

Business Problem

E-Commerce Customer Churn Prediction

Josiah Nwosu | February 2026

Background

A Nigerian e-commerce operator serves customers across 10 states with a product catalogue spanning Electronics, Fashion, Food & Groceries, Home & Kitchen, Beauty, Sports, Books, and Baby & Kids. Over 5,000 customers have transacted on the platform since January 2022, generating over ₦1.3 billion in gross merchandise value. More than 43,000 individual orders have been recorded across the platform's history.

Despite strong top-line growth, the business lacks systematic visibility into which customers are at risk of disengaging. Customer acquisition costs are high in the Nigerian digital market, making retention a critical lever for profitability.

Problem

Lack of customer retention visibility and proactive churn management.

It has been observed that a significant proportion of customers stop purchasing after their first few orders without any targeted intervention. The platform has no mechanism to identify which customers are approaching churn, resulting in retention spend being applied reactively and without prioritisation by revenue impact.

Customer segmentation is currently non-existent. All customers receive the same communications regardless of their purchase history, lifetime value, or engagement level. This leads to poor campaign performance and wasted retention budget.

Objective

Enable the retention team to understand customer behaviour drivers and act on data before customers churn. The business is considering scaling operations to additional African markets. The aim is to verify that the current customer base is being managed at maximum retention efficiency before committing to expansion. The main objective is to maximise revenue from existing customers while building the analytical foundation for future growth.

Success Criteria

- Identify customers at high churn risk before they disengage

- Quantify the revenue at risk from churning customers by state and segment
 - Build a ranked retention watchlist prioritised by revenue at risk
 - Achieve model AUC-ROC of 0.75 or above on the hold-out test set
 - Deliver a Power BI dashboard navigable by a non-technical manager in under 3 minutes
 - Identify at least 3 underpriced properties with quantified revenue uplift opportunities
-