Improving market segmentation by discovering growth opportunities

Project Objectives

- Perform an exploratory analysis of Instacart product, department, orders, and customer data
- Derive insights and suggest strategies for better market segmentation
- Wrangle, combine, group, and aggregate data in order to answer business questions
- Visualize and present data in a professional format

Data Overview

- Open-source product, departmart, and order data from Instacart via Kaggle
- Customer data created by CareerFoundry
- Samples over 3 million grocery orders

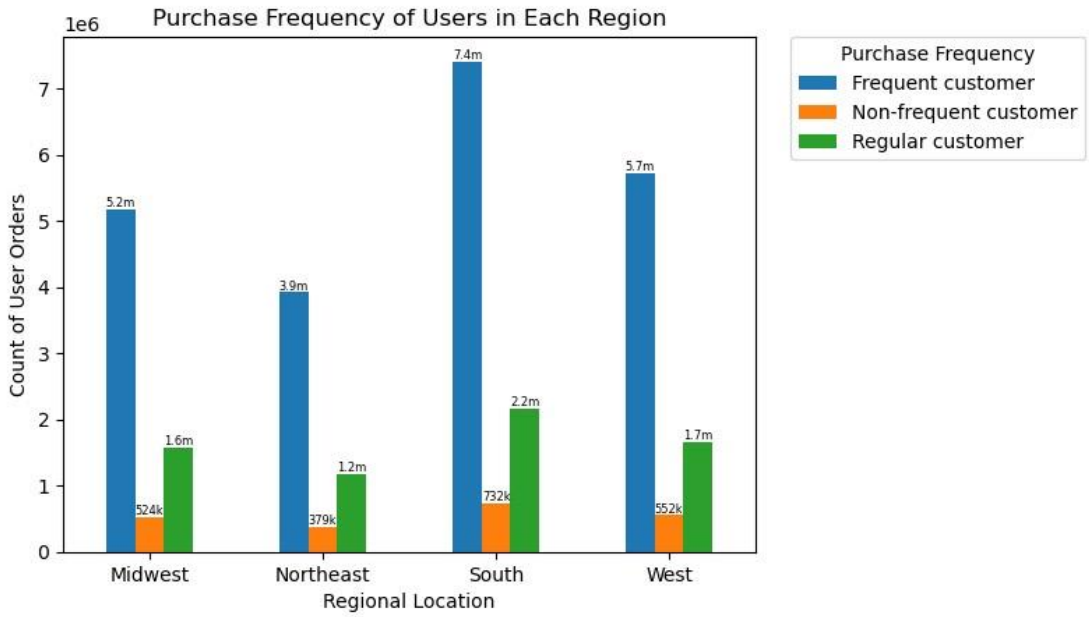
Techniques Applied

- Importing datasets into Jupyter notebooks
- Wrangling, cleaning, and combining datasets
- Deriving new variables for use in aggregation and grouping
- Exporting datasets in both CSV and PKL formats
- Visualizing variables and relationships between variables using Python to create histograms, bar charts, line charts, and scatterplots
- Presenting findings and recommendations

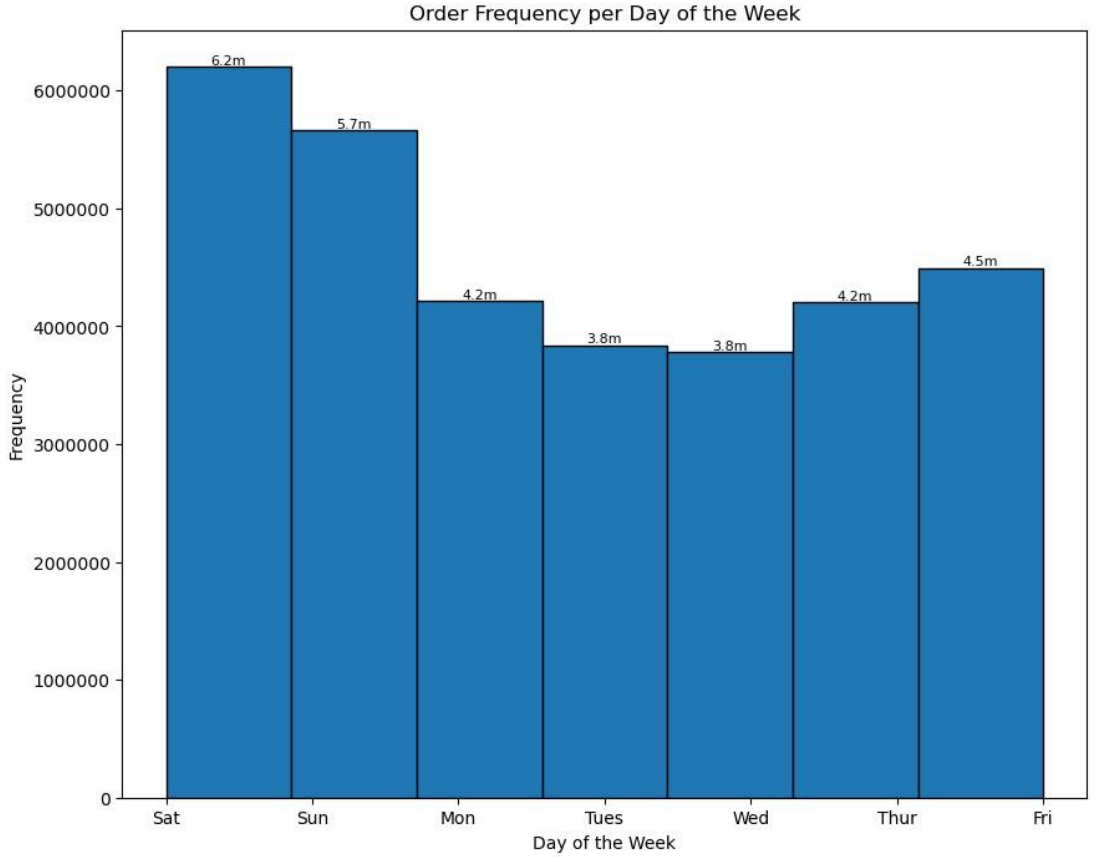
Tools Used

- Anaconda's Jupyter Notebook
  - Data analysis using Python
  - Python libraries including NumPy, Pandas, Seaborn, Matplotlib, and Scipy
- Microsoft Excel
  - Compiling, detailing and presenting analysis

Visual Highlights



Customer purchase frequency across regions is reflective of the customer count in each region



The middle of the week presents an opportunity for Instacart to increase order frequency

Key Recommendations for Instacart

- Instacart ads should focus on the convenience of Instacart deliveries during the week.
- Focus on advertising specific meals that use goods from a variety of departments. Similar to meal-kit deliveries such as HelloFresh or Home Chef, Instacart could advertise their ability to deliver a variety of specific goods that make up a meal.
- Instacart could potentially increase their loyal customer count by implementing a product recommendation system similar to other retailers such as Target and Amazon.

Actionable Insights

- Python is extremely useful for analyzing large datasets.
- Importing Python libraries can greatly expand your abilities as an analyst.
- Detailing scripts with notation allows others to understand your thought process.
- Segmenting data into groups can help identify patterns and relationships that provide useful insights.

Link to GitHub Repository

Link to Final Report