Customer Churn Analysis Report (2020–2025)

Business Question

Why was customer churn extremely high and active customer count very low from 2020 to 2024, and what caused the significant improvement in 2025 ?

Introduction / Storytelling

- Between 2020 and 2024, churn averaged 97% with very few active customers (dropping from 9 in 2020 to 3 in 2024) and almost no new acquisitions.
- In mid-2025, a sharp behavioral shift was observed. Customer churn dropped significantly from approximately 96% to 21%, while the number of active customers increased to 23, and average revenue per customer grew, despite a decline in total sales and revenue.
- This analysis explores the factors behind these trends and identifies actionable insights to sustain improvement.

1.Excel Analysis

Data Preparation :

- Data cleaning and handling of missing values
- Feature engineering :

    - Sales
    - Orders per Customer
    - Repeat Customer Flag
    - First / Last Order Date
    - Customer Lifetime
    - Customer Type
    - Days Since Last Order
    - Customer Activity

Pivot Table Analysis :

- Customer sales and number of orders,
- New vs existing customers (active vs inactive)
- Total sales and customers per region
- Orders and customers by Online vs In-Store
- Product sales and total revenue per product
- Yearly sales (2020–2025)
- Total sales per category
- Shipping cost and orders per provider
- Payment methods (customers and sales: Online vs In-Store)
- Returned vs non-returned orders
- Repeat customer distribution

Repeat Customer Flag Distribution Insights :

- Loyal customers (>4 orders): 17
- Regular customers (≤4 orders): 7,997
- One-time customers: 27,376

2. *Python Analysis*

Data Cleaning :

Performed data quality checks including duplicates, errors, missing values, and invalid data such as negative quantities and incorrect unit prices.

RFM Analysis :

- Recency*:* Days since last purchase
- Frequency: Number of orders per customer
- Monetary: Total revenue per customer
- RFM Segments: Champions, Loyal, New, At Risk, Lost

Churn Classification :

- Active customers: Recency < 90 days
- Churned customers: Recency ≥ 90 days

Key Insights :

- Highest revenue comes from Lost segment ⇸ customers who eventually churn generate most sales historically

Visualizations :

- Histograms: Recency, Frequency, Monetary
- Top 10 Customers by Monetary Value
- Pie chart: Churn Flag Distribution
- Bar charts: Revenue by RFM Segment, Total Sales by Category

3. Power BI Analysis

Calculated Columns:

- Sales, Revenue, Net Revenue, Customer Sales, Customer Orders, First/Last Order Date, Days Since Last Order, Customer Lifetime, Customer Activity, New Customer

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Measures :

- Total Sales, Total Revenue, Total Orders, Total Net Revenue, Returned Orders, Number of Customers, Lost Revenue, Churned Customers, Churn Rate, Active Customers, Avg Revenue per Customer

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Dashboards:

- Customer Churn Trends Over Time
- Average Revenue per Customer by Year/Month
- Sales vs Revenue Trends
- Active vs Churned Customer Contribution to Revenue
- New Customer Acquisition Patterns

Key Performance Indicators (KPIs)

Note : A portion of customer records contains missing CustomerID values. As a result, customer-level metrics such as active customers, churn rate, and average revenue per customer may be partially distorted, as multiple transactions may be attributed to a single unidentified customer.

Customer Metrics:

- Total Customers: 35K
- Active Customers: 2K
- Churned Customers: 33K
- Customer Churn Rate: 95% (sharp decline observed in late 2025)

Revenue Metrics :

- Total Sales: 59.50M
- Total Revenue: 44.63M
- Net Revenue: 39.45M
- Lost Revenue (Returned Orders): 39.66M
- Average Revenue per Customer: 1.26K

Customer Acquisition :

- New Customers: ~1K
- Existing Customers: ~34K

Trend Analysis & Insights

Core Customer Insights (2020–2025)

1.Historically High Churn

- From 2020 to 2024, customer churn remained extremely high (~97%).
- The business relied on a very small active customer base (≤9 customers annually).
- Customer acquisition was almost non-existent during this period.

Insight: The business struggled with long-term customer retention and scalability

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2.Structural Shift in 2025

- In 2025, total churn dropped significantly to 61%.
- Active customers increased sharply to 88.
- New customer acquisition resumed after years of stagnation.

Insight: 2025 marks a clear break from historical performance.

3.Sudden Churn Improvement

- *Customer churn decreased sharply from 96% (Jan–May) to 21% in June.*

Insight : The improvement occurred abruptly rather than gradually, indicating that a specific intervention or strategic action was introduced around June 2025.

4.Spike in Customer Activity & Acquisition

- Active customers increased from 2–3 customers (Jan–May) to 23 customers in June.
- 14 out of 23 active customers were new.

Insight :

This surge strongly suggests the introduction of one or more growth-driving initiatives, such as:

- Marketing or advertising campaigns
- Product or service improvements
- Pricing or positioning changes
- Enhanced customer experience or onboarding process

5.Customer ID Data Limitation

- Presence of NULL values in customer IDs causes multiple transactions to be aggregated under a single customer.
- This affects the accuracy of:

  - Churn rate
  - Active customer counts
  - Revenue per customer

Insight: Customer-level metrics should be interpreted as directional rather than absolute

Order Volume Change(2025)

- Total orders from January to May: 29 orders per month
- Orders in June: 26 orders

Insight :
- The decrease in June orders reflects a shift from repeat purchases by a small customer base to first-time purchases across a broader set of customers.
- Performance improvement in 2025 was driven by higher order quality rather than increased order quantity.

Revenue Insights : _(Higher Value per Customer, Lower Overall Sales)_

- Average revenue per customer increased in 2025.
- However, total sales and total revenue declined year-over-year.

Insight : The business is attracting fewer but higher-value customers, which has not yet compensated for lower overall volume.

Business Recommendations :

- Fix Customer Data to ensure accurate churn, active, and revenue metrics.
- Maintain & strengthen retention strategies introduced in 2025.
- Nurture new customers into repeat, high-value customers; use early-stage incentives.
- Reward Loyal and Champion segments; proactively monitor "At Risk" customers.
- Link marketing acquisition channels to long-term customer behavior.
- Enhance overall customer experience to sustain growth.

Conclusion :

- From 2020 to 2024, the business struggled with extremely high churn and a very limited active customer base, showing minimal growth.
- In 2025, particularly in June, a clear turning point occurred: churn decreased significantly, active customers and new customer acquisition surged. This demonstrates that strategic initiatives—across marketing, product/service improvements, pricing, and customer experience—were effective in expanding the customer base and improving engagement.
- Overall: The business now has a stronger foundation for customer retention and acquisition, and leveraging these insights will help achieve sustainable long-term performance.