Instacart: Marketing Strategy for an Online Grocery Store

Project Overview

Project Objectives

- Uncover information about sales patterns for an online grocery delivery/pickup service
- Suggest strategies for customer segmentation
- Target different types of customers with applicable marketing campaigns

Strategies for Analysis

- Sales Trends by Time Period
- Customer Profiling
- Product Profiling

Project Overview

Skills & Tools Used

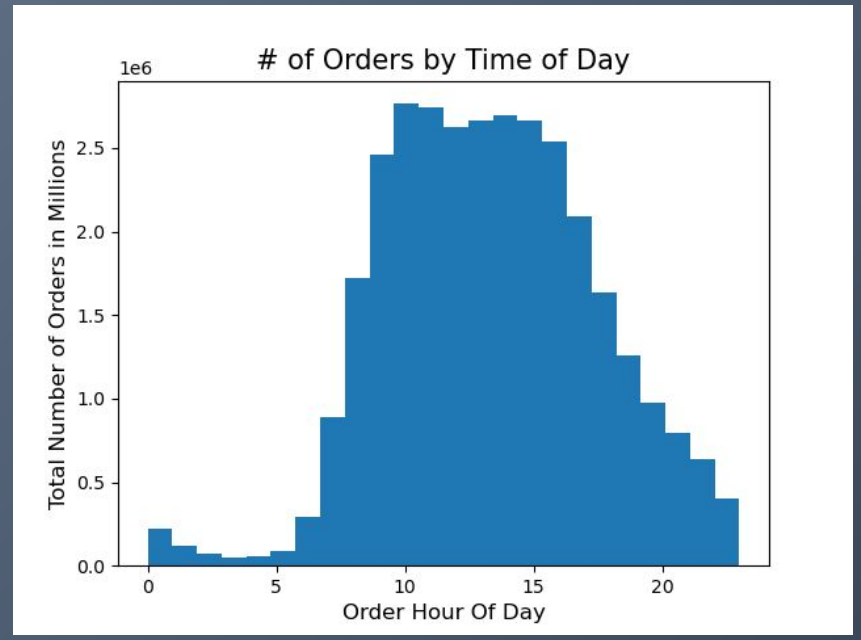
- Python/Jupyter Notebooks
- Data Cleaning
- Data wrangling
- Data merging
- Deriving variables
- Grouping data
- Aggregating data
- Reporting in Excel
- Population flows

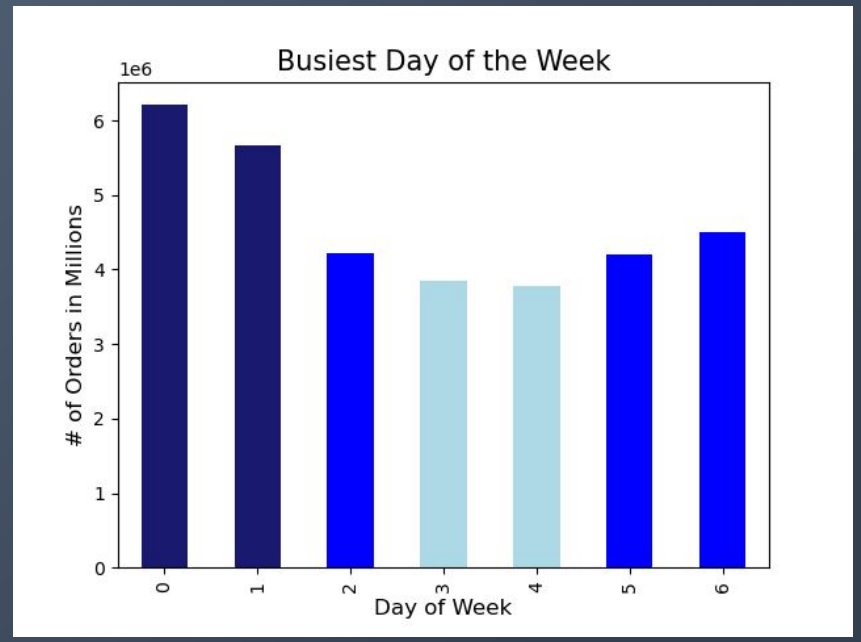
Links to Dataset, GitHub and Excel Report

- The Instacart Online Grocery Shopping Dataset 2017
- Accessed from www.instacart.com/datasets/grocery-shopping-2017 via Kaggle on October 31st, 2023.
- Link to GitHub Repository
- Link to Downloadable Excel Report

Analysis Step 1: Sales Trends by Time Period

- **Insights: Time of Day**
  - **Highest Frequency of Orders:** Between 9AM-6PM
  - **Least Busy Period:** Between 9PM-6AM
- **Insights: Day of Week**
  - **Busiest Days:** Saturday (0) and Sunday (1)
  - **Least Busy Days:** Tuesday (3) and Wednesday (4)



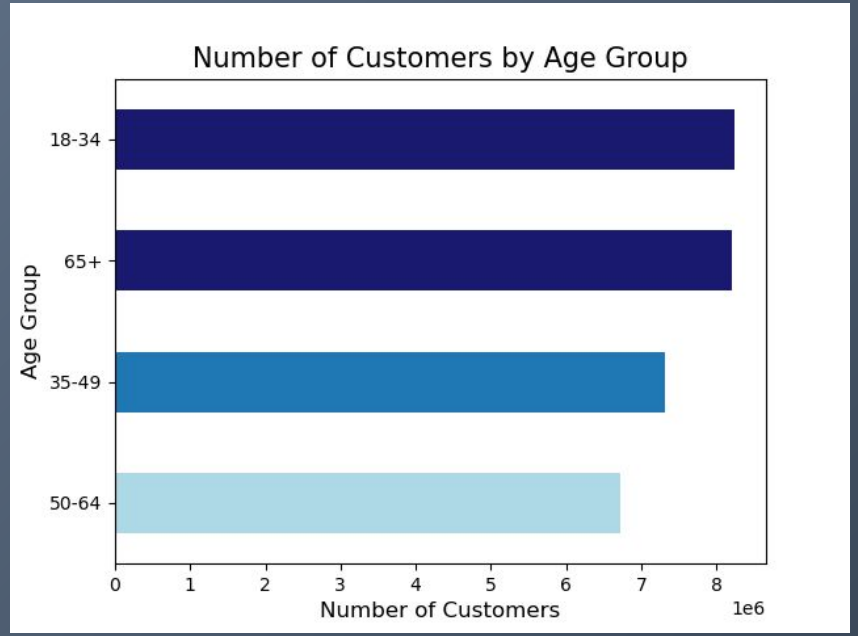


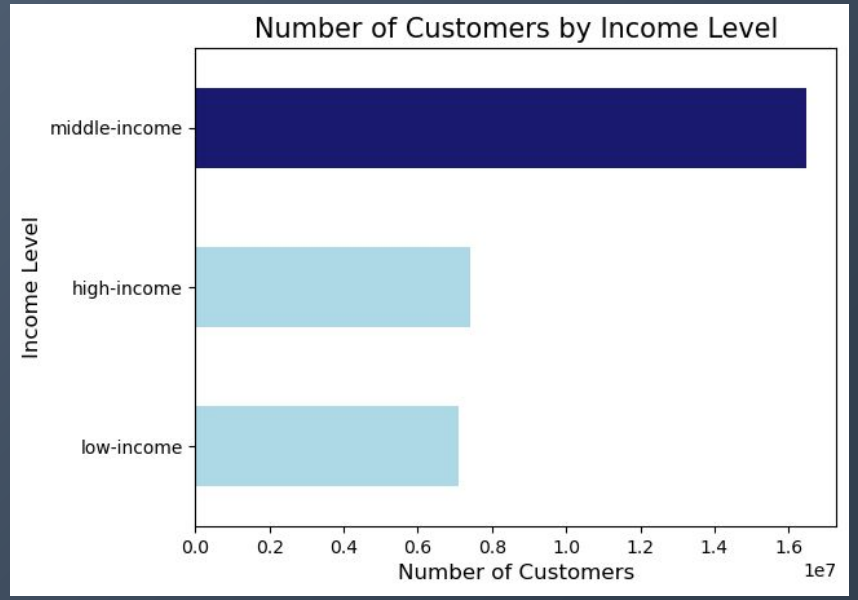
Analysis Step 1: Recommendations

- **I considered the benefits of two different marketing strategies:**
  - To capitalize on the peak days/hours OR
  - To aim to increase the traffic during less busy periods.
- **Further research recommended to see if Instacart can handle higher customer traffic during peak periods.**

Analysis Step 2: Customer Profiling

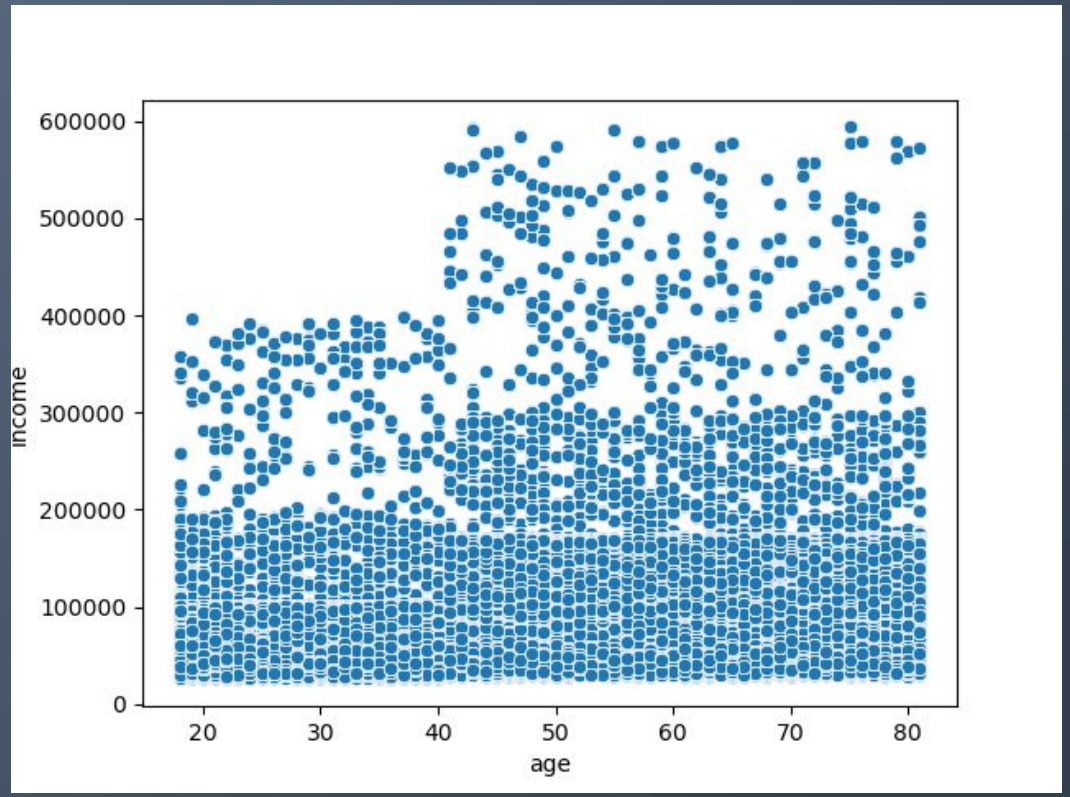
- **Analysis 2**
  - **Goal:** uncover preferred shopping habits by specific customer groups
  - **Strategy:** Group customers according to different categories, such as age and income level
- **Insights**
  - Instacart's customers span all **age groups** rather evenly.
  - **Middle-income earners** make up the **majority** of Instacart's customers
  - There are a **similar number of high-income and low-income earners**
  - There is a **positive correlation between a customer's age and income level** (see next page)





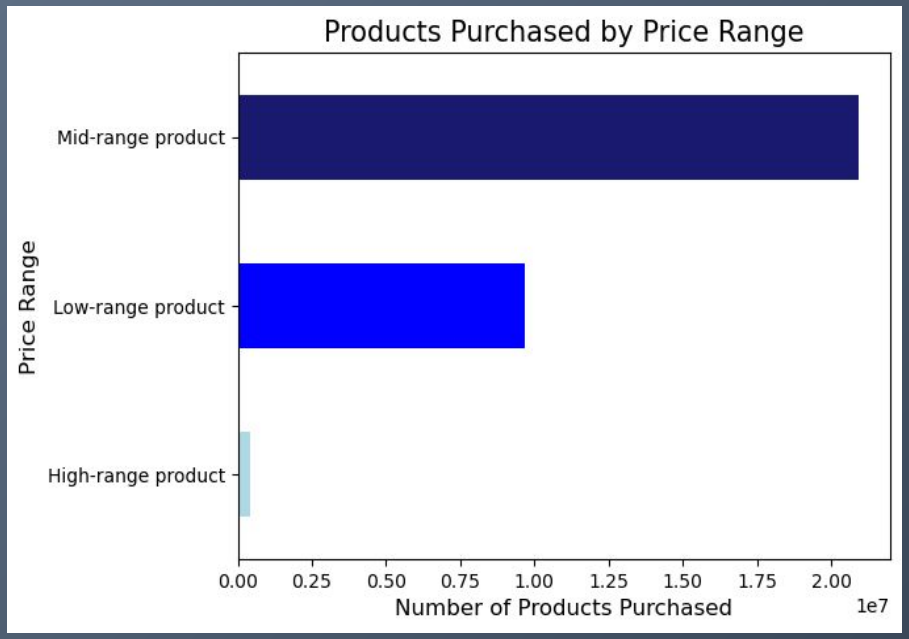
Analysis Step 2: Recommendations

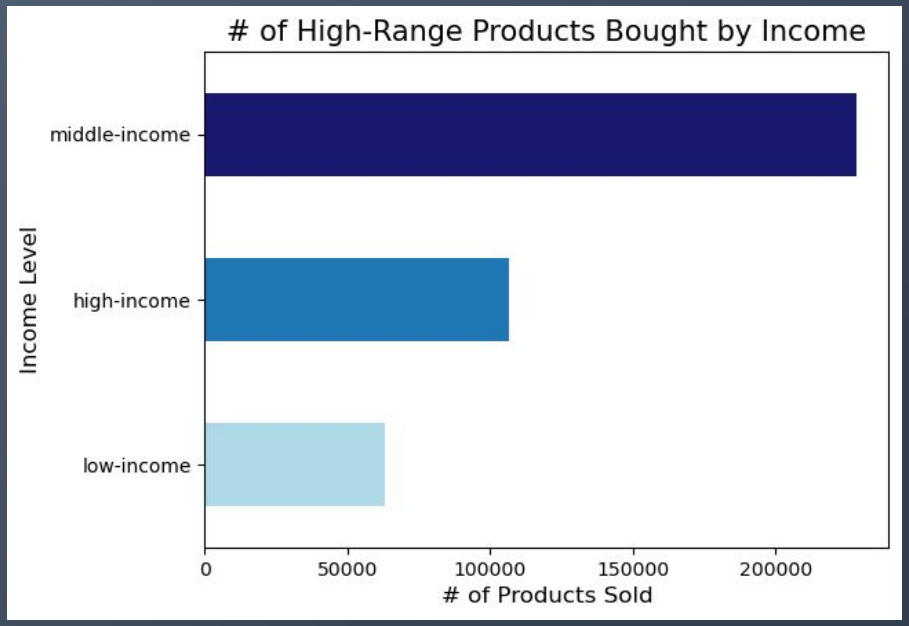
- **Further Research**:
  - Discover if certain age groups or certain income levels prefer shopping at specific times
  - Discover if certain age groups or certain income levels have certain product preferences (move on to Step 3 of Analysis for this)



Analysis Step 3: Product Profiling

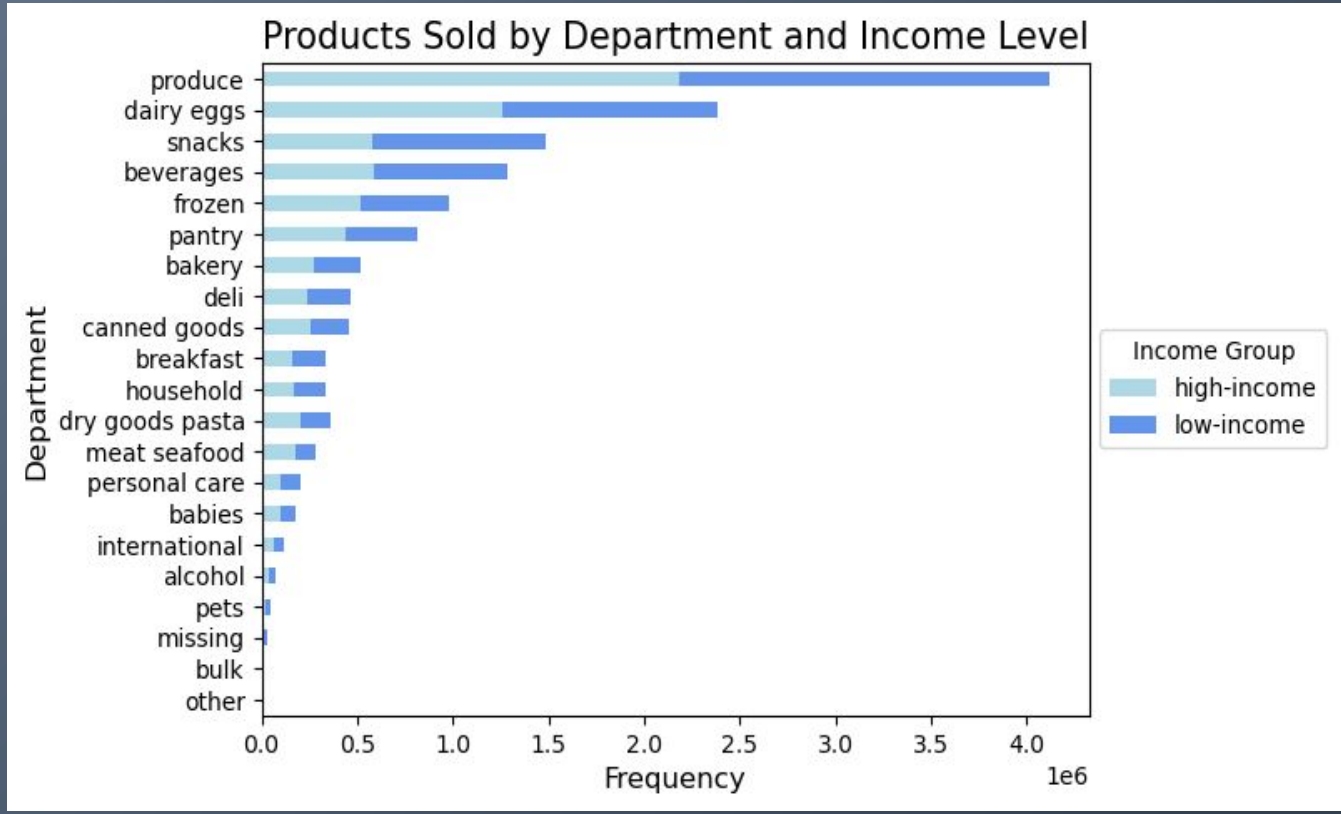
- **Goals and Strategies**
  - Identify which products to advertise to specific customer categories according to their preferences
  - Categorize products by various criteria (such as price range)
  - Analyze a product's popularity by different customer groups
- **Insights**
  - **Mid-range** (price) products **sold the most**
  - **High-range** products **sold by far the least**
  - **High-income earners bought more high-range products** than low-income earners
    - There are similar number of high and low-earners





Analysis Step 3: Product Profiling

- **Insights:**
  - **Top 4 Products:** Produce, dairy/eggs snacks and beverages departments
  - **Low-income earners** bought more of the following products: **Beverages, Snacks and Breakfast**
- **Recommendations**
  - Only advertise **high-range products** to **high-income earners**
  - Advertise **Top 4 Products to all customers**
  - More ads to **High-income earners** for **high-range products**
  - **Further research**: do certain age groups or income levels prefer shopping at certain times?



Conclusion

What I Learned:

- Through this project, I became comfortable with the basic elements of Python, Jupyter Notebooks and various libraries, most notably pandas, and how these tools can be used specifically as a data analyst.
- I was able to build on previously learned analytical skills that I developed when learning other tools (Excel, Tableau and SQL)

Challenges Faced:

- It was difficult for me to know immediately from which specific angle to begin various steps of my analysis. For example, would I find more insights if categorizing the customers by age, income level, or marital status? There were no immediately obvious insights.
- Finding specific recommendations for immediate action was challenging at first, with no obvious initial insights - sometimes, suggesting areas for further research is the most suitable recommendation!