

Isaque do Nascimento

Customer Segment Analysis

Using RFM analysis to segment customers based on purchasing behavior

Key Questions

Business Problem

How can we segment our customer base to optimize marketing strategies and revenue?

Questions

Who are our most valuable customers?

Which customers are at risk of churning

How do purchasing behaviors differ across segments?

What targeted strategies should we implement?

Distribution of Key Customer Metrics

1. Total Spent Distribution (Log Scale)

- Most customers spend relatively small amounts
- The distribution is heavily right-skewed, indicating a small number of high-value customers
- Using a log scale helps visualize the full range of spending patterns

2. Order Frequency Distribution

- Majority of customers make very few orders (1-5 orders)
- The distribution shows a sharp decline as order frequency increases
- Very few customers make more than 20 orders

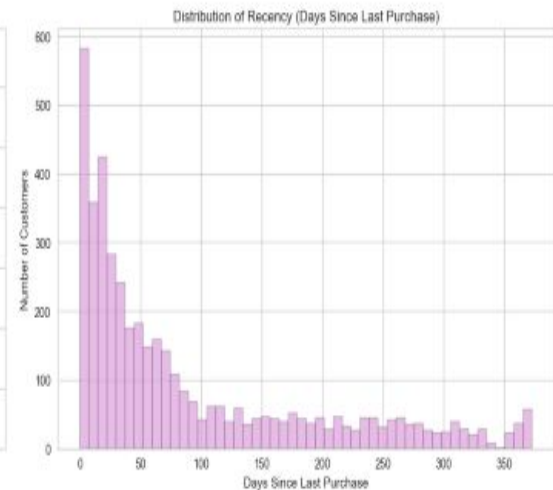
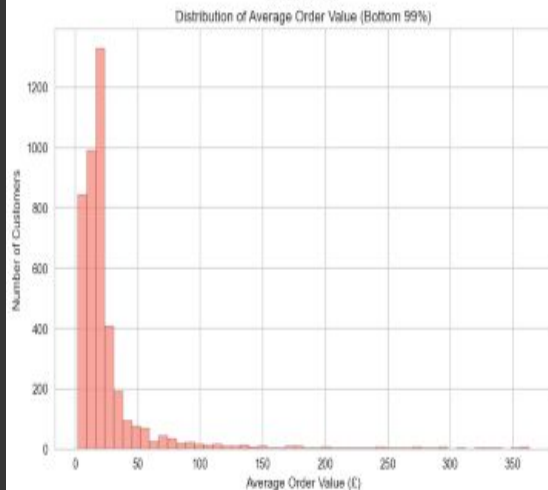
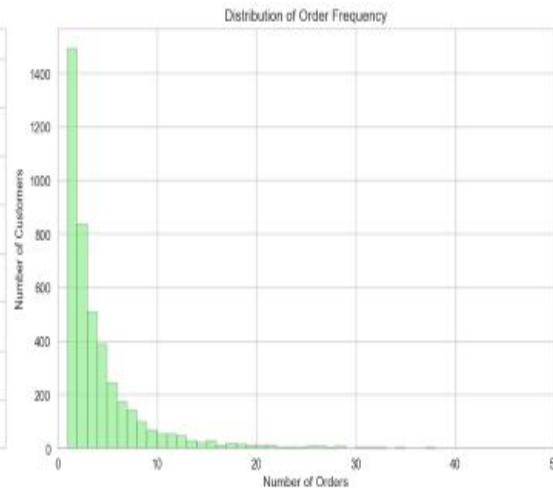
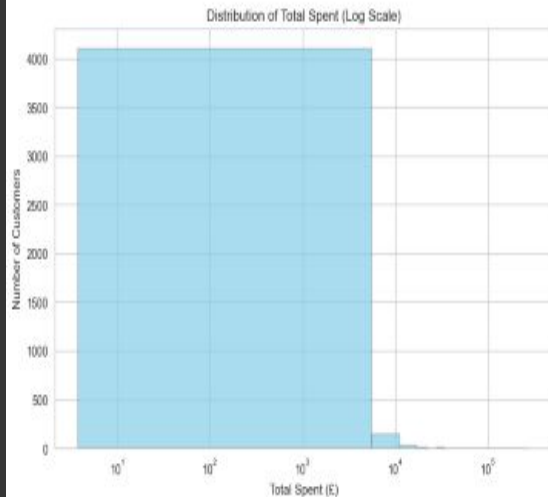
3. Average Order Value Distribution (Bottom 99%)

- Most customers have average order values in the lower range
- The distribution is right-skewed even after removing top 1% outliers
- This suggests most customers make small to medium-sized purchases

4. Recency Distribution

- Shows when customers last made a purchase
- Helps identify customer engagement patterns
- Useful for understanding customer retention and churn

Distribution of Key Customer Metrics



RFM Metric Correlation

1. Recency vs TotalOrders (0.12):

- Very weak positive correlation
- Suggests that recent customers don't necessarily make more orders
- Recent purchases don't strongly predict order frequency

2. Recency vs TotalSpent (-0.08):

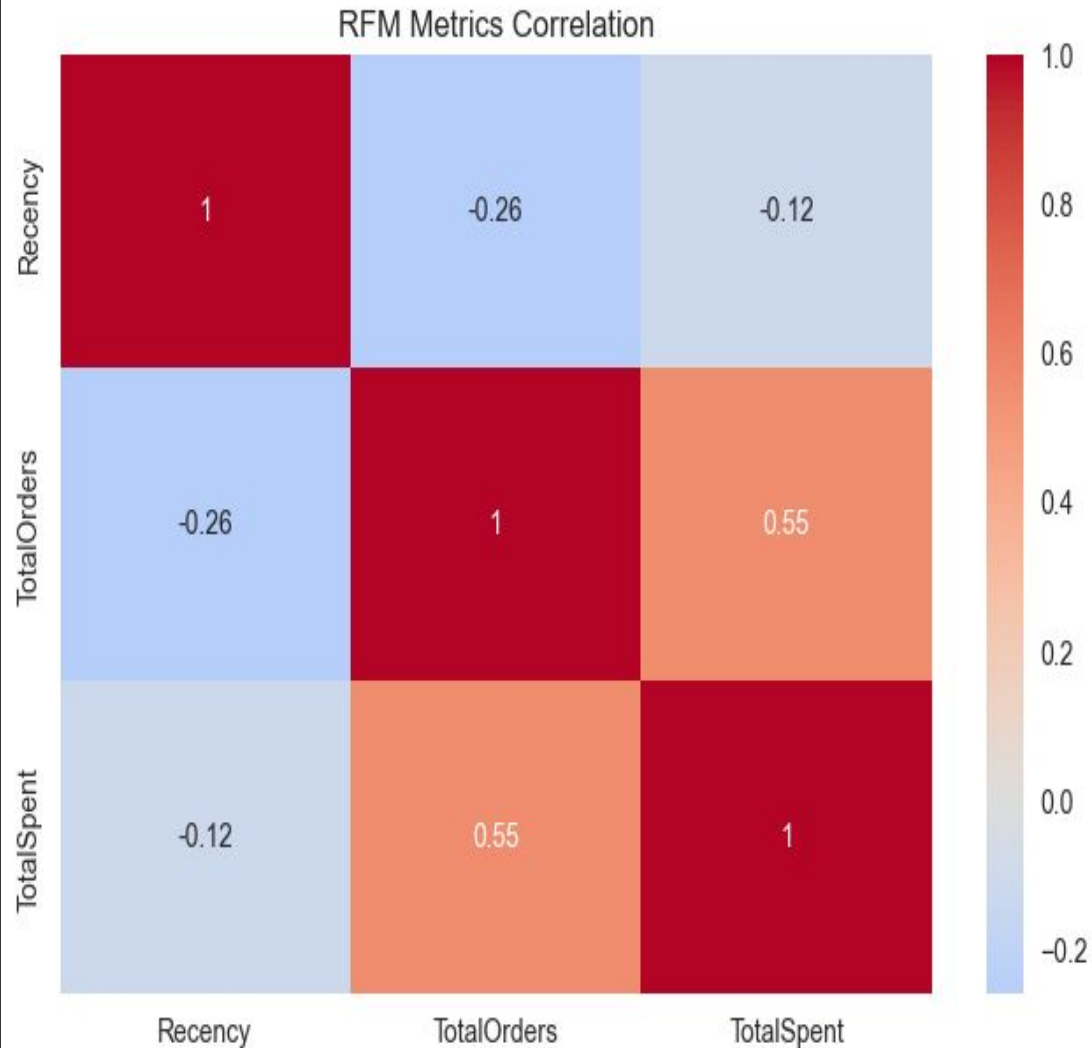
- Very weak negative correlation
- Indicates that recent customers tend to spend slightly less
- Recent purchase timing has minimal impact on spending amount

3. TotalOrders vs TotalSpent (0.95):

- Very strong positive correlation
- Shows that customers who order more frequently also spend more
- Order frequency is the strongest predictor of total spending

Key Business Implications:

- Focus on increasing order frequency as it strongly correlates with revenue
- Recency is less important for predicting customer value
- Customer loyalty (frequency) is the main driver of revenue



Monthly Business Trends

Revenue Analysis:

- Revenue shows strong seasonal patterns with peaks during holiday periods
- Overall upward trend in revenue indicates business growth
- Notable revenue spikes suggest successful promotional periods

Customer Behavior:

- Active customer base shows steady growth over time
- Customer engagement appears to follow revenue patterns
- Seasonal variations in customer activity are evident

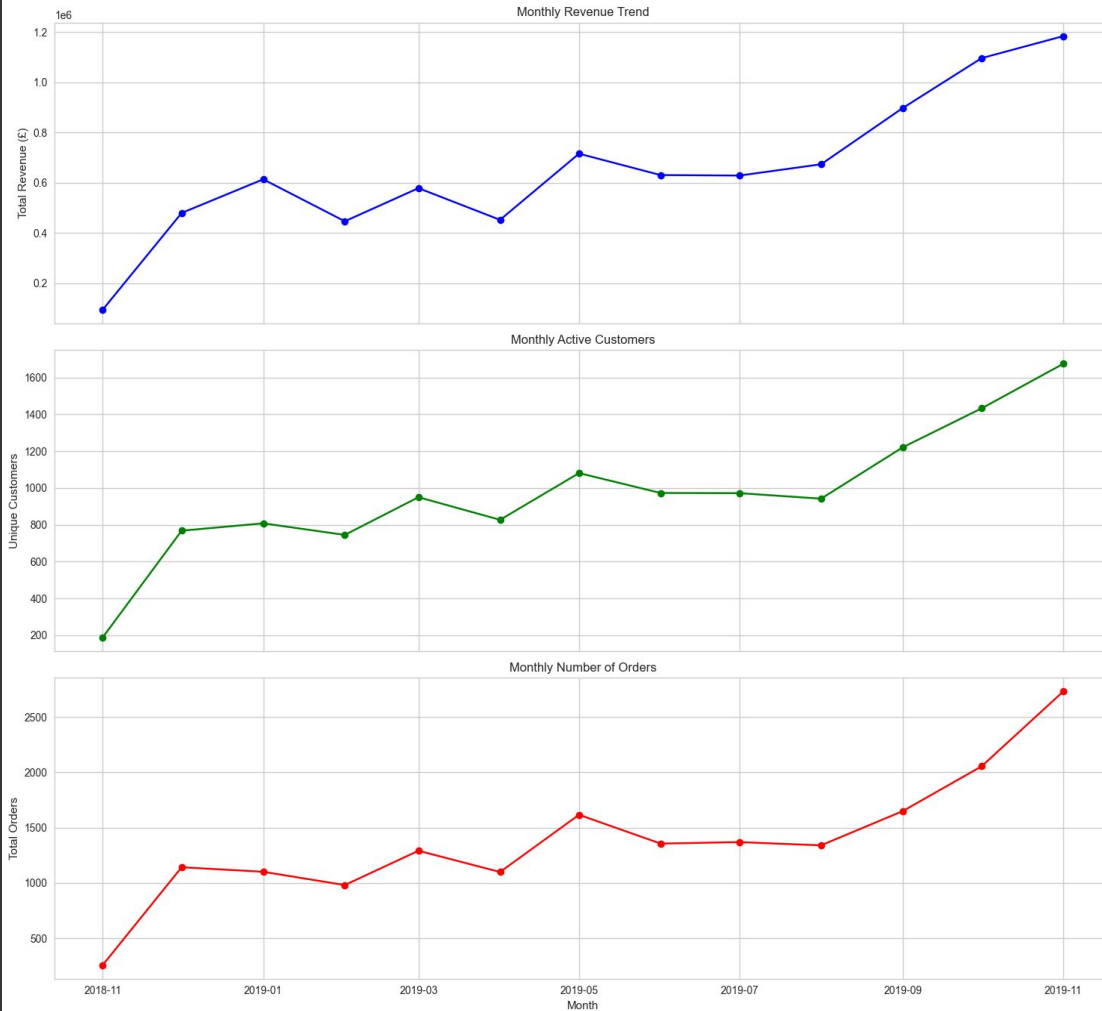
Order Patterns:

- Order volume correlates strongly with revenue trends
- Clear seasonal peaks in order activity
- Consistent growth in order numbers suggests increasing business scale

Overall Insights:

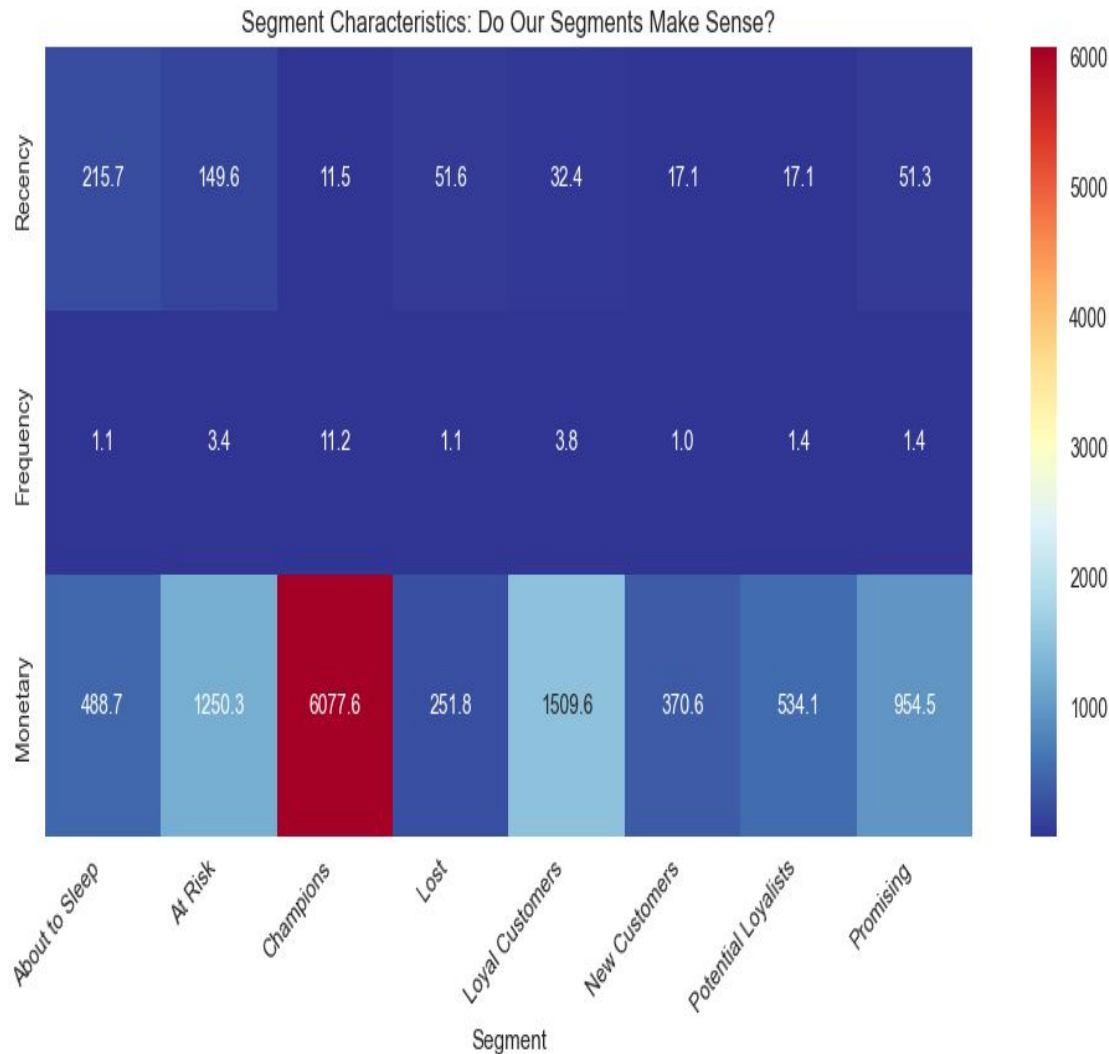
- Strong correlation between all three metrics indicates healthy business operations
- Seasonal patterns are consistent across revenue, customers, and orders
- Business shows positive growth trajectory with clear seasonal variations

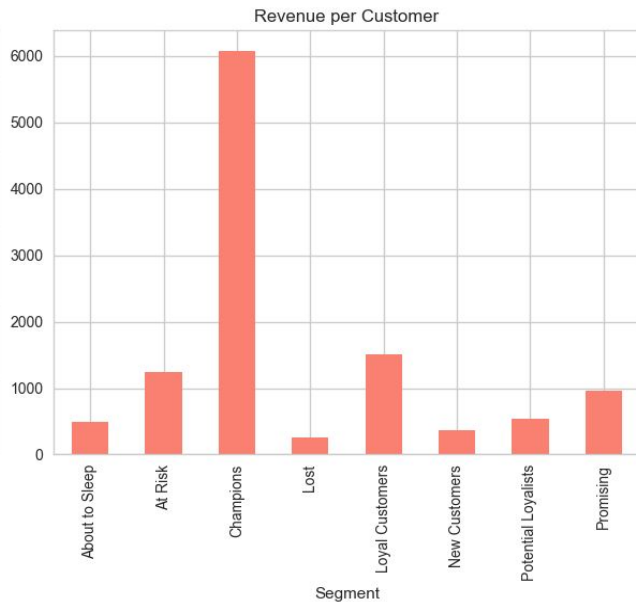
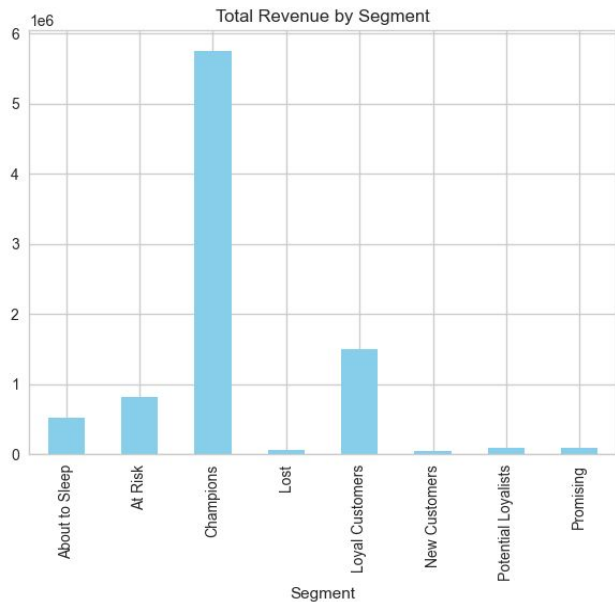
Monthly Business Trends (Full Months)



Segment Characteristics

- **Champions:** Highest value (6000+), most recent purchases, highest frequency
- **At Risk:** High value, moderate frequency, but declining engagement
- **Loyal/Potential Loyalists:** Balanced RFM profile with consistent engagement
- **About to Sleep/Promising:** Low value, low frequency, declining engagement
- **Lost:** Lowest metrics across all dimensions
- **New:** Low value/frequency but recent activity



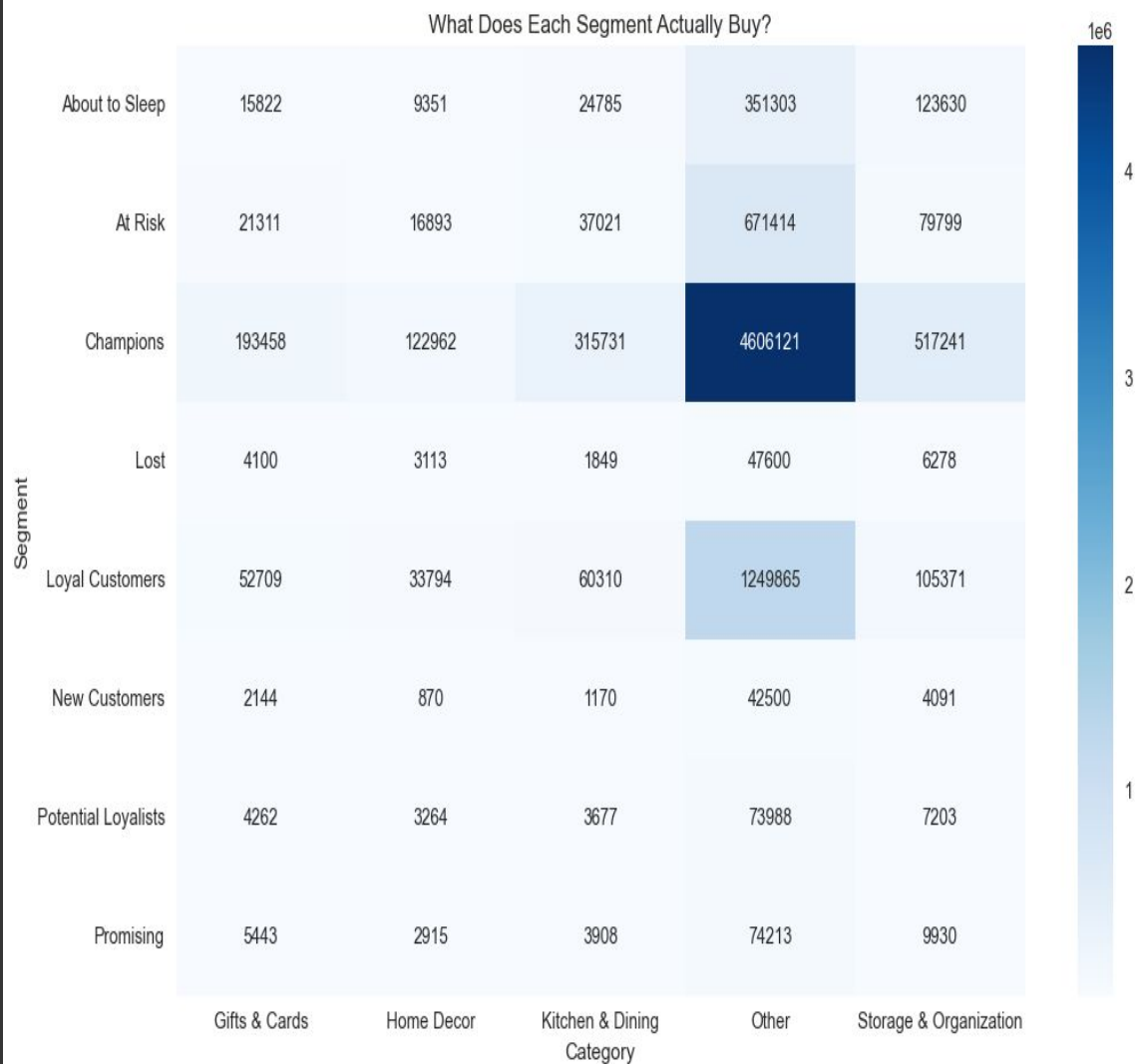


Business Value By Segment

- Champions are by far the most valuable segment, generating the highest total revenue and the greatest revenue per customer, despite not having the largest customer count. This highlights their outsized contribution to the business.
- At Risk and Loyal Customers have high customer counts, but their total revenue and revenue per customer are much lower than Champions, indicating that while they are important, their individual value is less.
- Lost and About to Sleep segments have moderate customer counts but contribute little to total revenue, and their revenue per customer is very low, suggesting these groups are disengaged or inactive.
- New Customers, Potential Loyalists, and Promising segments have smaller customer counts and low revenue, but they represent growth opportunities if nurtured effectively.

Segment Product Popularity

- **Champions** lead spending across all categories, especially "Other" and "Kitchen & Dining"
- **Loyal Customers** show strong spending in key categories but at lower levels than Champions
- **At Risk** and **About to Sleep** segments show declining engagement, particularly in "Other" category
- **Lost** customers show minimal activity across all categories
- **New Customers, Potential Loyalists,** and **Promising** segments show early engagement potential
- "Other" category leads revenue across segments, followed by "Kitchen & Dining" and "Gifts & Cards"



Conclusions

Key Findings:

4.339 customers segmented into 8 groups
Using RFM analysis.

Extreme value concentration:

Champions (947 customers)
Drive 64.6% of revenue.

Top 2 Segments generates
81.5% of total revenue.

Recommendations

Focus immediately on protecting **Champions** and saving **At Risk** customers - these actions alone can secure 6.6M in revenue.

Focus on Marketing Products from the **Others** category since that's the category that most of the revenue comes from.

Actions:

- VIP program implementation
- Dedicated account management
- Exclusive product previews and early access
- Premium customer service tier
- Referral bonuses (they're best advocates)