

# Ignosis Hiring ML Task

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## Team Member:

- Jyotin Goel

## Task 1: Who are the most profitable customers

### 1. Premium Customers:

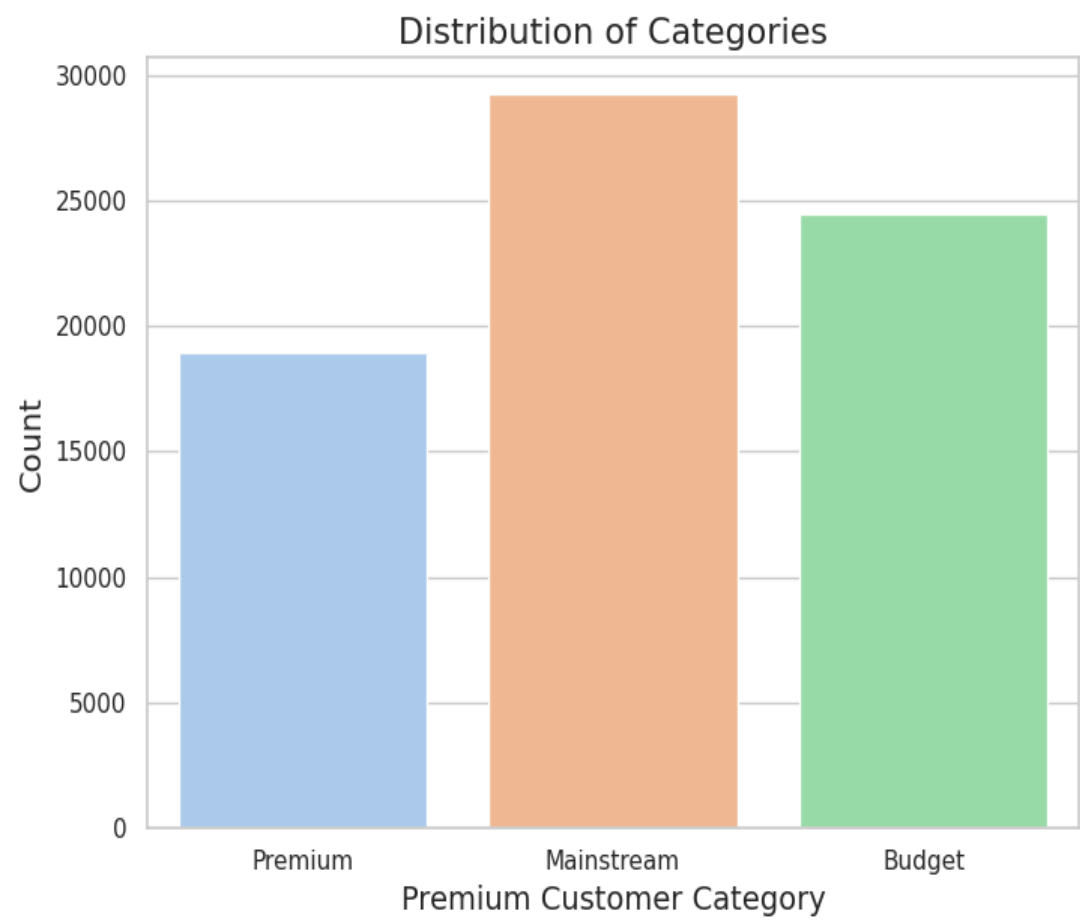
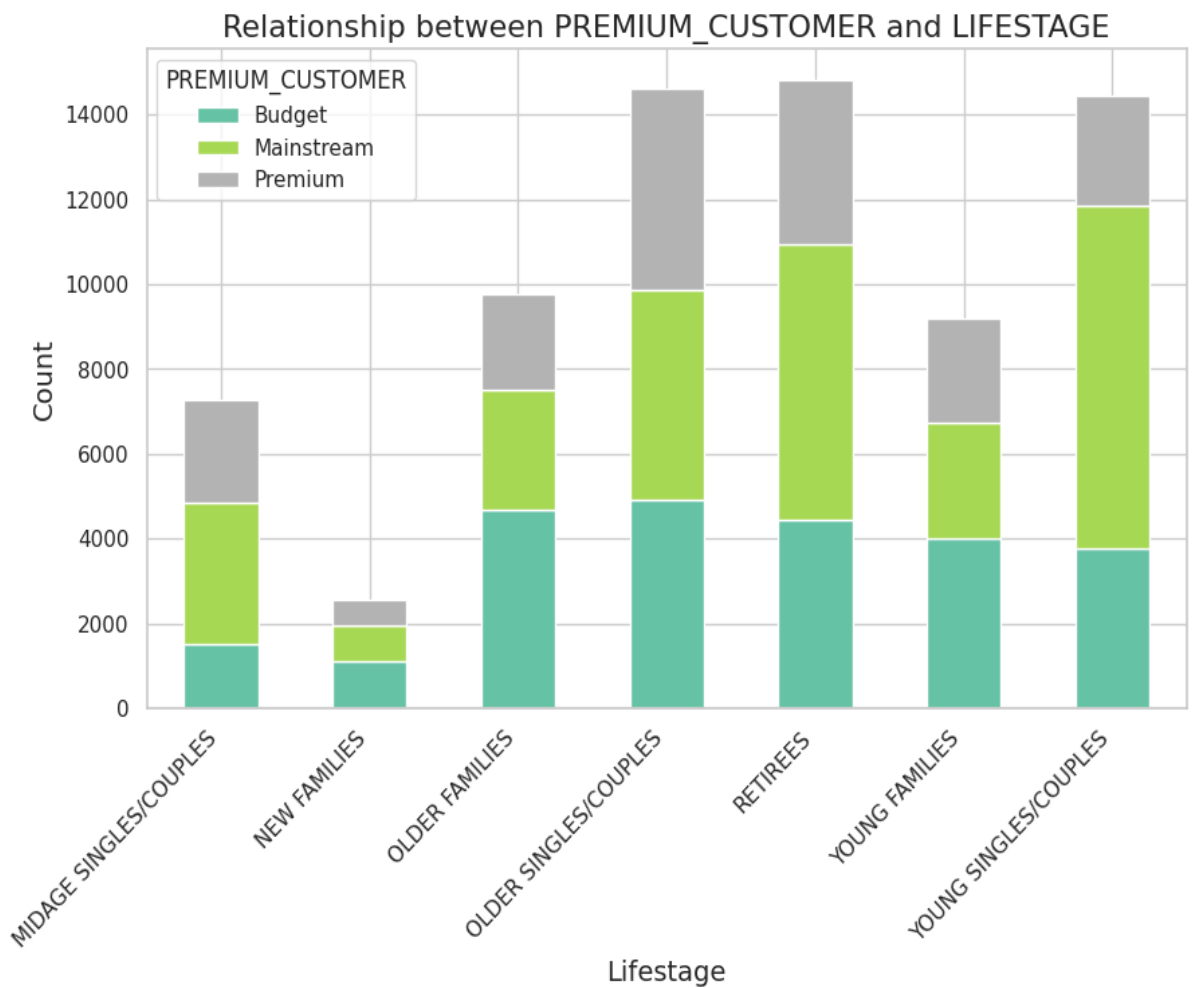
- The largest proportion of **Premium** customers belongs to the **OLDER SINGLES/COUPLES** group, indicating that this lifestage is the most significant for this customer category.
- The second-largest group of **Premium** customers is **RETIREEES**, suggesting that older individuals and retirees are more likely to opt for premium offerings.

### 2. Mainstream Customers:

- The **Mainstream** customer segment is dominated by **YOUNG SINGLES/COUPLES**, highlighting that younger individuals and couples are the primary target for mainstream products or services.

### 3. Budget Customers:

- The majority of **Budget** customers are concentrated in the **OLDER FAMILIES**, **OLDER SINGLES/COUPLES**, and **RETIREEES** lifestages. This indicates that older individuals and families are more likely to prioritize budget-friendly options.
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## Key Observations:

- **OLDER SINGLES/COUPLES** are a significant group across all customer segments, particularly for **Premium** and **Budget** categories.
- **YOUNG SINGLES/COUPLES** are the primary drivers of the **Mainstream** segment, reflecting their preference for mid-tier offerings.
- **RETIREEES** are more prominent in the **Premium** and **Budget** categories, suggesting a polarization in their purchasing behavior—either opting for premium products or seeking budget-conscious options.

## Task 2: Top 3 Most Profitable Products and Characteristics of the most loyal customers

### 1. Dorito Corn Chp Supreme 380g

- **Premium Customer Segmentation:**
  - The **Budget** and **Mainstream** segments contribute equally (55 transactions each), while the **Premium** segment has fewer transactions (32).
  - This suggests that this product is **more popular among cost-conscious shoppers** rather than premium customers.
- **Lifestage Segmentation:**
  - The highest transactions come from **Young Families (35 transactions)** and **Older Families (32 transactions)**, indicating that this product is **favored by families with children**.
  - Significant purchases also come from **Young Singles/Couples (25)** and **Older Singles/Couples (20)**, meaning it appeals across generations.
  - **New Families (2 transactions)** are the least engaged with this product.

#### 🔍 Key Buyer Characteristics:

- **Young and older families are the biggest buyers**, possibly due to shared snacking habits.
- **Price-sensitive customers dominate purchases**, with Budget and Mainstream customers making up most of the transactions.

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### 2. Smiths Crinkle Chips Salt & Vinegar 330g

- **Premium Customer Segmentation:**
  - Budget (72) and Mainstream (68) customers buy this product almost equally, while Premium customers (40) also contribute significantly.
  - Compared to Doritos, **this product has more Premium customer engagement**, suggesting it has broader appeal across income levels.
- **Lifestage Segmentation:**
  - **Young Families (42 transactions)** and **Older Families (40 transactions)** are the primary consumers, reinforcing the trend that **families love this flavor**.
  - **Older Singles/Couples (33 transactions)** and **Retirees (37 transactions)** are also key buyers, making this product a strong favorite among older consumers.

- **New Families (6 transactions) have the least interest in this product.**

#### 🔍 Key Buyer Characteristics:

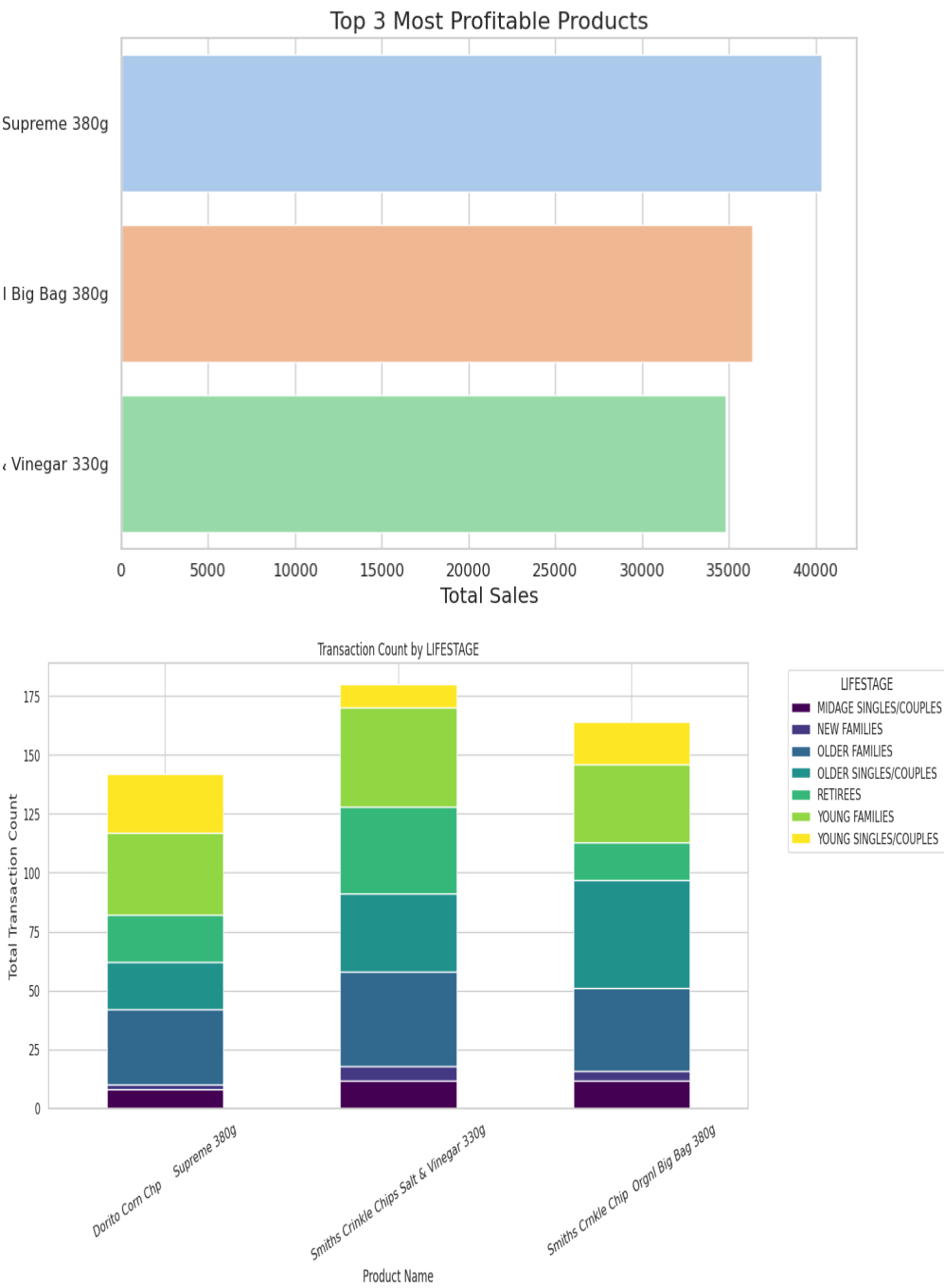
- **Appeals to all customer tiers (Budget, Mainstream, and Premium), making it a widely accepted product.**
  - **Popular among older and young families**, as well as **retirees**, indicating a preference across age groups.
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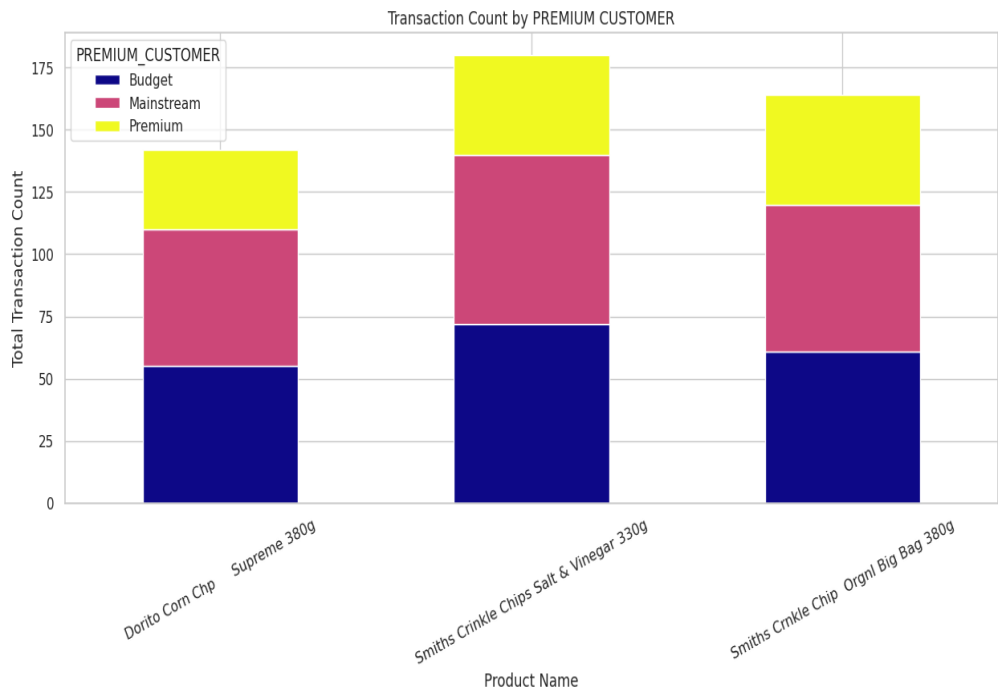
### 3. Smiths Crinkle Chip Original Big Bag 380g

- **Premium Customer Segmentation:**
  - Budget (61) and Mainstream (59) customers dominate purchases, while Premium (44) also has strong engagement.
  - The Premium segment purchases this product **more than the previous two chips**, showing that **it has better traction among higher-spending customers.**
- **Lifestage Segmentation:**
  - **Older Singles/Couples (46 transactions) make up the highest buyer group**, meaning that **this product resonates well with an older demographic.**
  - **Older Families (35), Young Families (33), and Retirees (16) also contribute significantly.**
  - **New Families (4 transactions) contribute the least**, once again showing that **newly established households do not frequently buy large chip packs.**

#### 🔍 Key Buyer Characteristics:

- **Older consumers (Older Singles/Couples and Retirees) prefer this product**, likely due to a nostalgic connection or preference for larger packs.
  - **Has better traction among Premium customers** than the previous two products.
  - **Still maintains strong sales among Budget and Mainstream buyers.**
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Overall Characteristics of Top Buyers

- **Budget & Mainstream Customers drive sales** across all three products, suggesting that pricing plays a crucial role in purchasing decisions.
- **Families (both young and old) are major consumers**, reinforcing that snacks are commonly shared within households.
- **Older Singles/Couples and Retirees engage heavily in purchasing the Smiths Crinkle Chips Original**, possibly due to an established brand preference.
- **Premium Customers engage more with Smiths Crinkle Chip Original Big Bag 380g compared to Doritos**, which indicates that they may prefer classic, recognizable flavors over flavored variants.