ONLINE GROCERY BASKET

OVERVIEW: Instacart is an online grocery delivery service that operates in US & Canada. The users can order groceries via the Instacart app and have those groceries delivered directly to their home.

OBJECTIVE: To conduct an exploratory data analysis and derive insights for improved customer segmentation, I analyzed over 800,000+ customer records. The analysis involved segmenting customer behaviors based on demographic information to optimize marketing campaigns. I performed data wrangling, merged datasets, derived new variables, and designed charts to uncover key insights. One notable finding was that the top three departments accounted for 51% of sales, while the bottom 5 departments contributed only 1% of sales. Based on these findings, it is recommended to allocate advertising efforts accordingly. Additionally, scheduling ads on the least busy days, such as Tuesday and Wednesday, can be beneficial.

TOOLS:

DATA PREPARATION

- ✓ Basic descriptive exploratory analysis;
- ✓ Removing duplicates, managing missing values, mixed type data checks;
- ✓ Assessing data values and creating new data frames;
- ✓ Merging data sets.

DERIVING VARIABLES

- ✓ Used conditional logic in the form of if-statements, user-defined functions, [loc] functions, and for-loops to derive new columns.

VISUALIZATION

- ✓ Designed bar charts, line charts, scatterplots and 100% stacked bar chart for different variables and relationships between variables.

EXCEL REPORTING

- ✓ Summarizing analysis findings and describing what connections in the data were found;
- ✓ Creating a report that describes the analysis methodology, the analysis, the results, visualizations, and recommendations.

RECOMMENDATION:

- To increase revenue, schedule ads on the least busy days i.e**. Wednesday** and **Tuesday**.
- Instacart could either advertise the top three department(which contributes **51%** to sales) or else look after the reason behind the bottom 5 departments(contributes **1%** to sales) and put the advertising effort to increase the sale.
- To boost customer loyalty, Instacart should introduce rewards programs with purchase discounts up to a specific limit. Additionally, they should provide incentives for existing customers to refer new users to the platform.

PERCENTAGE OF loyalty, GROUP BY DEPARTMENT

POPULAR DEPARTMENT

days of the week(0=Saturday)
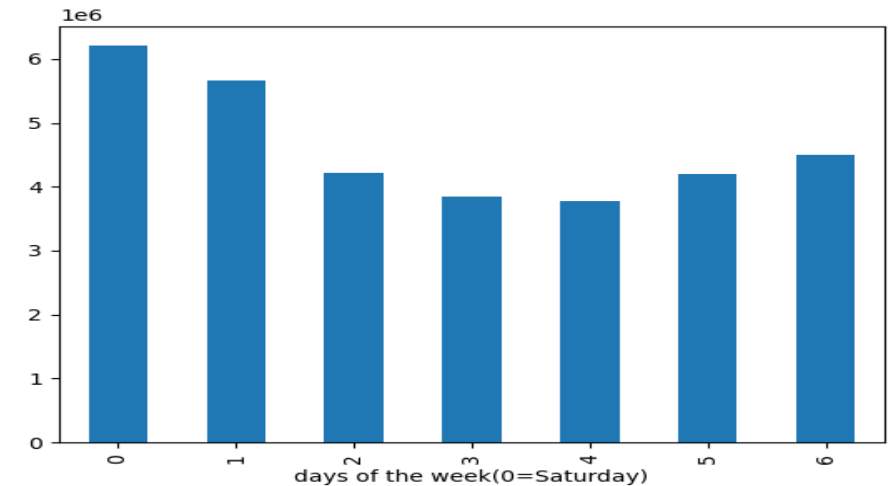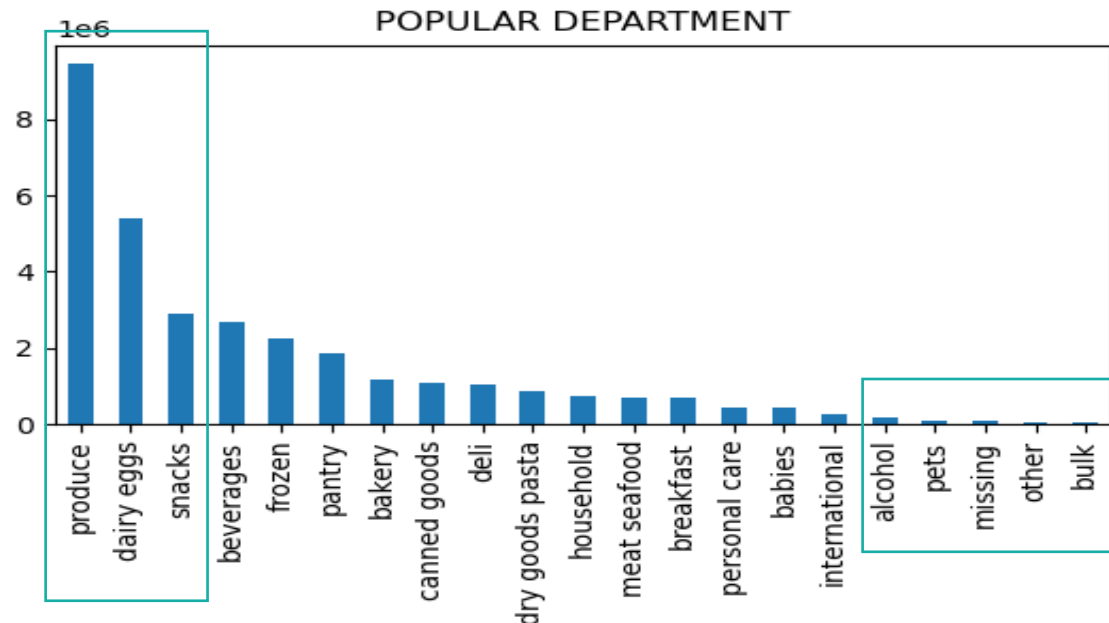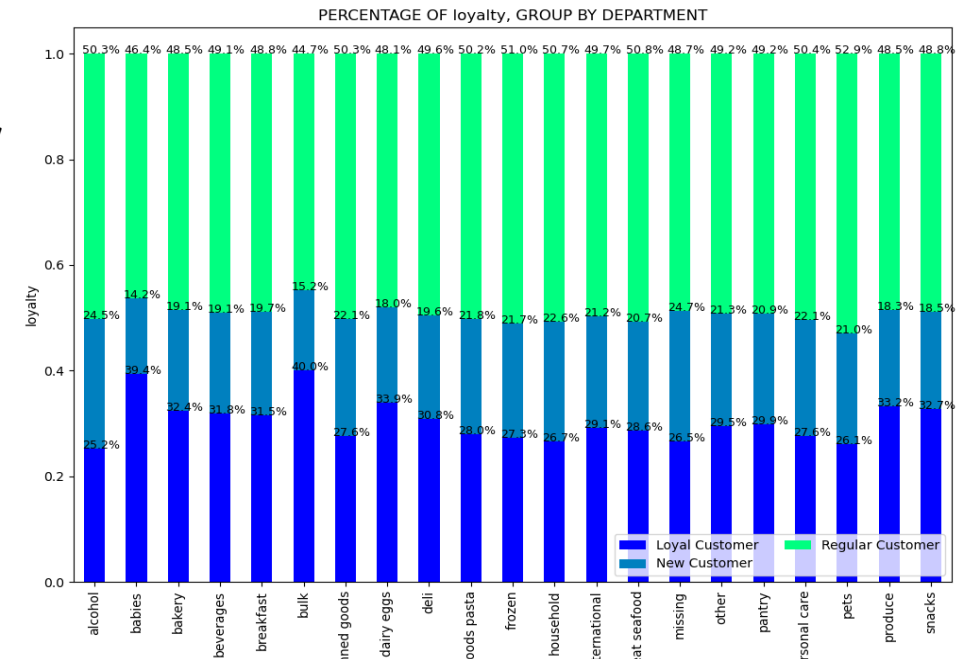
LINKS FOR FURTHER EXPLORATION:

- [GitHub Repository with full project](#)

- [Jupyter notebook with Python code](#)

- [Final report in Excel](#)

- [Data set link](#)