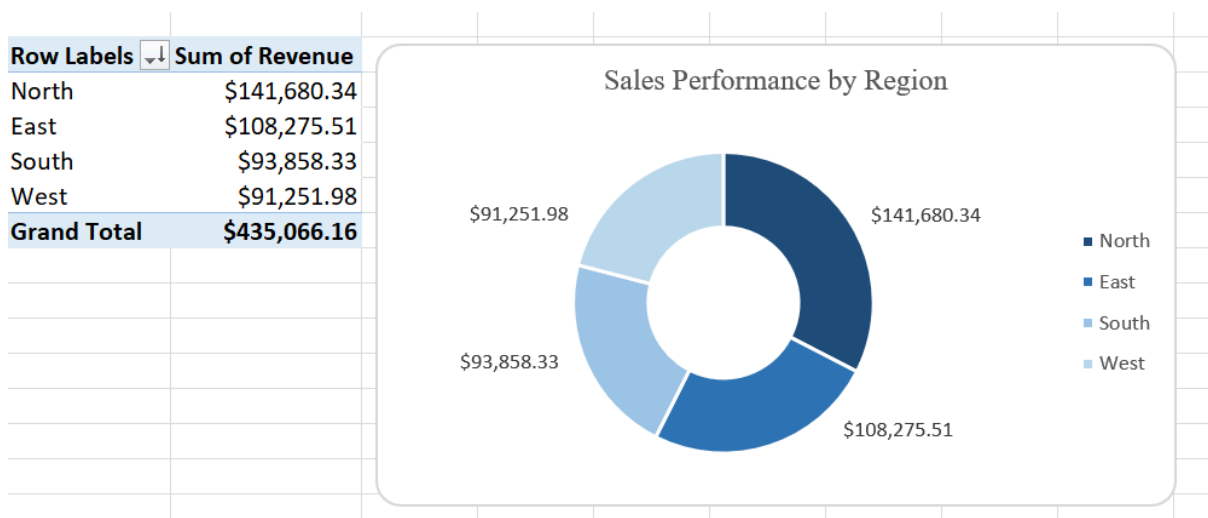
With today's retail world moving quickly, convenience stores play a key role in meeting the daily needs of customers, thereby providing a convenient and accessible shopping experience. This project aims to improve a convenience store's operations, customer needs and satisfaction, sales, and growth.

Objectives:

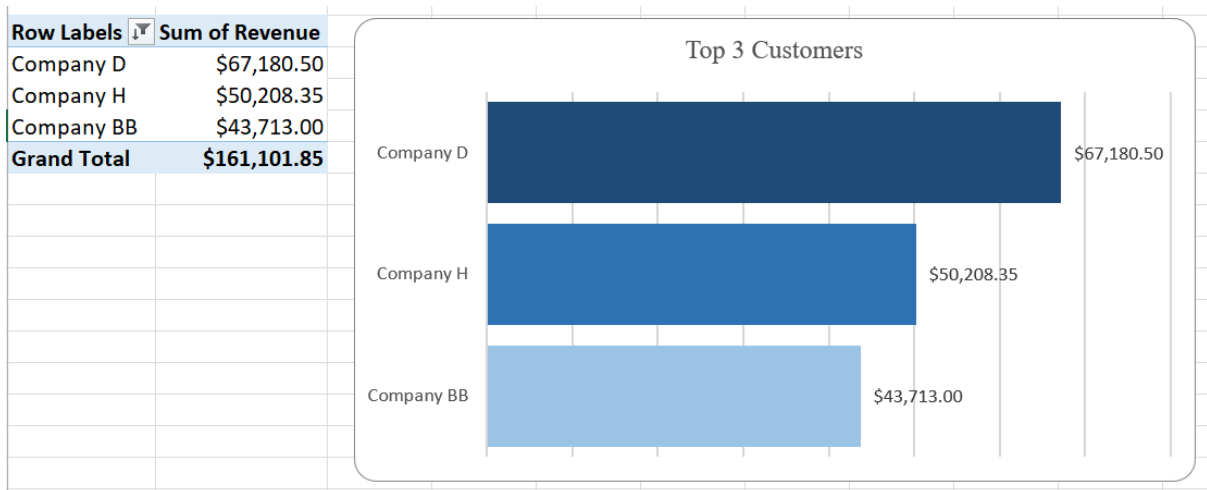
- 1) To determine which Month generates the most revenue.
- 2) To find out the best performing state and city.
- 3) To develop strategies that will help boost sales.

Methodology:

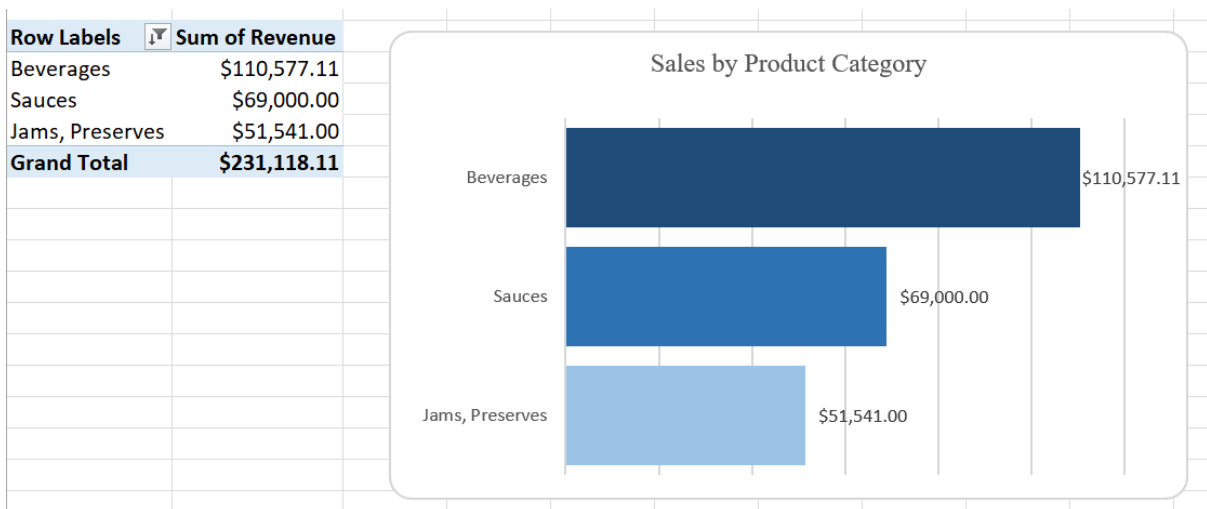
The next step taken for this analysis was to input the data in a pivot table to find the relationship between variables.



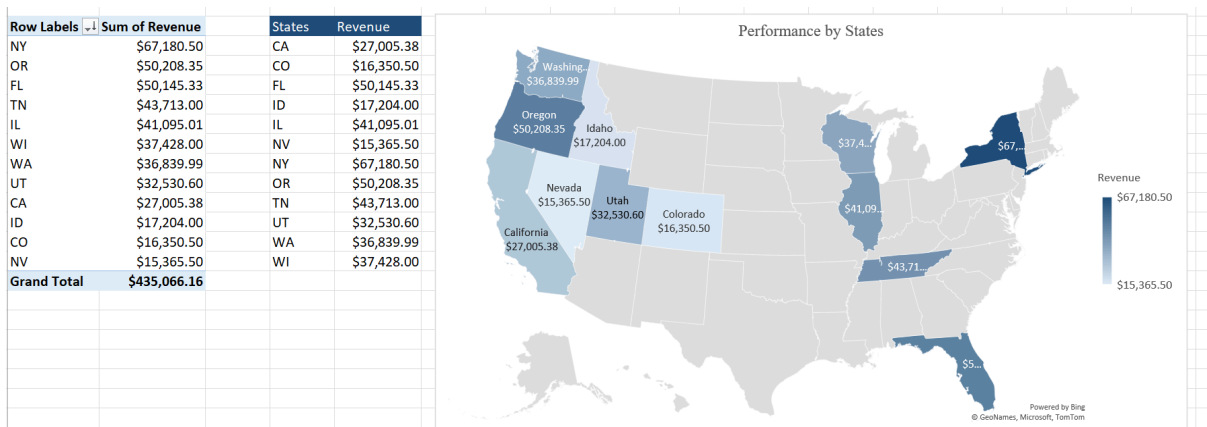
This is a Pie chart that shows the performance of the 4 different regions. From the chart, the Northern region ranked top while the Western region ranked bottom.



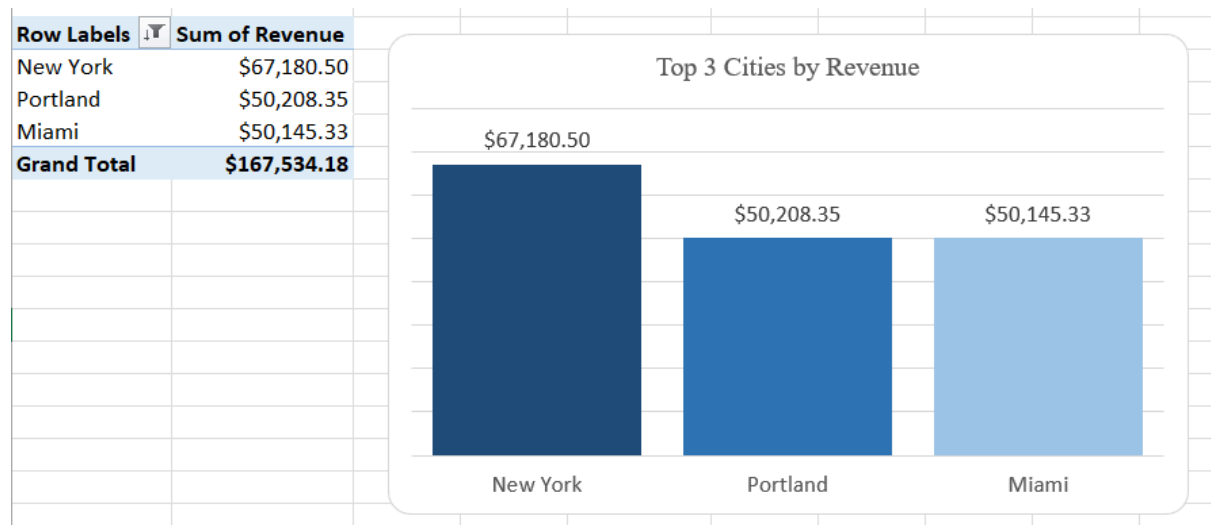
This is a Bar chart showing the top 3 customers of the convenience store. From the table/chart, Company D is the top customer. This customer purchased goods worth \$67,180.50.



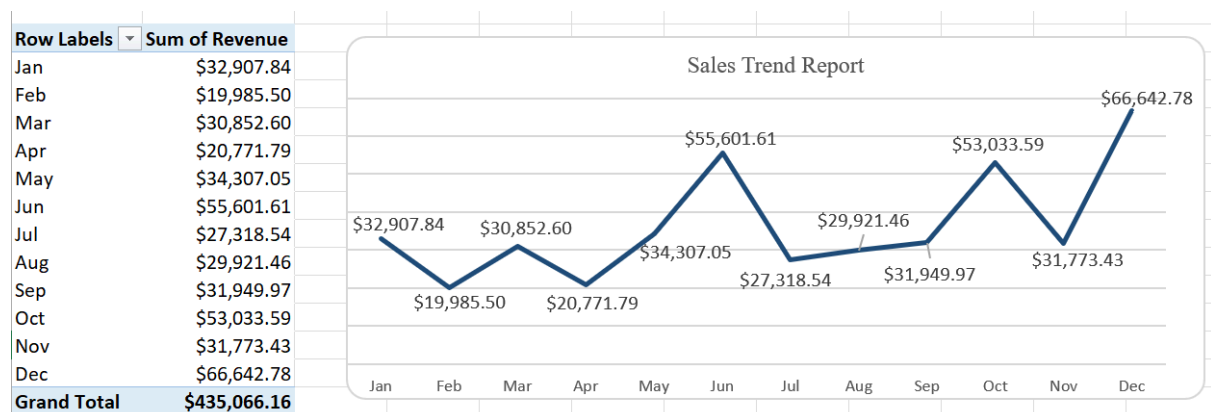
This is a Bar chart showing the top 3 sales by product category. The best performing category is Beverages, next Sauces while the bottom is Jams, Preserves.



This shows the Performance by States where New York is the top performing state while Nevada is the least performing state.



The top 3 Cities are represented in a Column chart. From the Chart, New York is the top City, next is Portland, followed by Miami.



This is a Sales Trend Report represented in a Line chart. From the chart/table, December is the month with peak sales.

Story of Data:

This project is a project linked to the Food retail Industry that shows sales of various products like beverages, jams, sauces and some other food items, with the dataset obtained from [kaggle.com](https://www.kaggle.com). It consists of 369 rows and 26 columns.

The key variables of this data are - Sales person, Product name, Product category, Ship name, Ship region, Ship country, Payment type, Customer name, Unit Price, Quantity, Revenue and Shipping Fee. These variables will help to understand customer behaviour, preferences and purchasing patterns which will help businesses make informed decisions.

Data Splitting and Preprocessing:

- Data Cleaning

The dataset was downloaded from [kaggle.com](https://www.kaggle.com) and loaded into an Excel Workbook. Checks were performed for blanks and duplicates while a currency sign was added to the price column.

In order to preserve the original dataset, the raw data was duplicated and retained for reference.

- Data Splitting

Independent

- Sales person
- Product name
- Product category
- Ship name
- Ship region
- Ship country
- Payment type
- Customer name

Dependent

- Unit Price
- Quantity
- Revenue
- Shipping Fee

Industry context and Stakeholders

This data is a Convenience store dataset that belongs to the food retail industry. Its stakeholders are the Chief Executives and Marketing team.

Potential-Analysis Questions:

- Which category is the top purchased category?
- Which City purchased the highest products?
- Who are the top 3 customers?
- What state is the highest performer?
- What month was the highest revenue generated?

Pre-Analysis Insights:

- To determine the best customer and provide exclusive offers such as special deals or to further increase patronage.
- To recognize the best performing product category and design methods to sustain its success.
- To find out the best product category and devise plans to ensure its consistency.
- To pin-point the best region for the year and unlock more revenues to be ahead of competitors.

Data Visualizations:

- Best 3 Cities: A Pie-chart was used
- Top 3 Customers: A Pie-chart was used.
- Top 3 Product Category: A Pie-chart was used.
- Sales Trend Report: A Line-chart was used.
- Regional Performance: A Radar was used.
- Performance by States: A Map was used.

In-Analysis Observations:

Analysis: Best 3 cities

- New York ranked 1st amongst the Top 3 cities, with a revenue of \$67,180.50.
- Portland ranked 2nd (\$50,208.35) while Miami ranked 3rd (\$50,145.33)

Analysis: Top 3 Customers

- The top 3 customers are Company D with \$67,180.50 revenue, Company H with \$50,208.35 revenue and Company BB with \$43,713.00 revenue.

Analysis: Top 3 Product Category

- Beverages topped the chart with a revenue of \$110,577.11
- Sauces ranked 2nd (\$69,000.00).
- Jams and Preserves ranked 3rd (\$51,541.00)

Analysis: Sales Trend Report

- There was a peak sale in June (\$55,601.61) and a sharp decline in July (\$27,318.54).
- December topped the sales chart for the year with a revenue of \$66,642.78
- February generated the least sales for the year with a revenue of \$19,985.50

Analysis: Regional Performance

- The Northern region outshone other regions, generating \$141,680.34 revenue.
- With \$108,275.51 revenue, the Eastern region took the second spot.
- The Southern region generated \$93,858.33 in revenue, ranking third amongst the 4 regions.
- With a revenue of \$91,251.98, the Western region ranked least amongst the 4 regions.

Analysis: Performance by States

- New York generated the best sales performance, reaching \$67,180.50 revenue.
- Nevada sales performance was the weakest with a revenue of \$15,365.50.
- Oregon (\$50,208.35) and Florida (\$50,145.33) had a slight difference in revenue generated.
- Amongst the 12 States, Colorado (\$16,350.50) and Nevada (\$15,365.50) generated the least revenue with only a slight difference between them.

In-Analysis Recommendations:

Analysis: Best 3 cities

- Freebies or discounts should be offered in the New York store to attract more customers in order to maintain its position and drive revenue growth.
- A loyalty program that rewards customers for repeat purchases can be developed in States with lesser revenue to boost revenue.
- Top selling products in the cities should be analyzed and adjusted in the inventory accordingly so as to boost revenue.

- Similar marketing strategies such as region specific promotions can be implemented in both Portland and Miami to maintain their positions and push revenue growth.

Analysis: Top 3 Customers

- Promotional freebies should be implemented as a part of a campaign to attract new customers.
- Loyal customers like Company D should be rewarded with exclusive discounts to encourage other customers.
- Feedbacks should be gathered from the least customers to understand their needs and preferences.
- Companies should be regularly communicated with to understand their evolving needs.
- Explore potential partnership or collaboration with Company D.
- Set up a customer advisory board that includes a diverse group of customers, including the least performing ones, to provide regular feedback.

Analysis: Top 3 Product Category

- Fine tune out what made beverages successful and apply similar strategies to other product categories.
- Campaigns tailored to specific product categories should be developed.
- Collect customer feedback on different product categories to know areas of improvement.
- For customers who purchase multiple products in different product categories, discounts should be offered so as to increase patronage.

Analysis: Sales Trend Report

- Inquiries should be made to understand what led to the sharp decrease in sales in July.
- Study the factors that contributed to June and December's strong performance to replicate successful tactics and optimize planning for future peak seasons.
- Customer purchasing patterns should be analyzed during the months of December and June.
- Marketing insights during months with lower sales should increase so as to boost revenue.
- There should be limited-time discounts in months that generate the least revenue to increase sales.
- Products that are relevant to specific Months or Seasons should be offered in bulk for sale e.g in the month of February (Valentine season), products like valentine cards, flowers, chocolates etc should be available for sale.

Analysis: Regional Performance

- The strategy used in the Northern region should be adopted in the Western region to boost revenue.
- The operations of the Western region should be reviewed to determine the cause of its low revenue.
- Marketing strategies in the last 2 regions (South and West) should be adjusted so as to reach a better target audience.
- The region with the least revenue should be closely monitored so as to make adjustments to strategies when needed.

Analysis: Performance by States

- More goods should be shipped into NewYork to generate more sales for them so as to maintain its position.
- The key drivers behind New York's success should be analyzed and tested in other states with lesser revenue.
- Colorado and Nevada should be assessed in order to identify the cause of low revenue generated.
- Feedbacks should be gathered from customers in States with lesser revenue to identify areas of improvement and generate new ideas that would push-up revenue generated.
- Training should be provided to staff on product knowledge, customer service and sales techniques in states with lesser revenue.

Post-Analysis Observations:

Analysis: Best 3 cities:

- NewYork is the best city with a total of \$67,180.50. The top 3 products sold in New York are Jams and Preserves, Dried fruits and Nuts and Pasta while its top customer is Company D. It sold its most product in the Month of June with \$11,595.00 and it is part of the Eastern region.
- Portland ranked 2nd with a total of \$50,208.35. It is under the State of Oregon and its most sold product is sauces (\$22,920.00). Its top customer is company H and it belongs to the Northern region while it sold most products in the month of October, generating a revenue of \$7,402.40.
- Miami ranked 3rd with a revenue of \$. It is under the Southern region and its best customer is company Z. It had its peak sales in the month of December, generating a revenue of \$7,216.37. Its most sold product is sauces and it is under the State of Florida.

Analysis: Top 3 Customers

- Company D is the top customer, he bought products worth \$67,180.50. He is from the Eastern region (New York city) and also purchased more Jams and Preserves (\$41,391.00) than other products. This customer purchased most of his products in the month of June (\$11,595.00).
- Company H is the 2nd best customer who bought goods worth \$50,208.35. This customer is from the Northern region (Portland city) and he purchased more of Sauces (\$22,920.00) than other products, and also purchased more products in the month of October (\$7,402.40)
- Company BB is the 3rd best customer who bought items worth \$43,713.00. This customer is from the Southern region (Memphis City) and he purchased more of Beverages \$27,508 than other products and also purchased more products in the month of October (\$6,386.20)

Analysis: Top 3 Product Category

- Beverages is the most sold product category with a revenue of \$110,577.11, Sauces ranked 2nd with a revenue of \$69,000.00, Jams and Preserves ranked 3rd with \$51,541.00. Beverages and Sauces were mostly purchased by the Northerners while Jams and preserves were mostly purchased by the Easterners. The top customer for beverages is Company BB, for Sauces is Company H while for Jams and Preserves is Company D. For the City, people from NewYork are the highest purchasers of Jams and Preserves, for Sauces, it is the people from Miami, while for Beverages, its highest purchasers are those from Memphis.

Analysis: Regional Performance

- The Northern Region, represented by Nancy Freehafer and Micheal Neipper, ranked 1st amongst the 4 regions, generating a total of \$141,680.34 revenue. The best-selling product category in this region is Beverages (\$57,873.99), next is Sauces (\$32,440), Candy (\$15,414.75), Dairy products(\$14,685.60), Dried fruits & Nuts (\$8,642.00) and Canned Meat (\$6,348.00). Its highest transaction ranges between 0-1000 (67) while its best performing Month in the whole Region is December, with a revenue of \$21,873.31. There was a sharp decline in the Month of November in this region, this is because its sales persons had a sharp decline in the same Month in their personal chart. Nancy went from \$14,685.75 in October to \$5,086.18 in November, while Micheal went from \$6,738.50 in October to \$1,381.25 in November.
- The Sales Reps from the Eastern Region are Andrew Cecini and Laura Giussani. The most sold product category in this Region is Jams and Preserves, with a revenue of \$50,241.00, followed by Dried fruits & Nuts (\$17,261.00), Condiments (\$15,048.00), Baked Goods & Mixes (\$12,797.60), Pasta (\$9,120.00) and Grains (\$2,884.00). The Eastern Region ranked 2nd amongst the 4 regions, generating a revenue of \$108,275.51. Its highest transaction range between 0-1000(59) and its best performing Month is June (\$18,295) while its least performing Month is April (\$3,180.50).
- The Southern Region is the 3rd performing Region with a revenue of \$93,858.33 with only 1 Sales Rep representing it- Anne Larsen. Its highest transaction ranges between 0-1000 (50) and its most sold product category is Beverages (\$29,278.08), followed by Canned Meat (\$19,117.00), Sauces (\$18,480.00), Oil (\$13,322.40), Soups (\$10663.25) and Dried fruits & Nuts (\$1,687.00). The region had its peak sale in the Month of December, generating a revenue of \$12,458.47 while its ship cities are Miami and Memphis.
- The Western Region is the least performing region with a revenue of \$91,251.98. The Sales People in this region are Mariya, Robert and Jan. Amongst the 8 Sales Reps, Robert and Jan lagged behind, taking 7th and 8th position respectively which contributed to the low revenue generated by their region. The top sales person in this region is Mariya (\$42,370.88), followed by Robert (\$32,530.60) and Jan (\$16,350.50). The top-grossing Product Category is Beverages (\$22,501.13), followed by Dairy products (\$18,444.00), Sauces (\$18,080.00), Pasta (\$11,056.50), Fruit & Veggies (\$6,942.00) and Soups (\$6,166.35) which is the least.

Analysis: Performance by States

- New York generated the best sales performance, reaching \$67,180.50 revenue. It is part of the Eastern region, its top Customer is Company D with June being its peak sales month.
- Nevada sales performance was the weakest with a revenue of \$15,365.50. It is part of the Western region, its top customer is Company L, with its peak sales month being April. It only recorded sales in the months of January, April and December.
- Oregon (\$50,208.35) and Florida (\$50,145.33) had a slight difference in revenue generated. It is Part of the Northern region, its top customer is Company H, with June being its peak sales month.
- Amongst the 12 States, Colorado (\$16,350.50) and Nevada (\$15,365.50) generated the least revenue with only a slight difference between them.

Post-Analysis Insights:

Analysis: Best 3 cities

- For New York
- Focus on stocking more Jams and Preserves, Dried fruits and Nuts, and Pasta, as they are the top-selling products in the city.
- Marketing campaigns targeted to reach Company D (the top customer in New York) should be developed, and explore opportunities to upsell or cross-sell products.
- Analyze sales data to identify seasonal trends and plan promotional activities accordingly in those seasons especially in June when sales is at its peak.
- Recognize and reward Andrew Cencini's performance, and consider providing additional training or support in order to help other salespeople in the city.

Portland

- Emphasis should be made on the top-selling product in Portland (sauces), and explore opportunities that will increase the sales of other products.
- Develop strong relationships with the top customer in Portland (Company H), in order to improve customer loyalty and retention.
- Develop a marketing strategy that will focus on the Northern region, showcasing the unique features and benefits of products sold in Portland.
- Sales strategies should be developed to leverage the peak sales month of October.

Miami

- Focus on stocking more of the top-selling product in Miami (sauces), and explore opportunities that will increase the sales of other products.
- Develop a strong relationship with Company Z, being the top customer in Miami, to improve customer loyalty and retention.

Analysis: Top 3 Customers**Company D**

- A strong relationship should be built with Company D to ensure continued loyalty and retention.
- Exclusive promotions or discounts should be offered on Jams and Preserves to encourage repeat business.
- Priority customer service should be provided to Company D to ensure its needs are met promptly and efficiently.

Company H

- Targeted promotions should be developed for Company H to encourage them to purchase more Sauces.
- A loyalty program should be implemented for Company H for their continued patronage so as to encourage repeat purchases.
- Regular communication should be maintained with Company H to ensure their needs are being met so as to identify opportunities for growth.

Company BB

- Targeted promotions should be developed to encourage Company BB to continue purchasing Beverages (and other categories), while highlighting new products or flavors.
- Ensure efficient logistics and supply chain management to meet Company BB's needs promptly and reliably.

Analysis: Top 3 Product Category

- Focus on increasing sales in Memphis, where beverages are most popular, increase sales in Miami, where Sauces are most popular and also increase sales in New York, where Jams and Preserves are most popular.

- Loyalty programs or discounts should be offered to repeat customers.

Analysis: Regional Performance

- There should be limited-time discounts across all regions in Months with lesser revenue so as to drive revenue growth.
- The operations of the Western region should be reviewed to determine the root cause of its low generated revenue.
- Marketing strategies in the regions that generated the least revenue (South & West) should be adjusted to reach a better audience and they should be closely monitored so as to make adjustments to the strategies when necessary.

Analysis: Performance by States

New York:

- Strengthen relationships with Company D, the top customer, to maintain and increase sales.
- Factors contributing to the month of June's success should be analyzed and leveraged on.

Oregon:

- Analyze the factors driving sales in June and develop strategies to replicate success throughout the year.
- Focus on strengthening relationships with top customers like Company H.

Nevada:

- Nevada should be audited so as to determine the root causes of underperformance and develop targeted strategies to address them.
- Plans to increase sales in Nevada should be created while focusing on building relationships with top customers like Company L.
- New markets, products, or services that could drive growth in Nevada should be identified.

Conclusion:

Convenience stores play a key role in meeting the daily needs of customers, thereby providing a convenient and accessible shopping experience. With this analysis, businesses will gain insights on how to increase sales, create relationships with customers and develop strategies that will help push business growth and success.

Reference: [kaggle.com](https://www.kaggle.com)

