Grocery Sales Analysis

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Project Overview

DataSet

- DEPARTMENT: Department in which the product is categorized.
- CATEGORY: Category in which the product is categorized.
- BRAND: Brand of the product.
- PRICE_RETAIL: Retail price of the product.
- PRICE_CURRENT: Current price of the product.
- PRODUCT_NAME: Name of the product.
- PRODUCT_SIZE: Size of the product.
- PROMOTION: Promotion for the product.

Problem

To optimize operational efficiency and profitability, Walmart needs to analyze brand performance, department and category trends, promotion effectiveness, and product popularity. These insights will inform stocking decisions, marketing strategies, and product lifecycle management, ensuring tailored customer experiences and maximizing revenue.

Hypothesis

Analysing the number of products sold and percentage sales contribution based on brand, department and category. We can know which brand makes walmart more money and which products need discount to attract more people to buy them based on the total sales with and without discount.

Data Wrangling and Cleaning

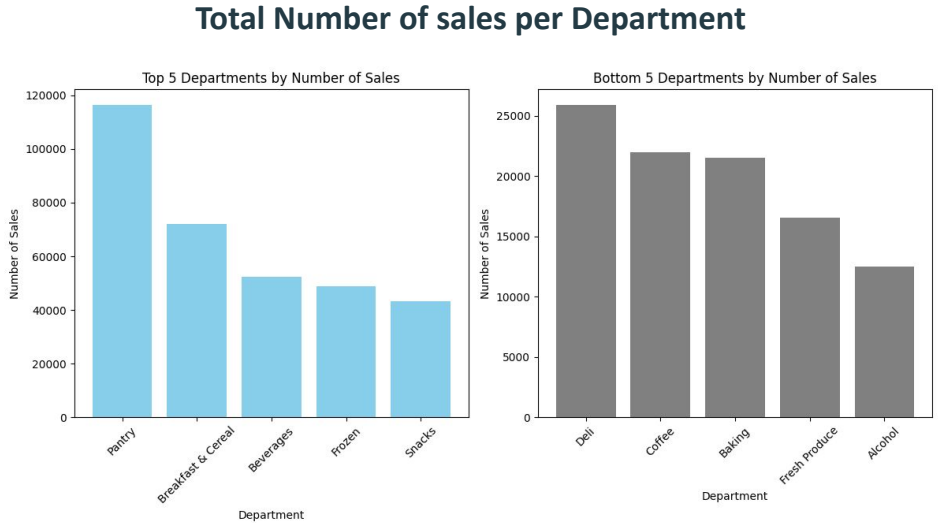
Major obstacle

Finding what hypothesis to do with the selected dataset as there were more rows and columns but could not use few of them to formulate the hypothesis I planned to ,when I selected the data set.

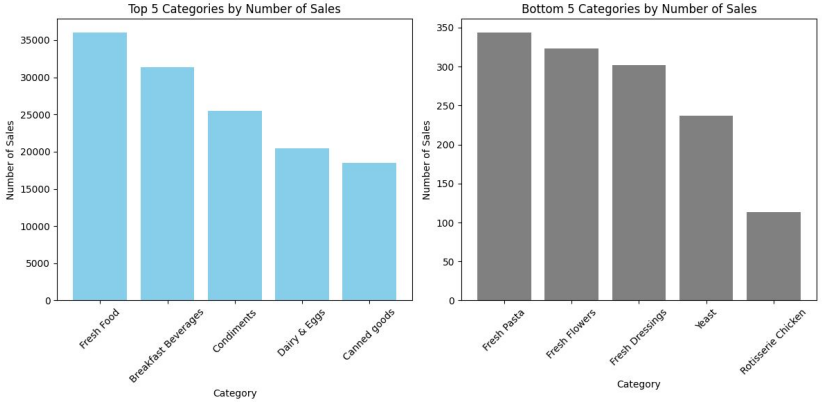
So, I had to create a new discount field which helped me in knowing more details about the sales.

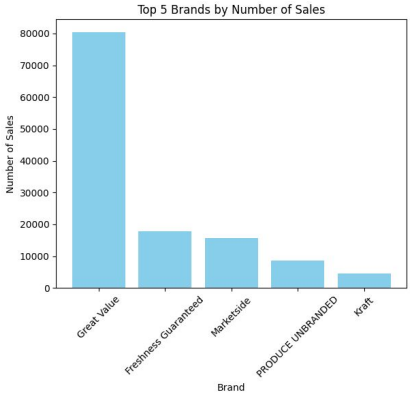
Exploratory Data Analysis

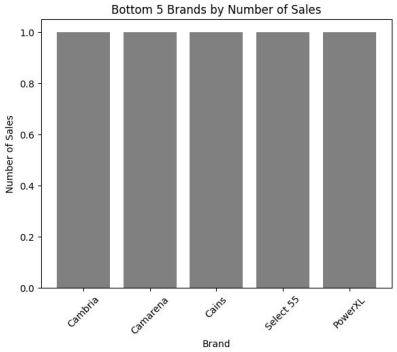
Grouping and plotting bar charts for better understanding of the data in a visual form.

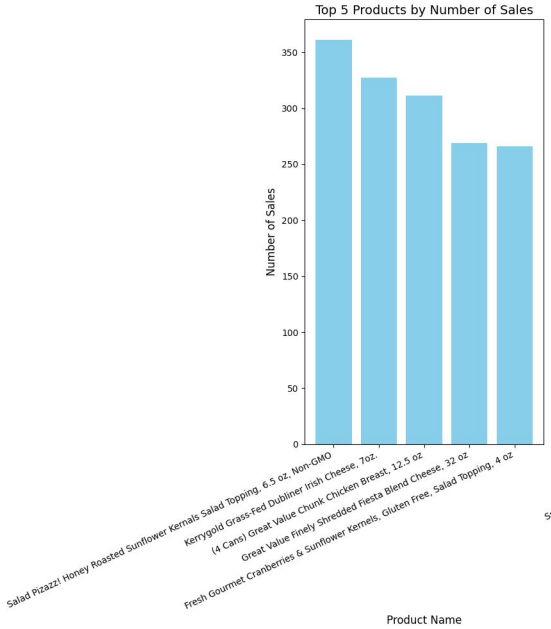


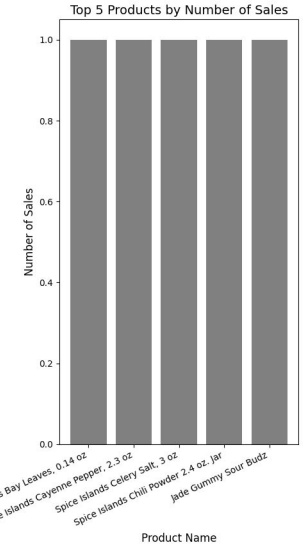
Total Number of sales



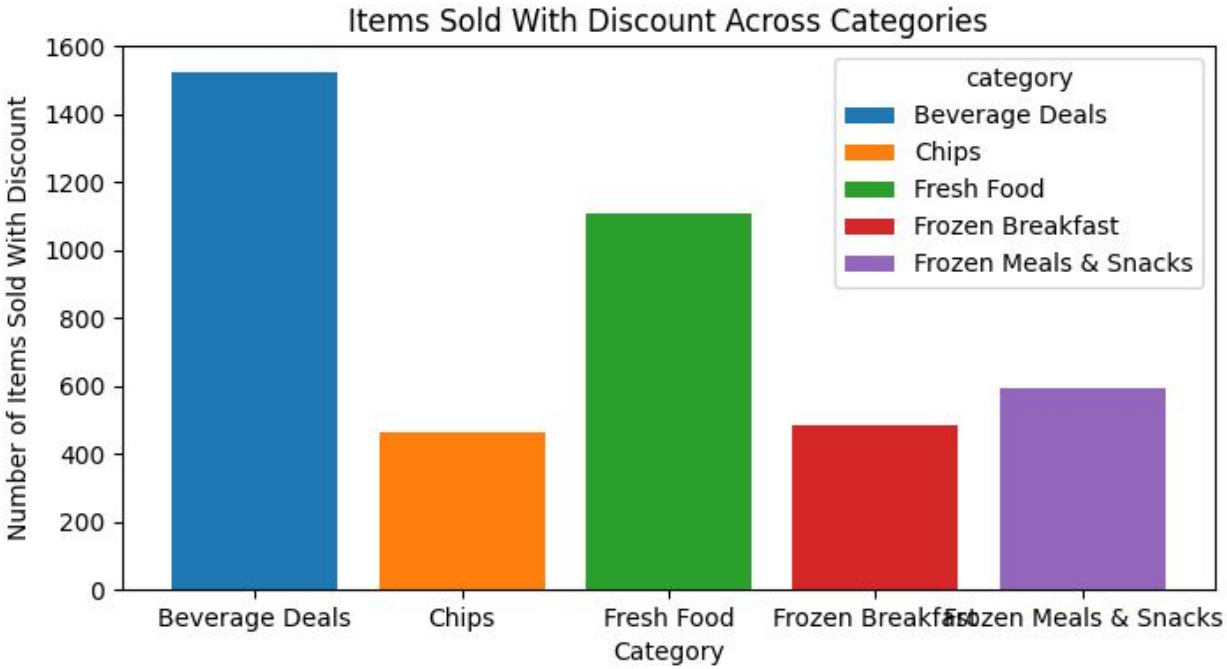




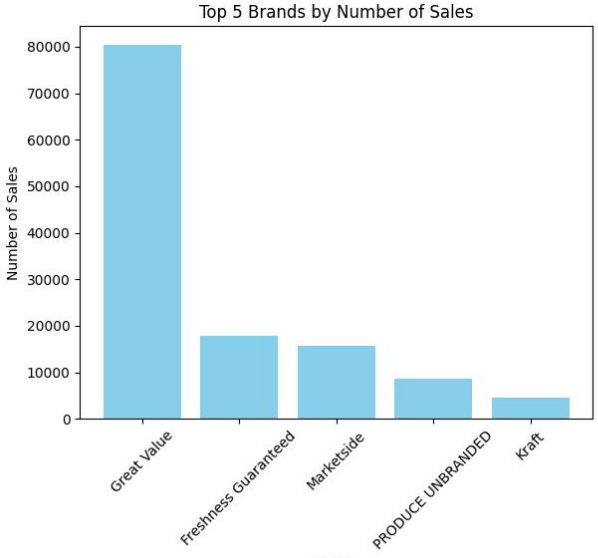


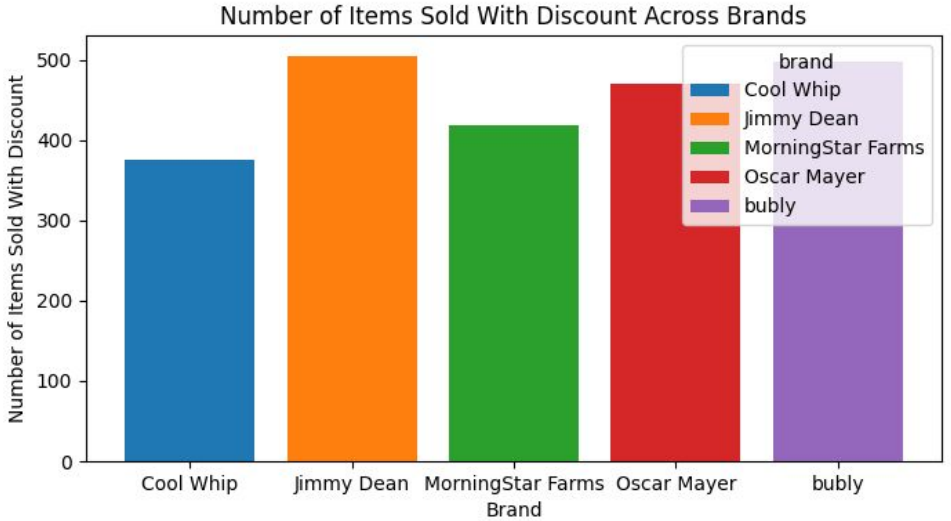


Sales on discounted items

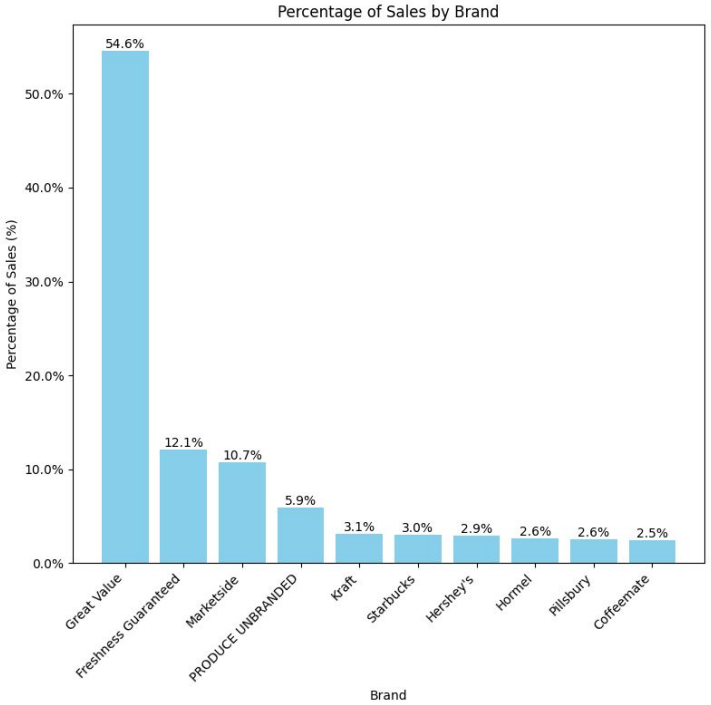


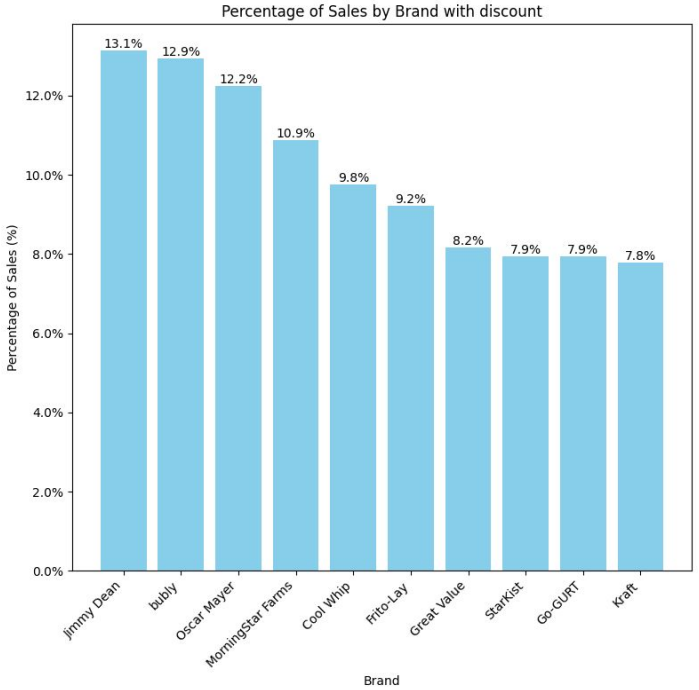
Overall vs Discount sales





Percentage distributions of sales by brand





Results and Insights

- **Brand Performance:** The analysis of sales distribution by brand can help Walmart identify which brands are performing well and which ones need attention. This can inform stocking decisions, marketing strategies, and partnership evaluations.
- **Department and Category Trends:** Understanding sales patterns across departments and categories allows for better inventory management and promotional strategies tailored to customer demand.
- **Effectiveness of Promotions:** By analyzing discounts and their impact on sales, Walmart can optimize their promotional efforts to maximize revenue and customer satisfaction.
- **Product Popularity:** Insights into the most and least popular products can guide product development, discontinuation decisions, and targeted marketing campaigns.

Project Link

THANK
you