

Executive Business Summary

Customer Retention & Churn Analytics Platform

1. Project Objective

The objective of this project was to design and implement an end-to-end analytics framework to measure customer retention, identify churn risk, and segment customers based on behavioural value using UK e-commerce transaction data.

2. Key Business Questions & Findings

Revenue & Customer Performance

Revenue analysis identified a concentration of value among a smaller segment of high-frequency customers. Performance trends highlighted repeat purchasing behaviour as the primary driver of sustained revenue growth.

Customer Retention Behaviour

Cohort analysis revealed measurable retention decay after initial purchase, with retention stabilising among customers demonstrating consistent purchasing patterns. Early lifecycle engagement is critical to improving long-term retention.

High-Value Customer Identification

A distinct segment of customers exhibited significantly higher order frequency, revenue contribution, and longer tenure. These customers showed substantially lower churn probability and represent the core revenue base.

Churn Risk Indicators

Churn modelling identified low purchase frequency and short tenure as the strongest predictors of churn risk. Customers with declining activity levels were significantly more likely to disengage.

Customer Segmentation Strategy

Clustering analysis segmented customers into high-value loyal users, medium-frequency buyers, and low-engagement high-risk customers. This segmentation enables differentiated marketing and retention strategies.

3. Strategic Recommendations

- Prioritise medium-risk customers with growth potential through targeted engagement campaigns.
- Strengthen loyalty programmes for high-value segments to maximise lifetime value.
- Deploy reactivation campaigns for low-frequency customers showing early churn signals.
- Monitor purchase frequency and tenure as early-warning churn indicators.

4. Business Impact Potential

The implemented analytics framework enables revenue protection through early churn detection, improved marketing ROI via behavioural segmentation, executive-level retention monitoring, and scalable data-driven decision-making.

5. Technology Overview

- Cloud Data Warehouse (BigQuery)
- SQL-based analytics modelling
- Business Intelligence dashboards (Looker Studio)
- Machine Learning for churn prediction
- Behavioural segmentation using clustering