

Summary of Findings

Alt Mobility Data Analytics Assignment

Overview

This report summarizes the key insights from the SQL-based data analysis and customer retention visualization for Alt Mobility's Data Analyst Intern assignment. The analysis is based on two primary datasets: `customer_orders.csv` and `payments.csv`.

1. Key Insights from SQL Queries

Order and Sales Analysis

- Total Orders: 15,000
- Avg Revenue/Month: ₹59,000
- Fulfillment Rate: ~33% (only 1 in 3 orders delivered)
- Insight:
A large volume of orders remains in either 'Pending' or 'Shipped' status, showing inefficiencies in order processing. With 5,069 orders pending and 4,874 still shipped but not delivered, fulfillment workflow needs review.

Customer Analysis

- Customer Count: 7,336 first-time buyers vs 7,664 repeat buyers
- Segmentation:
 - One-Time Buyers: 1 order
 - Occasional Buyers: 2-4 orders
 - Frequent Buyers: 5+ orders
- Insight:
While repeat customers exist in strong numbers, the majority are still one-time buyers. This suggests that more focus on retention and loyalty can increase lifetime value.

Payment Status Analysis

- Success Rate: Only 33.27% of all payments were successful.
- Method-wise Performance:
 - PayPal (34.42%)
 - Credit Card (33.42%)
 - Bank Transfer (32.03%)
- Insight:
Over two-thirds of payments fail, which is a critical operational issue. This could be due to technical glitches, failed transactions, or user friction in checkout.

Order Details Report

- Combined customer order and payment view allows for complete transaction tracking.
- Useful for generating dashboards and reporting AOV (Average Order Value), failed payments, and fulfillment timelines.

2. Observations from Customer Retention Analysis

- Retention sharply declines after the first purchase month.
- Jan 2020 cohort had the largest customer base (241), but only a small percentage remained active after 3+ months.
- Later cohorts (2021–2024) show lower retention and smaller sizes, indicating either lower acquisition or poorer customer experience.
- Retention rarely goes beyond Month 3 for most cohorts, signaling a lack of effective engagement post-purchase.

3. Recommendations for Alt Mobility

✓ Improve Fulfillment Efficiency

- Audit and optimize warehousing, shipping, and delivery workflows.
- Set auto-escalation rules for pending orders beyond a certain age.

✓ Fix Payment Infrastructure(If have issue)

- Investigate payment gateway failures.
- Add payment retries or offer alternative methods at checkout.
- Improve UI/UX on payment steps to reduce drop-offs.

✓ Launch Retention Campaigns

- Introduce loyalty programs and personalized re-engagement emails.
- Incentivize second purchases within 30 days through discounts or exclusive offers.

✓ Build a Retention Dashboard

- Track cohort behavior, funnel drop-offs, and repeat purchase windows.
- Use this to set retention KPIs like: '30% customers return within 2 months.'