

## VISUALIZATION TASK REPORT

### Using Power BI

#### Alt Mobility – Data Analyst Assignment

#### Visualization Task Report: Customer Retention Analysis

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### Introduction

In this report, customer retention analysis has been performed based on Alt Mobility's order data.

The goal is to track customer loyalty, understand customer behavior after their first order, and identify actionable retention patterns.

Multiple visualizations have been created using Power BI to present these findings clearly.

### Visualization 1: Customer Retention Cohort Matrix

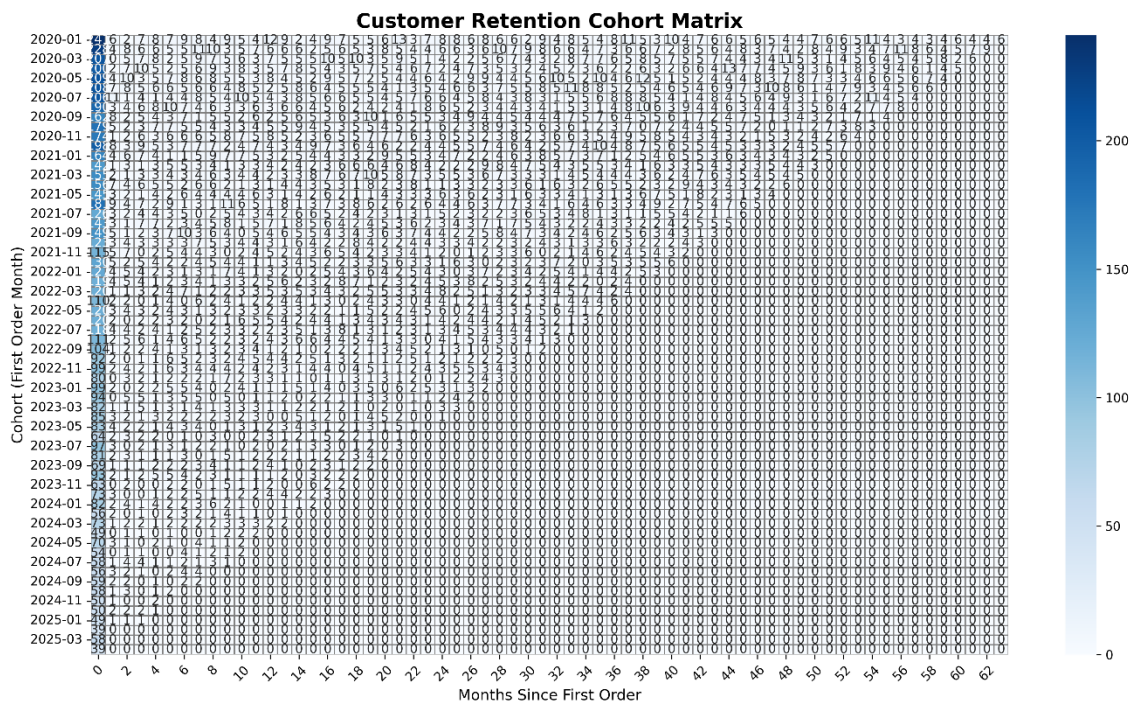


Figure1: Customer Retention Cohort Matrix

**Explanation:**

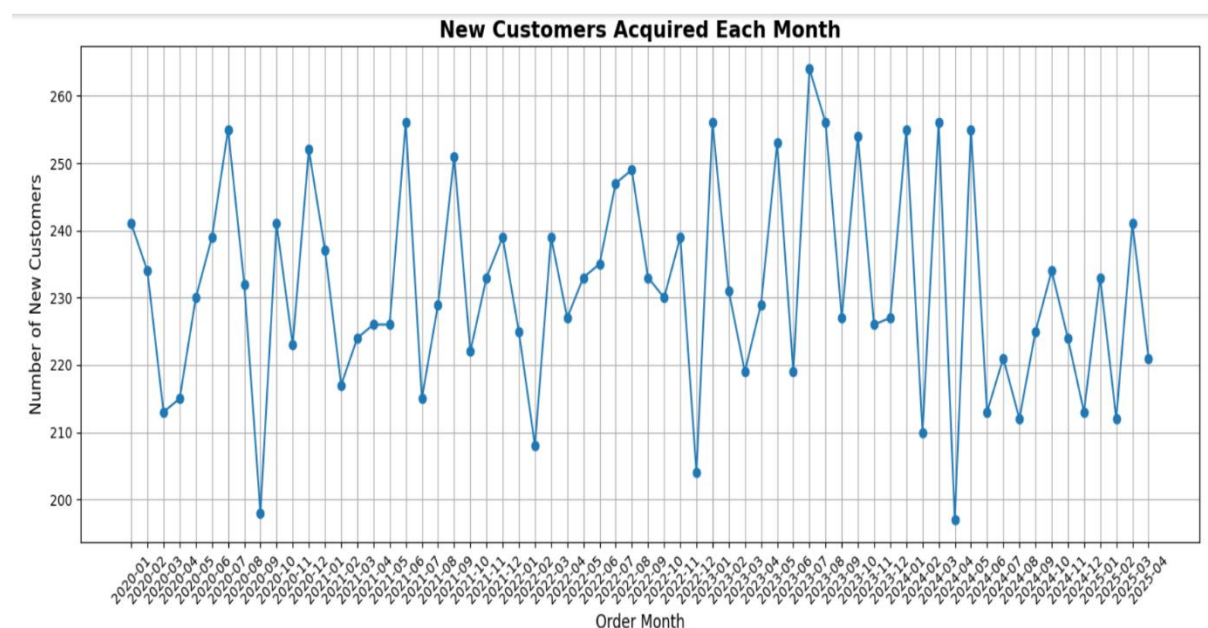
This matrix shows the number of customers from each cohort month who made repeat purchases in the following months.

- The rows represent the cohort month, which is the first month of purchase.
- The columns represent months since the first order.
- Darker colored cells indicate higher customer retention.

**How it tracks customer retention:**

The matrix tracks how many customers from a given first order month return to place another order in the following months.

It highlights that customer retention is strongest within the first two months after the initial purchase, and declines significantly after the third month.

**Visualization 2: New Customers Acquired Each Month**

**Figure2:**Line chart of New Customers Acquired each month

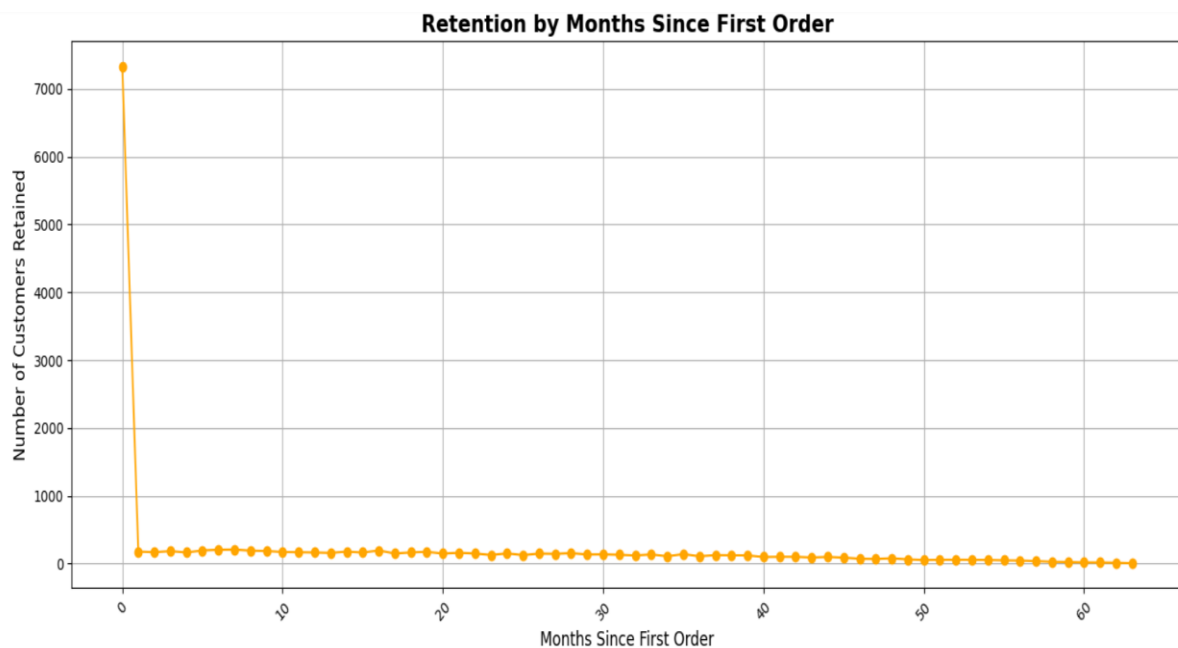
**Explanation:**

This line chart shows the number of new customers acquired every month.

- The x-axis represents the order month.
- The y-axis represents the number of new customers.

**Insight:**

This chart helps in understanding the growth of the customer base over time and identifies months with strong customer acquisition.

**Visualization 3: Retention Drop-off by Months Since First Order**

**Figure3:** Line chart showing Retention by Months Since First Order

**Explanation:**

This line chart shows how the number of customers reduces month after month after their first order.

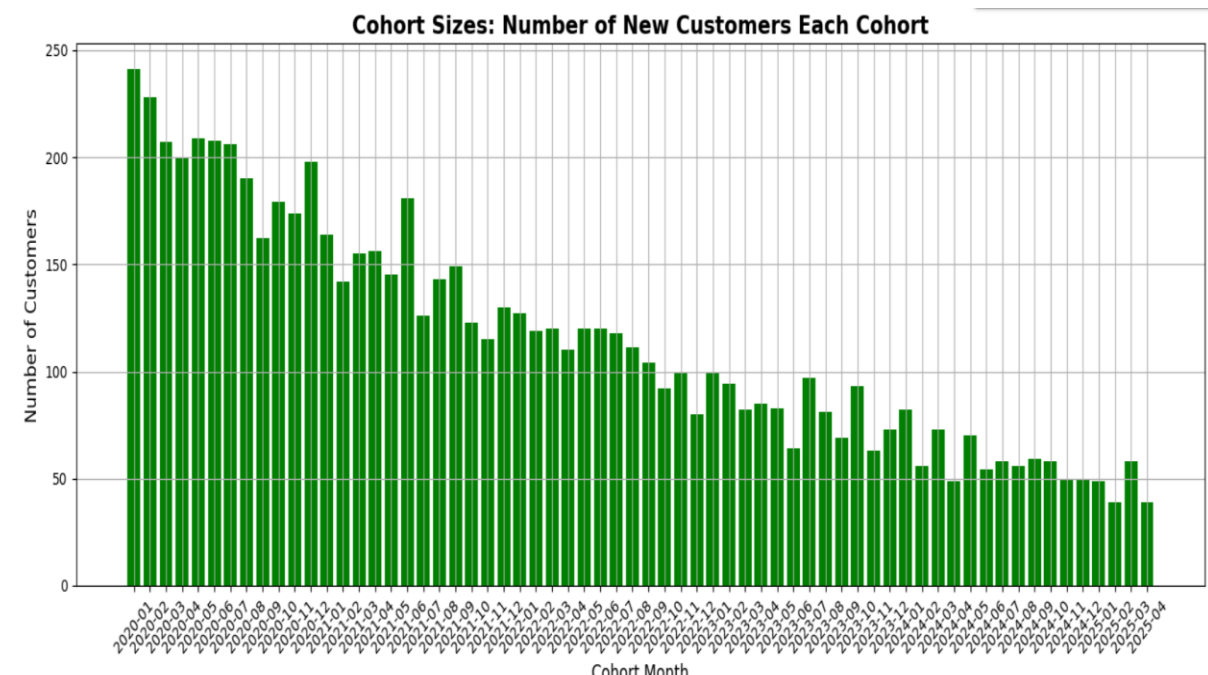
- The x-axis represents the number of months since the first purchase.
- The y-axis represents the number of customers retained.

**Insight:**

The chart clearly shows that the majority of customers reorder within the first two months, after which there is a steep drop in customer retention.

This emphasizes the importance of customer engagement early after acquisition.

### Visualization 4: Cohort Size Distribution



**Figure4:** Bar chart showing Cohort Sizes

#### Explanation:

This bar chart shows the number of new customers in each cohort month.

- The x-axis represents the cohort month.
- The y-axis represents the number of new customers.

#### Insight:

This visualization helps in understanding which months had higher customer acquisition. It provides useful information for marketing and operational planning.

#### Conclusion

The customer retention analysis revealed the following key insights:

- Most customers reorder within the first two months after their initial order.
- Customer retention declines sharply after the third month, indicating a critical period for customer engagement and loyalty programs.