



Customer Behaviour and LTV Report

Key Takeaways



1. **Largest segment, New Customers**, represents nearly 40% of our base, but **their average spend is relatively low**. There's **potential to nurture these into more valuable segments**. 🌱
2. **High-Value Segments: At Risk Customers** have the **highest average LTV at 34**. This indicates potential value if we can **re-engage them effectively**. 🔄
3. **Cohort Retention**: Recent improvements in retention suggest **positive impacts from recent initiatives**. 📈



Detailed Analysis

1. Data Preparation and RFM Segmentation

I began by exploring the data to ensure quality, removing duplicates, and conducting initial checks. This laid the groundwork for our **RFM Analysis**:

- **RFM (Recency, Frequency, Monetary)** analysis helps us understand customer behaviour by evaluating how recently and frequently they purchase, and how much they spend. It's a powerful tool for customer segmentation and targeting. 🎯

Segment Assignment Rules

Using the RFM scores, I assigned customers to segments based on the following rules:

Segment Name	Recency (R) Condition	Frequency (F) Condition	Monetary (M) Condition	Description
Champions	$R \geq 4$	$F \geq 4$	$M \geq 4$	High scores in all RFM dimensions.
Loyal Customers	$R \geq 4$	$F \geq 3$		High recency and frequency.
Potential Loyalists	$R \geq 3$	$F \geq 3$	$M \geq 3$	Moderate to high scores across RFM.
New Customers	$R \geq 4$	$F \leq 2$		Recently acquired, low frequency.
At Risk Customers	$R \leq 2$	$F \geq 4$	$M \geq 4$	Low recency but high frequency and monetary.
Need Attention	$R \leq 2$	$F \geq 3$		Low recency, moderate frequency.
Lost Customers	$R \leq 2$	$F \leq 2$	$M \leq 2$	Low scores across all RFM dimensions.
Lost Cheap Customers	$R \geq 3$	$F \leq 2$	$M \leq 2$	Moderate recency, low frequency and monetary.
Average Customers	Other	Other	Other	Does not fit into any specific category above.

2. Segment Distribution

Here's how customer base is distributed across segments:

- **New Customers:** 39.9%
- **Need Attention:** 21.3%
- **Average Customers:** 17.5%
- **Lost Cheap Customers:** 7.1%
- **At Risk Customers:** 6.8%
- **Lost Customers:** 4.8%
- **Potential Loyalists:** 2.6%
- **Loyal Customers:** 0.1%



Insights:



- **New Customers** dominate, indicating a strong acquisition strategy. However, their low average spend suggests a need for nurturing. 🌟
- **Need Attention** and **At Risk Customers** present opportunities for targeted re-engagement strategies to unlock value. 🔒

3. Segment Metrics

Here's a snapshot of key metrics by segment:

Segment	Count	Avg Recency	Avg Frequency	Avg Monetary Value	Total Revenue	%
At Risk Customers	293	317.68	12.11	904.30	264,960.76	6.75%
Average Customers	759	156.33	1.72	728.65	553,046.57	17.50%
Lost Cheap Customers	310	87.54	1.31	142.59	44,202.76	7.15%
Lost Customers	208	245.05	1.46	158.23	32,912.15	4.79%

Segment	Count	Avg Recency	Avg Frequency	Avg Monetary Value	Total Revenue	%
Loyal Customers	3	24.00	3.00	173.80	521.39	0.07%
Need Attention	922	284.71	6.72	339.84	313,328.57	21.25%
New Customers	1732	1.69	0.12	36.66	63,499.67	39.93%
Potential Loyalists	111	107.49	4.11	497.03	55,169.87	2.56%

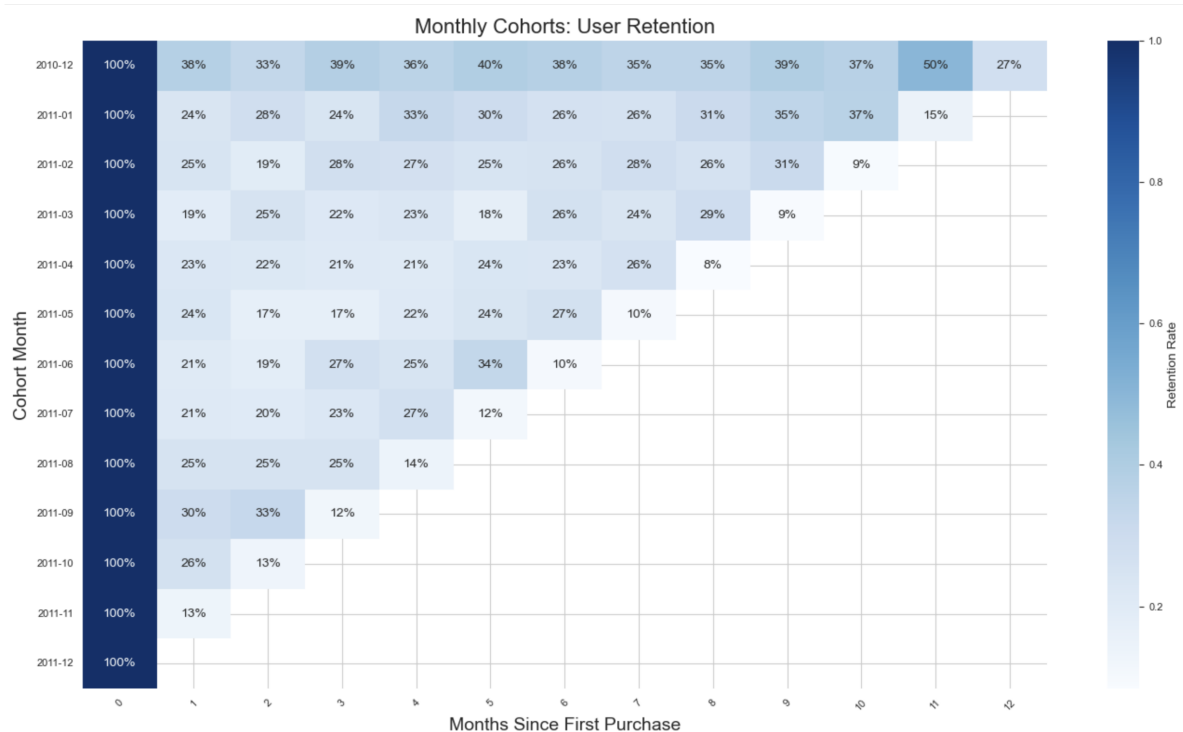
Insights:



- **At Risk Customers** have high frequency and monetary value, indicating **potential for recovery strategies**.
- **Loyal Customers** are few but could be nurtured to increase recency and frequency.

4. Cohort Retention Analysis

Analysing cohort retention revealed that the **first month retention has been declining** but **showed recovery in recent months**. This suggests **positive impacts from recent initiatives, such as marketing campaigns or product launches**. 17



Recommendations:



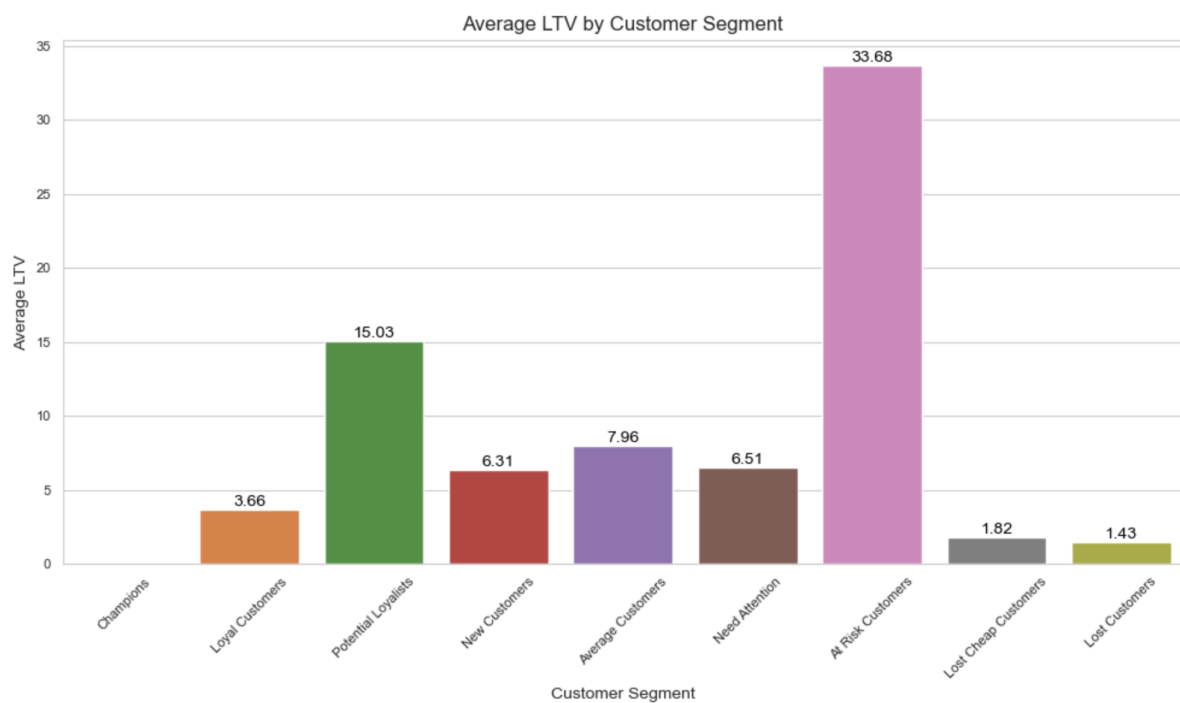
- Investigate recent successful campaigns or events and consider replicating these strategies.
- Focus on maintaining and improving retention rates by enhancing customer experience.

5. Lifetime Value (LTV) Analysis

LTV is a crucial metric that estimates the total revenue a customer will generate over their lifetime. I calculated LTV using advanced statistical models that predict future transactions and average spend.

LTV by Segment:

Segment	Avg. LTV (\$)
At Risk Customers	34
Potential Loyalists	15
New Customers	6
Need Attention	7
Loyal Customers	4
Average Customers	8
Lost Cheap Customers	2
Lost Customers	1



Insights:

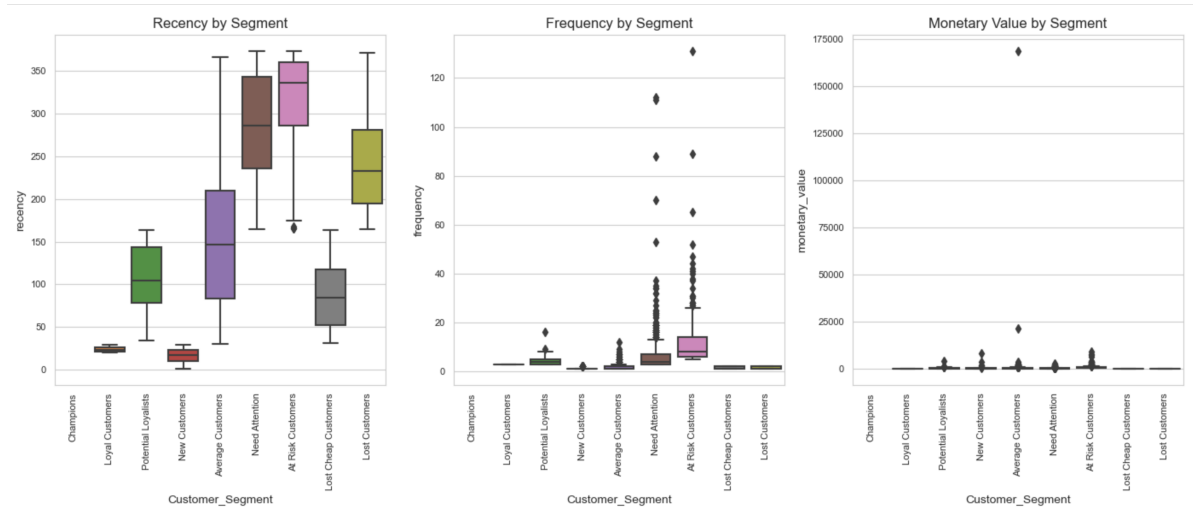


- **At Risk Customers** have the highest LTV, suggesting they are worth re-engaging.
- **Potential Loyalists** also show promise; targeted campaigns could convert them to Champions. 🏆

6. RFM

Box plots of RFM metrics revealed:

- **Frequency:** High among At Risk Customers, indicating engagement potential.
- **Recency:** Low among Loyal Customers, suggesting opportunities to increase engagement frequency.



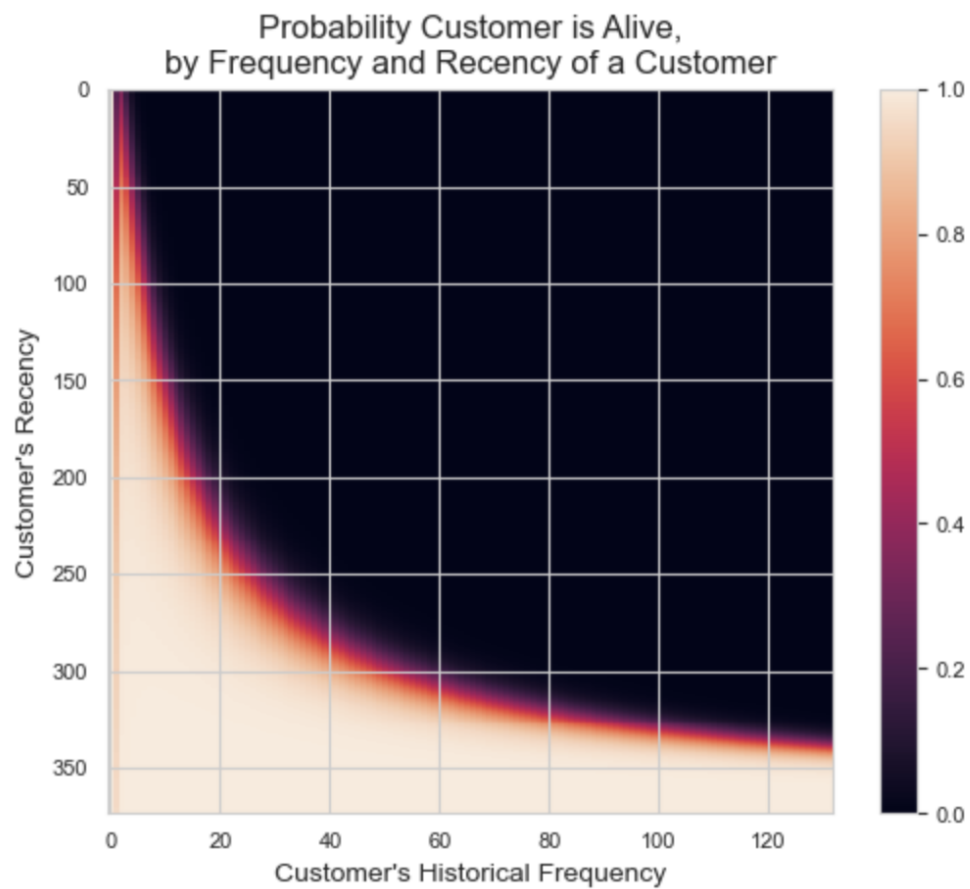
7. Probability of Customers Retained Matrix

The matrix shows customers with high recency or frequency are likely still active. This helps prioritise targeting strategies:

Recommendations

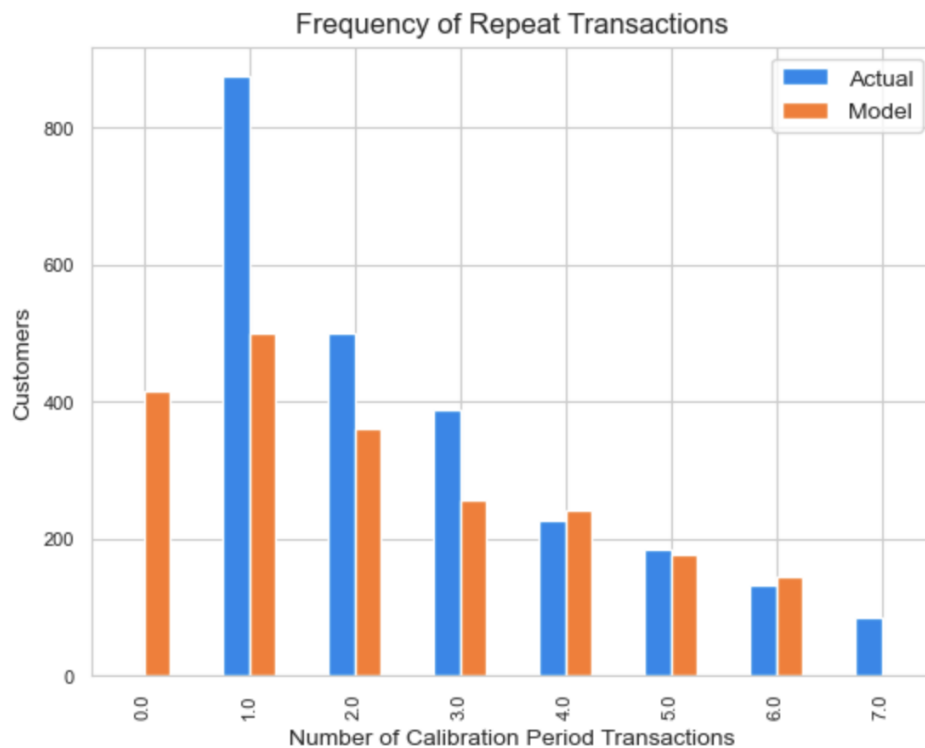


- **Recently Active Customers:** Allow some time before re-targeting.
- **High Frequency but Dormant:** Prioritise re-engagement efforts. 🔄



8. Repeat Transactions Analysis

The model accurately predicts repeat transactions for customers with multiple purchases, but is less accurate for 0 or 1 transaction cases.



Next Steps

1. **Targeted Campaigns:** Develop targeted marketing campaigns for high-potential segments like **At Risk Customers** and **Potential Loyalists** to maximise their value.
2. **Customer Nurturing:** Implement nurturing strategies for **New Customers** to encourage repeat purchases and increase their lifetime value.
3. **Retention Strategies:** Investigate and replicate successful initiatives that improved recent cohort retention to maintain and enhance customer loyalty.
4. **Model Refinement:** Refine predictive models by incorporating additional customer data and adjusting parameters to improve accuracy for low-frequency customers.
5. **Continuous Monitoring:** Regularly monitor segment performance and retention rates to adapt strategies as needed and ensure ongoing customer engagement and satisfaction.