

Customer Shopping Behavior Analysis

Uncovering insights from 3,900 purchases to drive strategic business decisions





Dataset Overview

3,900 Purchases

Transactions analyzed
across multiple categories

18 Features

Demographics, purchase
details, shopping behavior

37 Missing Values

Review Rating column imputed by category median

Data Preparation & Cleaning

01

Data Loading

Imported dataset using pandas

02

Exploration

Checked structure and summary statistics

03

Missing Data

Imputed Review Rating by product category

04

Standardization

Renamed columns to snake case format

05

Feature Engineering

Created age groups and purchase frequency metrics

Revenue Insights by Demographics

Revenue by Gender

Compared total revenue generated by male vs. female customers to identify spending patterns

Revenue by Age Group

Calculated total revenue contribution across different age segments



Customer Spending Patterns

High-Spending Discount Users

Customers using discounts while spending above average

Subscribers vs. Non-Subscribers

Subscription status drives higher average spend and revenue



Top 5 Products by Rating

Highest average review ratings drive customer satisfaction

Shipping Type Impact

Express shipping users spend more than standard shipping



Discount-Dependent Products

Top 5 products with highest percentage of discounted purchases

Customer Segmentation Strategy

1

New Customers

First-time buyers entering the customer base

2

Returning Customers

Multiple purchases showing repeat engagement

3

Loyal Customers

High-frequency buyers with strong brand affinity

Product Performance Analysis

Top Products by Category

Most purchased items within each category identified

Repeat Buyers & Subscriptions

Customers with 5+ purchases show higher subscription rates



Interactive Power BI Dashboard

Comprehensive visual analytics presenting all key insights and metrics



Customer Shopping Behavior Dashboard

Subscription Status

No Yes

Gender

Female Male

Gender

Accessories Clothing Footwear

Shipping Type

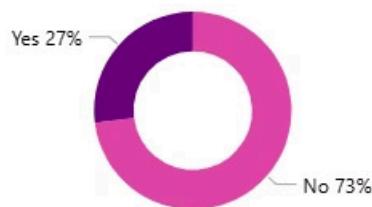
2-Day Shipping
 Express
 Free Shipping
 Next Day Air
 Standard
 Store Pickup

3.9K
Number of Customers

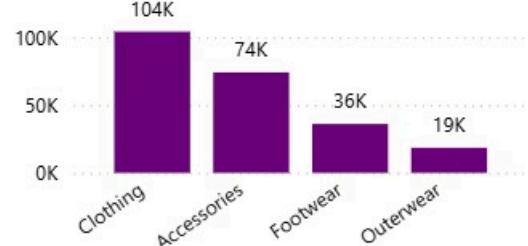
\$59.76
Average Purchase Amount

3.75
Average Review Rating

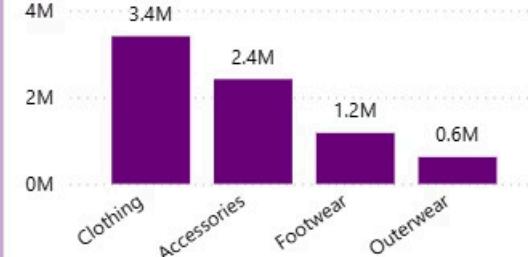
% of Customers by Subscription Status



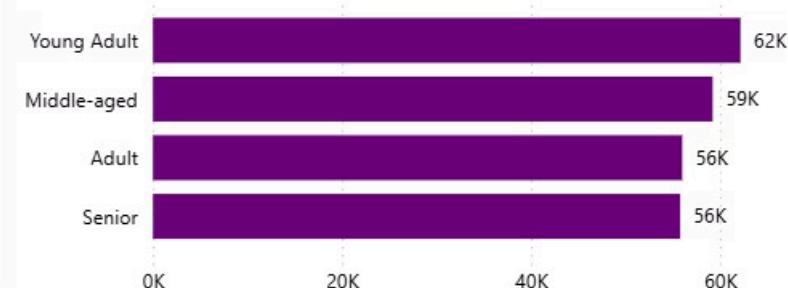
Revenue by Category



Sales by Category



Revenue by Age Group



Sales by Age Group



Strategic Recommendations

Boost Subscriptions

Promote exclusive benefits for subscribers

Loyalty Programs

Reward repeat buyers to move into Loyal segment

Review Discount Policy

Balance sales boosts with margin control

Targeted Marketing

Focus on high-revenue age groups and express-shipping users

