Case Study: Revenue360 – CLTV, Churn & Profitability Analytics

Executive Summary

Revenue360 is a SQL-driven analytics framework designed to uncover actionable insights for an eCommerce business. The analysis focused on customer lifetime value (CLTV), churn risk, product profitability, and trend forecasting. Key findings show that approximately 30% of customers contribute 65% of total revenue, refunds reduce net profitability by 8–10%, and 38% of customers fall into "At Risk" segments. The study also revealed product and seasonal trends that provide opportunities for retention and marketing optimization.

Business Problem

eCommerce businesses face challenges in revenue concentration, customer attrition, and profitability leakage. A small percentage of high-value customers often account for the majority of revenue, while churn and refunds can erode profit margins. Revenue360 transforms transactional SQL data into strategic insights, enabling the business to improve customer retention, optimize product mix, and forecast trends effectively.

Data Overview

The analysis used transactional and product data:

- Orders Table – Buyer ID, Item ID, Date, Final Revenue, Quantity, Refunds, Purchased/Refunded Item Count
- Products Table – Item ID, Product Name, Category, Version
- Analytical Views – CLTV per customer, RFM segments, churn risk flags

Analytical Framework

Customer Analytics focused on quantifying and segmenting customers by value, measuring CLTV, repeat rate, average order value (AOV), and purchase frequency.

Product Analytics aimed to identify profitable vs. loss-making products, analysing top-selling products, versions, refund ratios, and net profitability.

Churn & Retention used rule-based churn detection and RFM segmentation to flag high-risk customers and differentiate one-time buyers from loyalists.

Trend & Forecasting analysed daily revenue and refunds, rolling averages, and seasonality to inform operational and marketing decisions.

Key Insights

Customer Analytics revealed that high-value customers, comprising roughly 30% of the user base, contribute about 65% of total revenue. Repeat buyers account for 42% of customers, highlighting significant growth potential from targeted retention strategies. Purchase frequency and time between orders provide actionable engagement windows.

Product & Profitability Analytics showed that the top five SKUs account for 45% of units sold. The Electronics category exhibits a 12% refund rate, which substantially impacts net revenue. Revenue is highly concentrated in a few products, indicating potential risk if demand shifts.

Churn & Retention Analytics identified that 38% of customers are “At Risk” due to inactivity, and one-time buyers represent a loss in recurring revenue potential. RFM segmentation offers a clear framework to prioritize engagement based on recency, frequency, and monetary value.

Trends & forecasting uncovered revenue spikes during weekends and festivals, along with refund spikes correlating with promotional periods. A rolling 7-day revenue average highlighted short-term trends useful for inventory management and marketing planning.

Strategic Recommendations

Retention campaigns should focus on “At Risk” and one-time buyers to prevent churn. Refund management through quality audits for high-refund categories can protect profitability. Product strategy should emphasize marketing top SKUs while diversifying offerings to reduce dependency on a few products. Implementing a SQL-based churn early warning system into CRM can enable proactive engagement. Finally, aligning promotions and post-sale support during peak periods can reduce refund rates and improve customer satisfaction.

Conclusion

Revenue360 illustrates how SQL-driven analytics can convert raw eCommerce data into strategic insights. By linking customer behaviour, product performance, and financial metrics, the business can prioritize high-value customers, mitigate revenue loss from churn and refunds, optimize the product mix for profitability, and plan marketing and inventory around predictable trends. This case study represents a full-cycle analytical workflow—from data to KPIs to actionable recommendations—delivering an advanced, portfolio-ready narrative.