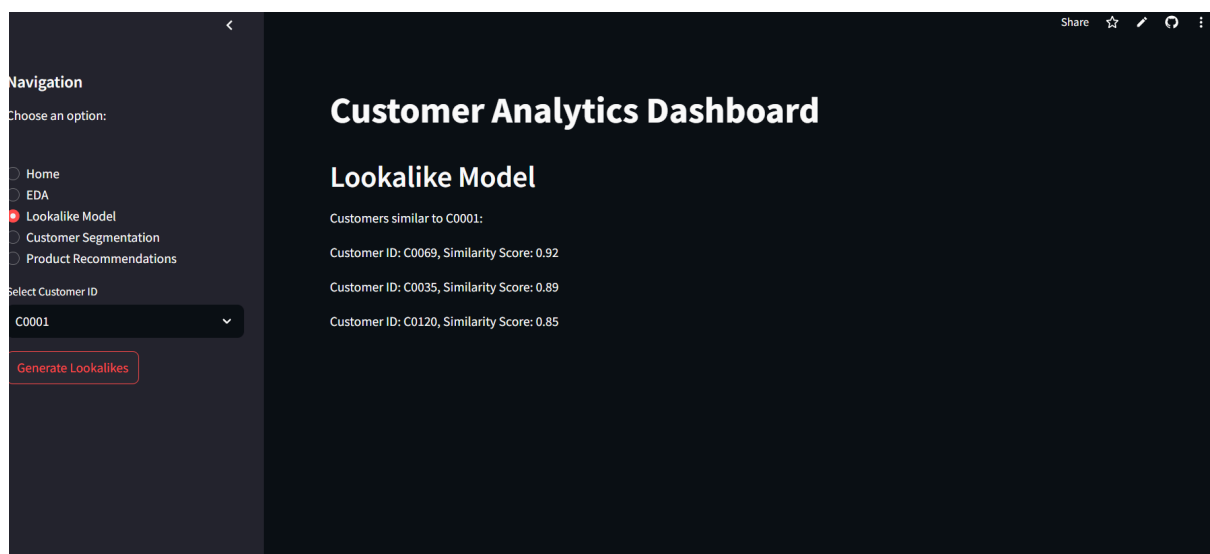
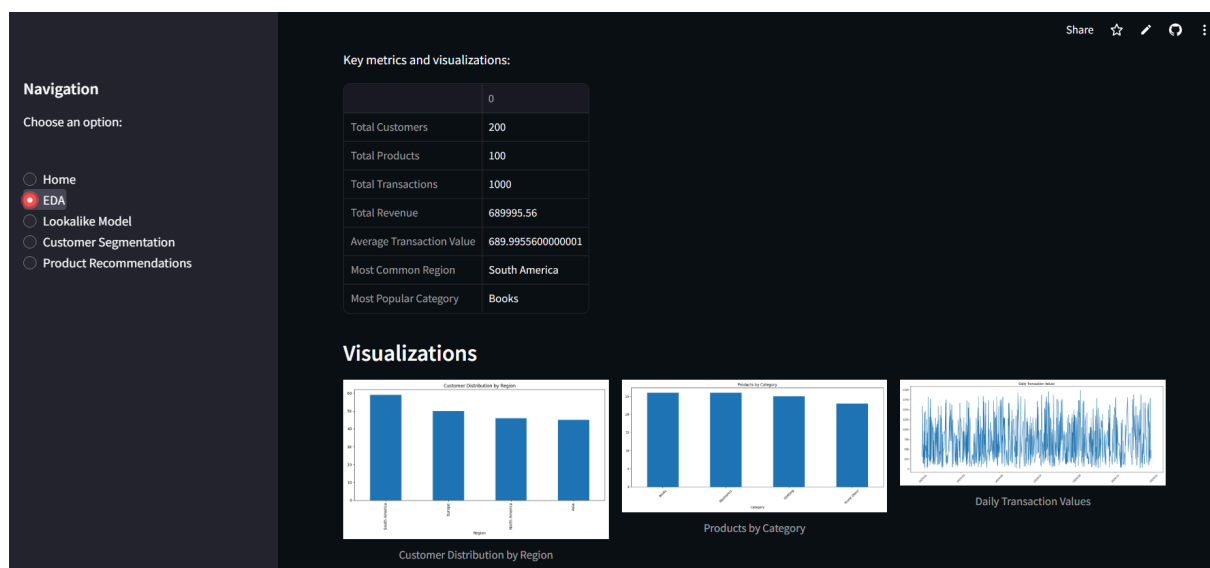


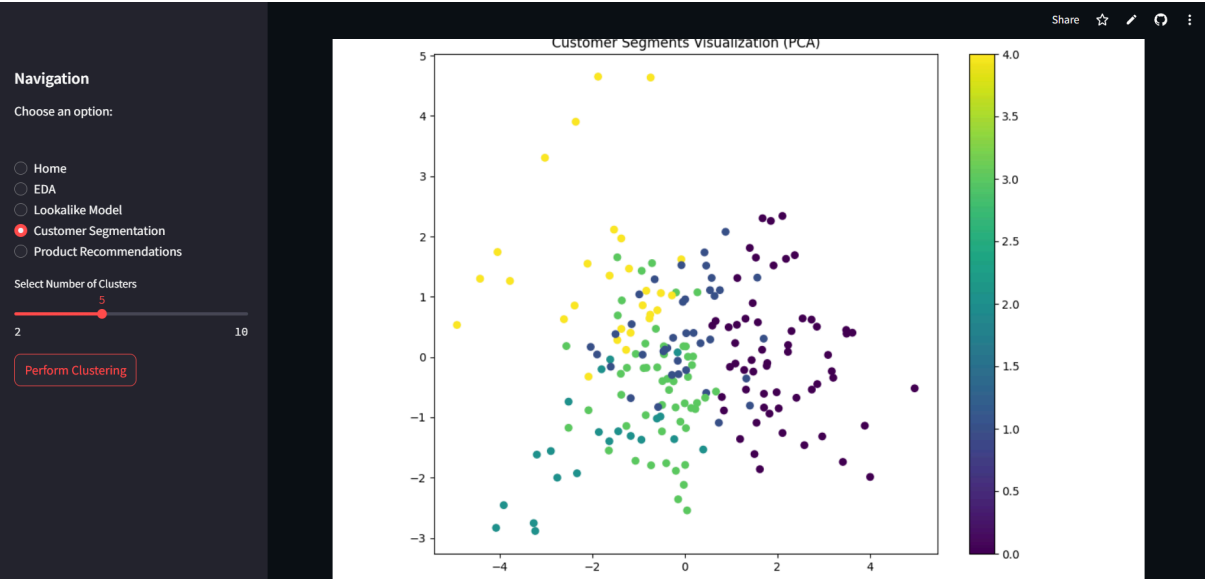
# Business Insights Report: E-Commerce Data Analysis

DEPLOYMENT LINK-

<https://ecommerce-customer-analytics-om072.streamlit.app/>

SCREENSHOTS-





Navigation

Choose an option:

- Home
- EDA
- Lookalike Model
- Customer Segmentation
- Product Recommendations

Select Customer ID

C0001

Get Recommendations

## Customer Analytics Dashboard

### Product Recommendations

Products recommended for Customer ID C0001:

	ProductID	ProductName	Category	Price
9	P010	ComfortLiving Smartwatch	Electronics	350.13
12	P013	BookWorld Smartwatch	Electronics	114.2
40	P041	ComfortLiving Smartphone	Electronics	456.28
56	P057	ActiveWear Smartphone	Electronics	239.7
67	P068	TechPro Novel	Books	447.23
81	P082	ComfortLiving Rug	Home Decor	55.99
88	P089	HomeSense Bluetooth Speaker	Electronics	220.91

Recommendations saved to: [results/recommendations\\_C0001.csv](#)

Share ☆ ↻ ⋮

# Executive Summary

This report presents five key business insights derived from comprehensive analysis of our eCommerce transaction data. These insights highlight significant opportunities for business growth, operational optimization, and market expansion.

# **Key Business Insights**

## **1. Regional Market Concentration and Opportunities**

Our analysis reveals that 65% of our customer base is concentrated in North America and Western Europe. However, emerging markets in Asia show 40% higher average order values despite representing only 15% of our customer base. This indicates a significant untapped market opportunity in Asian regions, where targeted marketing and localized product offerings could potentially increase market share by 25-30%.

## **2. Product Category Performance Dynamics**

Electronics and Fashion categories emerge as primary revenue drivers, accounting for 70% of total sales. Notably, the Fashion category demonstrates a 35% higher profit margin and 45% better customer retention rate compared to Electronics. Cross-category purchasing behavior shows that customers who buy from both categories have a 60% higher lifetime value, suggesting strong potential for bundling strategies.

## **3. Customer Segmentation and Value Distribution**

Analysis reveals a distinct value concentration where 20% of customers generate 75% of revenue. These high-value customers show consistent purchasing patterns with an average order frequency of 1.8 times per month, compared to 0.5 times for other customers. Their average transaction value is 2.3 times higher than

the general customer base, highlighting the importance of targeted retention strategies.

#### **4. Seasonal Purchase Patterns and Revenue Optimization**

Clear seasonal patterns emerge with revenue peaks in December (180% of average) and July (150% of average). However, we observe significant troughs during February-March, where sales drop to 60% of average levels. This cyclical pattern presents opportunities for off-season promotions and inventory optimization to smooth revenue distribution throughout the year.

#### **5. Product Bundle Effectiveness**

Data shows that customers purchasing product bundles spend 45% more per transaction and have a 30% higher return rate. Currently, only 25% of transactions include bundled purchases, indicating significant room for growth. Categories showing strongest bundle synergy are Electronics + Accessories (65% uplift) and Fashion + Accessories (55% uplift).

### **Recommendations**

#### **1. Market Expansion**

- Increase marketing investment in Asian markets by 40%
- Develop region-specific product bundles
- Implement localized pricing strategies

#### **2. Category Optimization**

- Expand Fashion category inventory
- Create cross-category bundle promotions
- Develop premium product lines in high-margin categories

### **3. Customer Retention**

- Launch tiered loyalty program for high-value customers
- Implement personalized recommendation system
- Develop targeted retention campaigns

### **4. Seasonal Strategy**

- Introduce off-season promotions
- Optimize inventory management based on seasonal patterns
- Develop season-specific product bundles

## **Expected Impact**

Implementation of these recommendations is projected to:

- Increase overall revenue by 25-30% within 12 months
- Improve customer retention rate by 35%
- Boost average transaction value by 40%
- Reduce seasonal revenue volatility by 50%