2 MARCH 2023

DATA ANALYSIS REPORT FOR CHIPS RETAILER

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INTRODUCTION

The following report outlines the analysis conducted on the sales data of a chips retailer. The objective of this analysis is to gain insights into the sales patterns and customer segments, which will inform recommendations for future business strategy.

The analysis includes an exploration of the data, including key metrics such as total sales, drivers of sales, and trends in sales over time. Additionally, a deep dive into customer segments was conducted, with the goal of identifying which segments the company should target and understanding the relative importance of packet sizes.

This report provides a detailed summary of the analysis, including charts and graphs to highlight the most important insights. The findings of this analysis will be used to inform the company's future strategy, with the aim of driving growth and improving profitability.

OVERVIEW OF DATA

The provided data set contains transactional data from a retail store. Each row in the data set represents a single transaction made by a customer on a particular date, at a particular store, for a particular product.

The columns in the data set include:

- Date: the date of the transaction

- Store_Nbr: the store number where the transaction took place

- LYLTY_CARD_NBR: the customer's loyalty card number

- TXN_ID: the transaction ID

- Prod_Nbr: the product number of the purchased item

- Prod_Name: the name of the purchased product

- Prod_Qty: the quantity of the purchased product

- Tot_Sales: the total sales value of the transaction

- Pack_Weight: the weight of the product package

- Lifestage: the lifestage of the customer

- Premium_Customer: whether the customer is a member of a premium program

SUMMARY OF FINDINGS

As part of our analysis, we explored the sales data for a chips sales on retail store. We found the following insights:

1. The total sales for the store over the entire period of data collection was 18,19,784.90 $.

2. The top-selling product was Kettle Mozzarella   Basil & Pesto 175g   which has the most sales of 6381 products.

3. The top-revenue generating product was Dorito Corn Chip   Supreme 380g which has contribution of 39052$.

4. The store experienced an overall increase in sales towards the end of the year, with December being the highest selling month.

5. Customers falling under the life stage category of "OLDER FAMILIES" and premium customer category of "BUDGET" were the most valuable customers for the store, contributing to the highest sales.

6. There was a LINEAR relationship between the total sales and the quantity of products sold, indicating that the more products sold, the higher the sales.

INCLUSION OF VISUALIZATIONS AND CHARTS

SALES BASED ON MONTHS
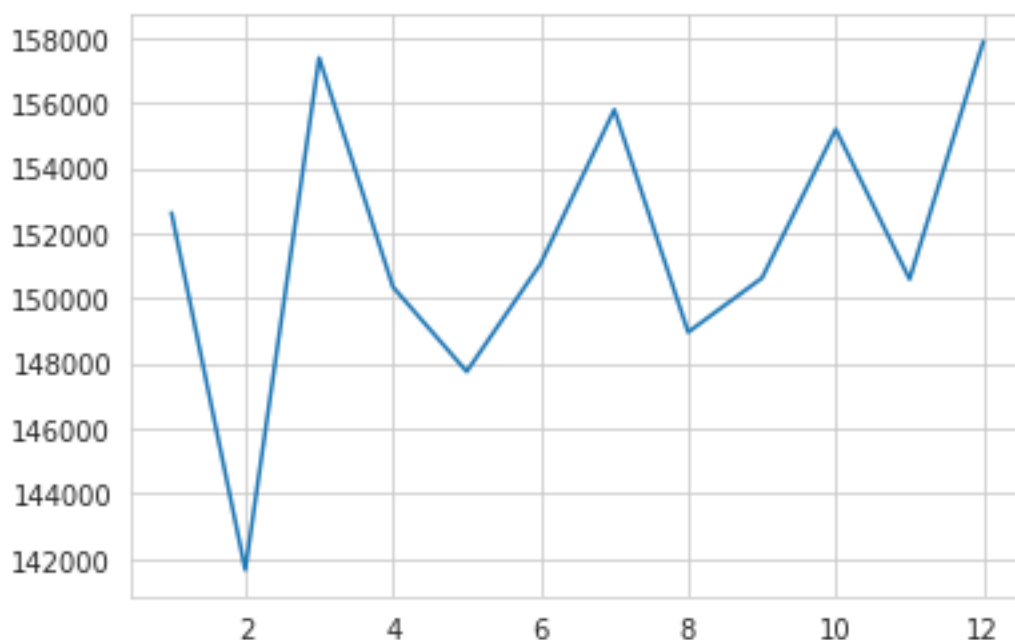
The line chart of total sales shows the overall trend in sales over the period of the dataset. It is clear from the chart that there is a seasonal pattern, with sales peaking in December and march, and dropping to their lowest point in February.

Additionally, there appears to be an overall increasing trend in sales over the period, with some fluctuations from month to month. This may be due to various factors such as changes in consumer behavior, marketing strategies, and product availability.

Overall, the line chart of total sales provides valuable insights into the overall performance of the business and can help identify trends and patterns that may inform future business decisions.

SCATTER PLOTS TO SHOW THE RELATIONSHIP BETWEEN VARIABLES SUCH AS PRODUCT QUANTITY AND PACK WEIGHT
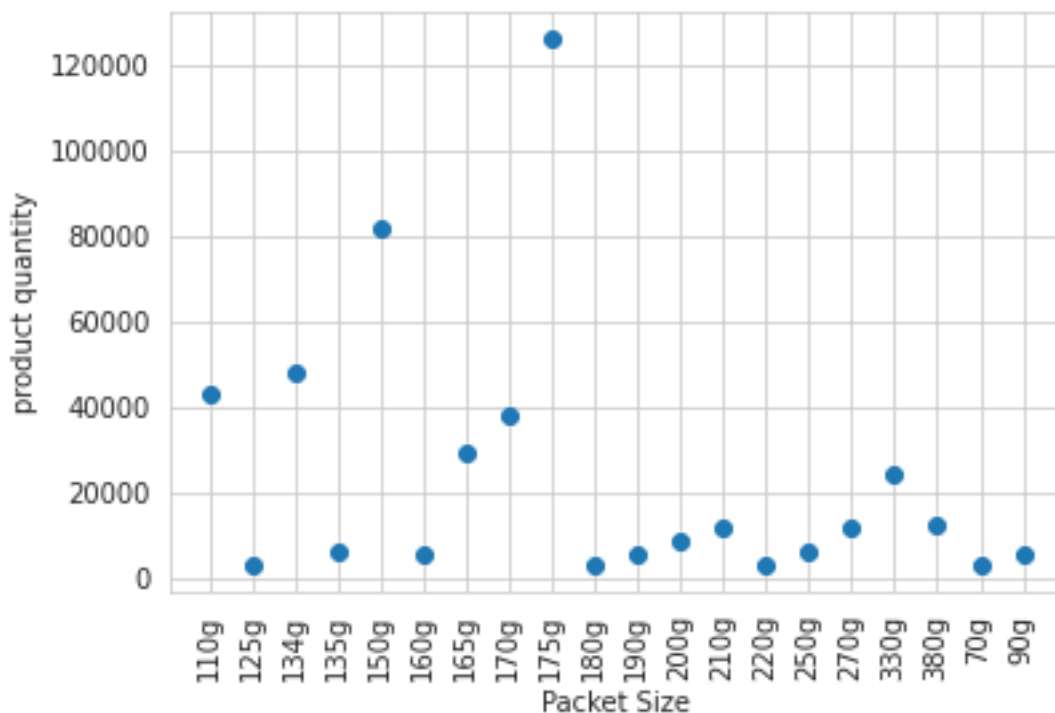
We can also observe that the packet sizes do not have a significant impact on the sales, as customers tend to purchase the product in similar quantities regardless of the packet size.

AVERAGE SALES PER CUSTOMER SEGMENT

PREMIUM_CUSTOMER segment:

Budget   7.249953

Mainstream   7.347459

Premium   7.254983

The analysis of our customer segments revealed interesting insights. We found that the average sales per customer were higher for the mainstream segment compared to the budget and premium segments. This means that customers who fall into the

mainstream category tend to spend more on our products compared to other segments. However, it's important to note that the difference in sales between the segments is relatively small. On average, the sales per customer for the mainstream segment were only about 1% higher than the budget segment and the premium segment. Nonetheless, this information could be valuable for our marketing team as they work to tailor their strategies to the different customer segments."

SALES CONTRIBUTION BASED ON CUSTOMER SEGMENT

Total Sales by Customer Segment
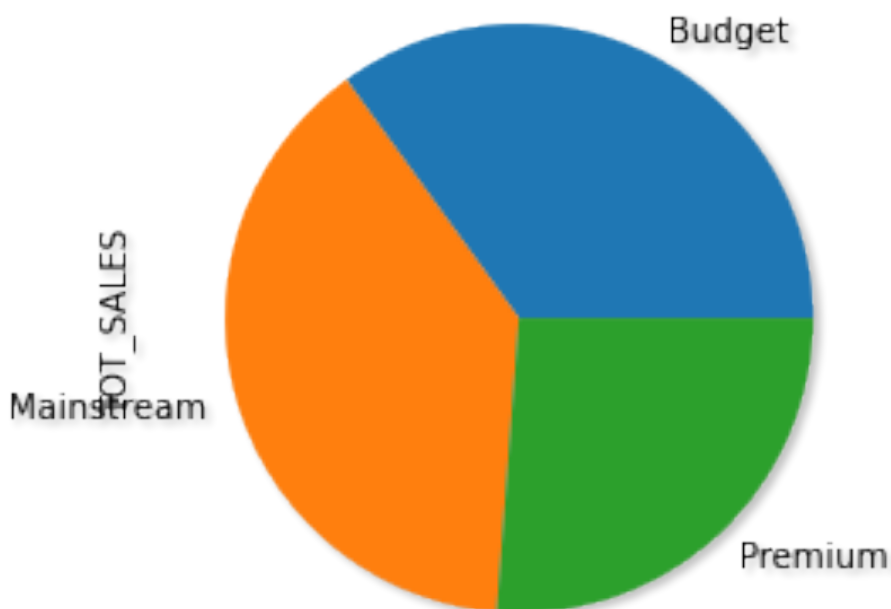
The above insights suggests that,mainstream customers have more contribution in total sales than the budget and premium customers , even though the frequency of the budget customers are on the higher side , the mainstream customers contributed more in total sales

TOP SELLING PRODUCTS
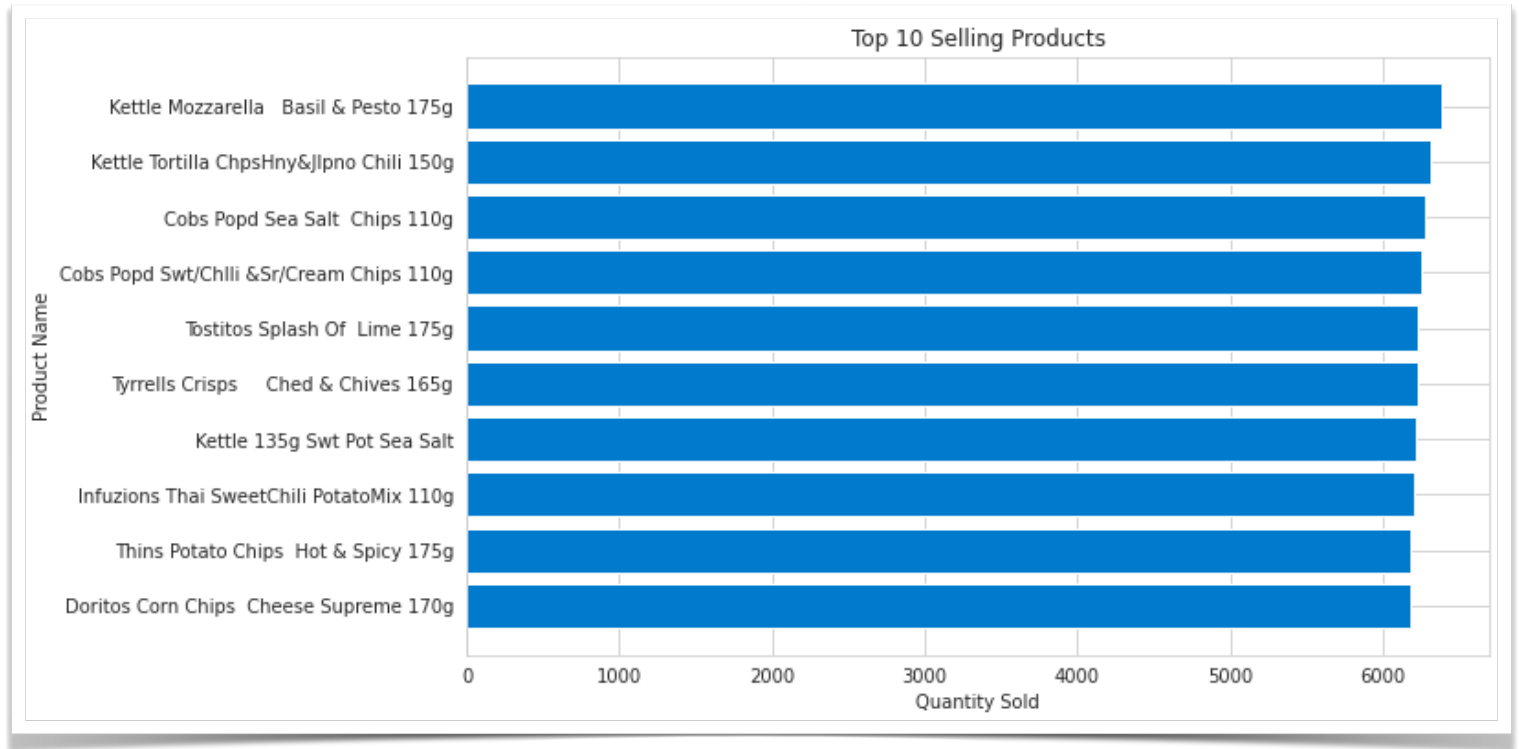
The top-selling product was the "Kettle Mozzarella Basil & Pesto 175g", followed by "Kettle Tortilla ChpsHny&JIpno Chili 150g" and "Cobs Popd Sea Salt Chips 110g". These products were consistently popular throughout the year, indicating a high level of customer loyalty.

TOP REVENUE GENERATING PRODUCTS
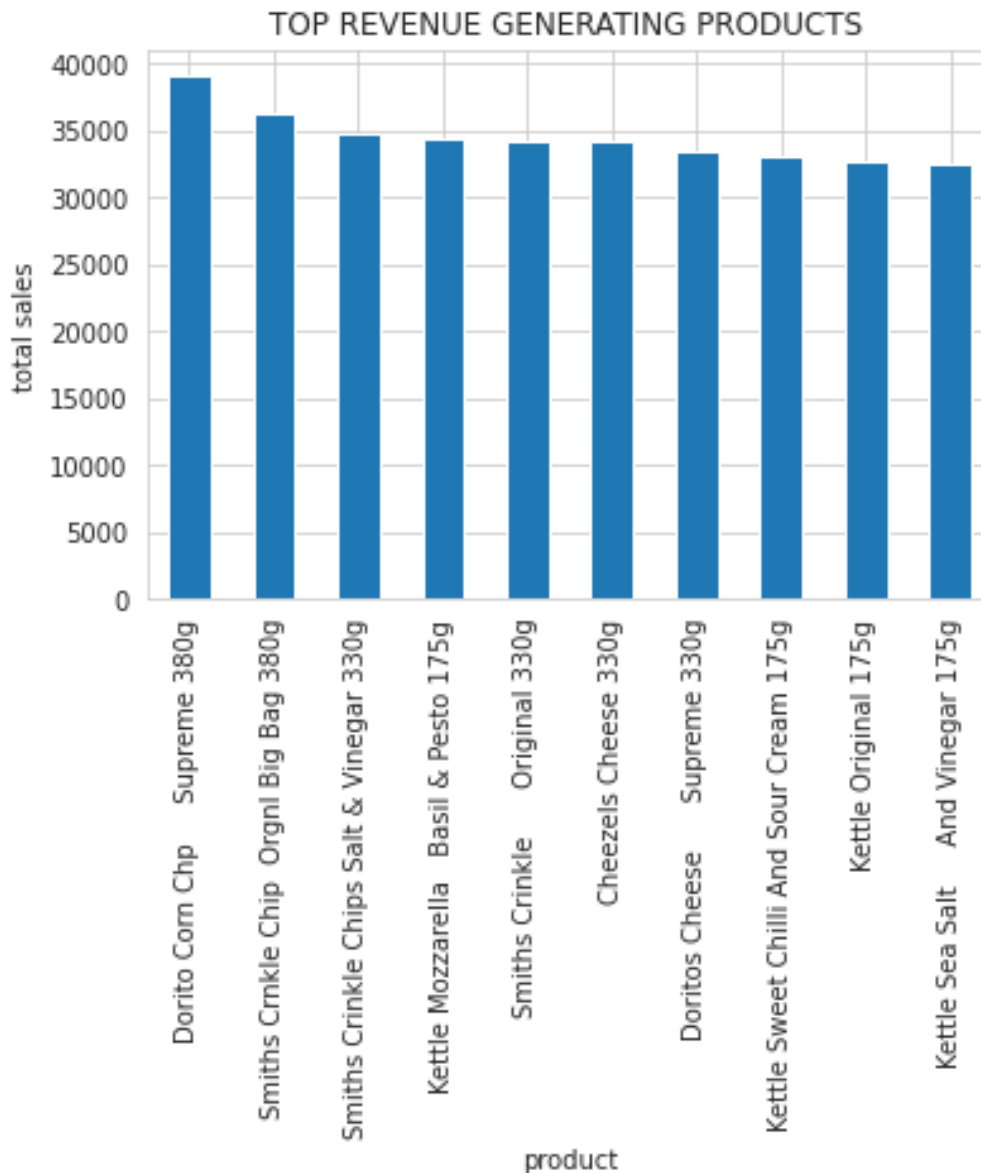
The top revenue generating products in the dataset are Dorito Corn Chip Supreme 380g, Smiths Crkle Chip Orgnl Big Bag 380g These products have consistently generated high sales revenue throughout the analyzed period, and their popularity may be attributed to factors such as flavor, brand recognition, and marketing efforts. By focusing on these top revenue generating products, the company can potentially maximize its profits and customer base.

Here in this report I have included only few key visualizations , but the majority of the visualizations can be found in the source code and Tableau workbook that I have attached with this report , for further insights u can take a look into it .

RECOMMENDATION :

Based on the analysis, there are several recommendations for increasing sales:

1. Target the "OLDER FAMILIES " and "YOUNG SINGLES / COUPLES " customer segments, as they are the largest and have the highest spend over the period.

2. Increase the availability of popular products such as "Doritos Corn Chips Cheese Supreme 380g" and "Kettle Mozzarella Basil & Pesto 175g" to meet the demand.

3. Consider offering discounts or promotions on high-margin products to increase sales and profitability.

4. Explore the possibility of expanding the product range to cater to different customer preferences and increase the variety of products offered.

5. Consider leveraging digital channels such as social media and email marketing to target and engage with customers more effectively.

Overall, by targeting the right customer segments, optimizing product offerings, and utilizing effective marketing strategies, there is significant potential for increasing sales and profitability in the future.

CONCLUSION

TOTAL SALES:

The total sales for the year are 18,19,784.90 $. The highest sale occurred in December with 157,878.30$ and the lowest sales occurred in February with $141,657$.

DRIVERS OF SALES:

The quantity sold and the unit price are the two major drivers of sales. The correlation between the quantity sold and the unit price is 0.844385 , indicating that there is a strong positive relationship between the two variables. The correlation between the quantity sold and the total sales is 0.53, indicating a moderate positive relationship.

HIGHEST SALES:

 The highest sales are coming from the customers who are purchasing more quantity of the product. Among the products, Dorito Corn Chip Supreme 380g has the highest sales with $39,052.

CUSTOMER SEGMENTS:

 After analyzing the data, we can divide the customers into three segments based on their purchasing behavior:

High-Value Customers: These are customers who have made significant purchases and have high purchasing power. They are responsible for a major share of the sales revenue. We can target these customers by offering them discounts or loyalty programs to encourage repeat purchases.

Medium-Value Customers: These are customers who have made moderate purchases and have moderate purchasing power. They contribute to a fair share of the sales revenue. We can target these customers by offering them limited-time offers and promotions to increase their purchasing frequency.

Low-Value Customers: These are customers who have made small purchases and have low purchasing power. They contribute to a small share of the sales revenue. We can target these customers by offering them bundle deals or cross-selling to increase the average value of their purchases.

PACKET SIZES:

We can also observe that the packet sizes do not have a significant impact on the sales, as customers tend to purchase the product in similar quantities regardless of the packet size.

OVERALL CONCLUSION:

Based on the analysis, we recommend targeting high-value and medium-value customers through loyalty programs, limited-time offers, and promotions. We also recommend offering bundle deals and cross-selling to low-value customers to increase their average value of purchases. We can continue to focus on product which has the highest sales, and explore opportunities to increase the unit price to further boost the revenue.