



Ecommerce Data Analysis

Uncovering strategic insights from 306,000 customer transactions



Dataset at a Glance

306K

Total Customers

Comprehensive
transaction data

33

Data Columns

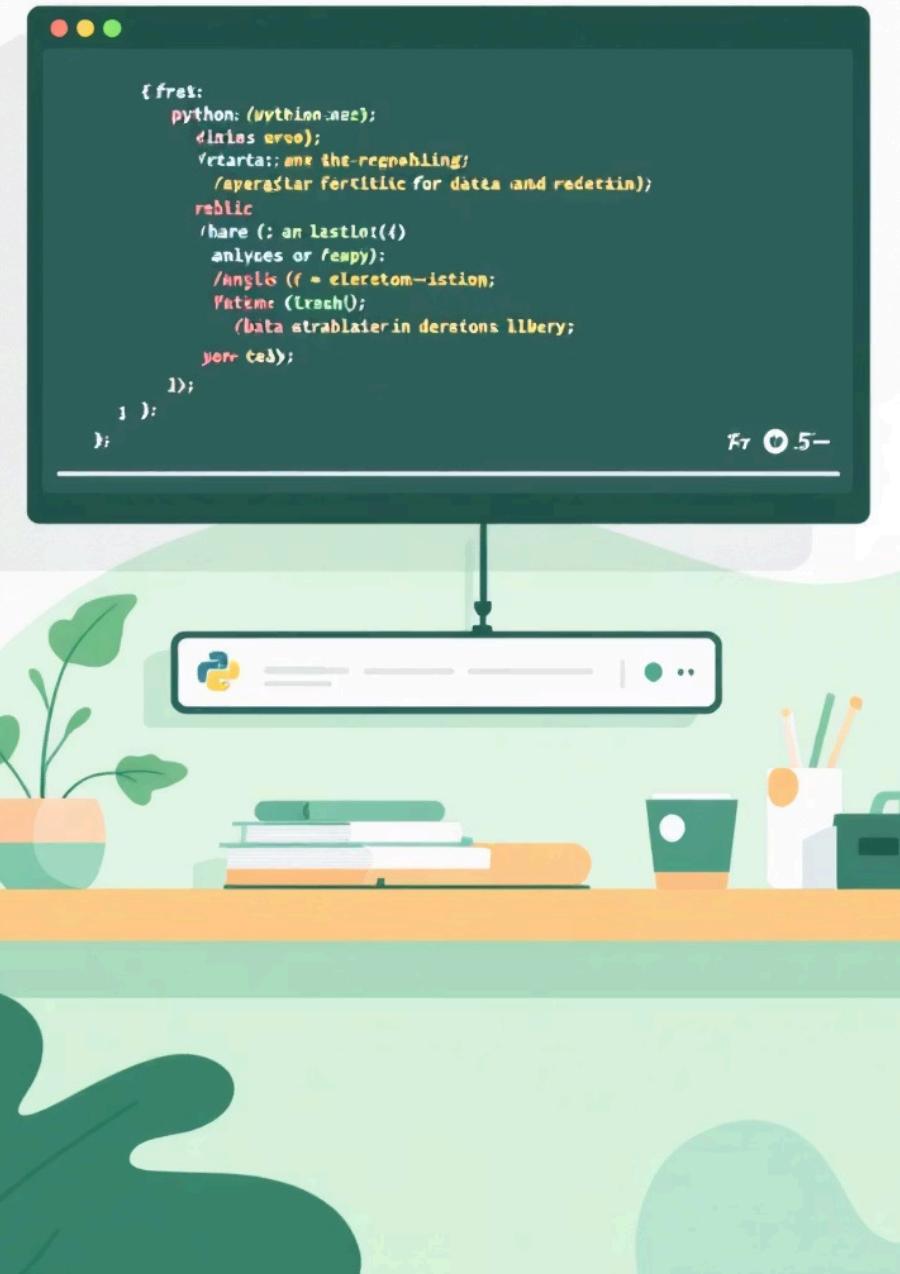
Rich feature set for
analysis

3

Core Categories

Demographics,
Products, Behavior

Python Data Preparation



01

Data Loading

Imported dataset using pandas

02

Initial Exploration

Inspected structure with df.info() and df.describe()

03

Missing Data Handling

Imputed nulls using mean and mode

04

Data Optimization

Dropped irrelevant columns, corrected data types

Customer Demographics Analysis

Gender & Age Insights

Total customers and revenue segmented by gender and age groups reveal key purchasing patterns



Geographic Distribution

City and state-level customer and revenue analysis



Product Performance Metrics

Category Revenue

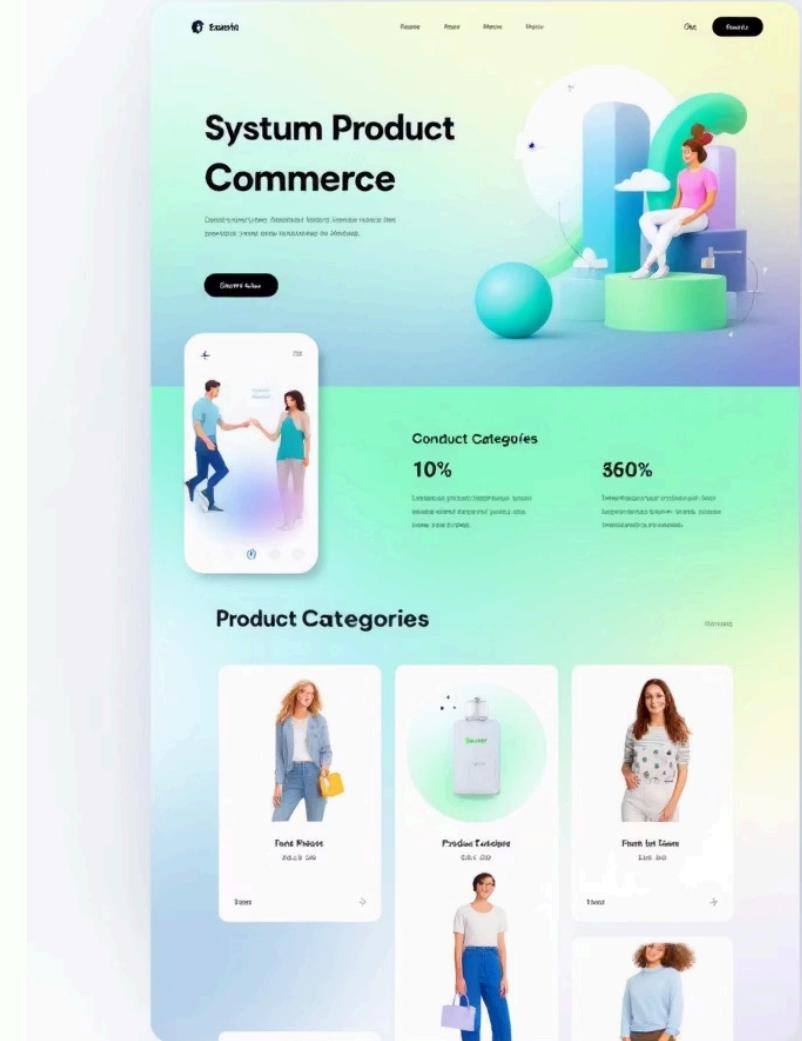
Maximum revenue and average rating by product category

Brand Analysis

Customer count, revenue, and ratings across brands

Customer Segments

Performance metrics by customer segment type



Payment & Delivery Insights

UPI Payments

Customer count, revenue, and ratings for UPI transactions by city, category, and brand

Cash on Delivery

COD payment analysis across locations and product categories



Order Status Analysis

1

Cancelled Orders

Customer demographics: gender, age group, city, and state for cancelled transactions

2

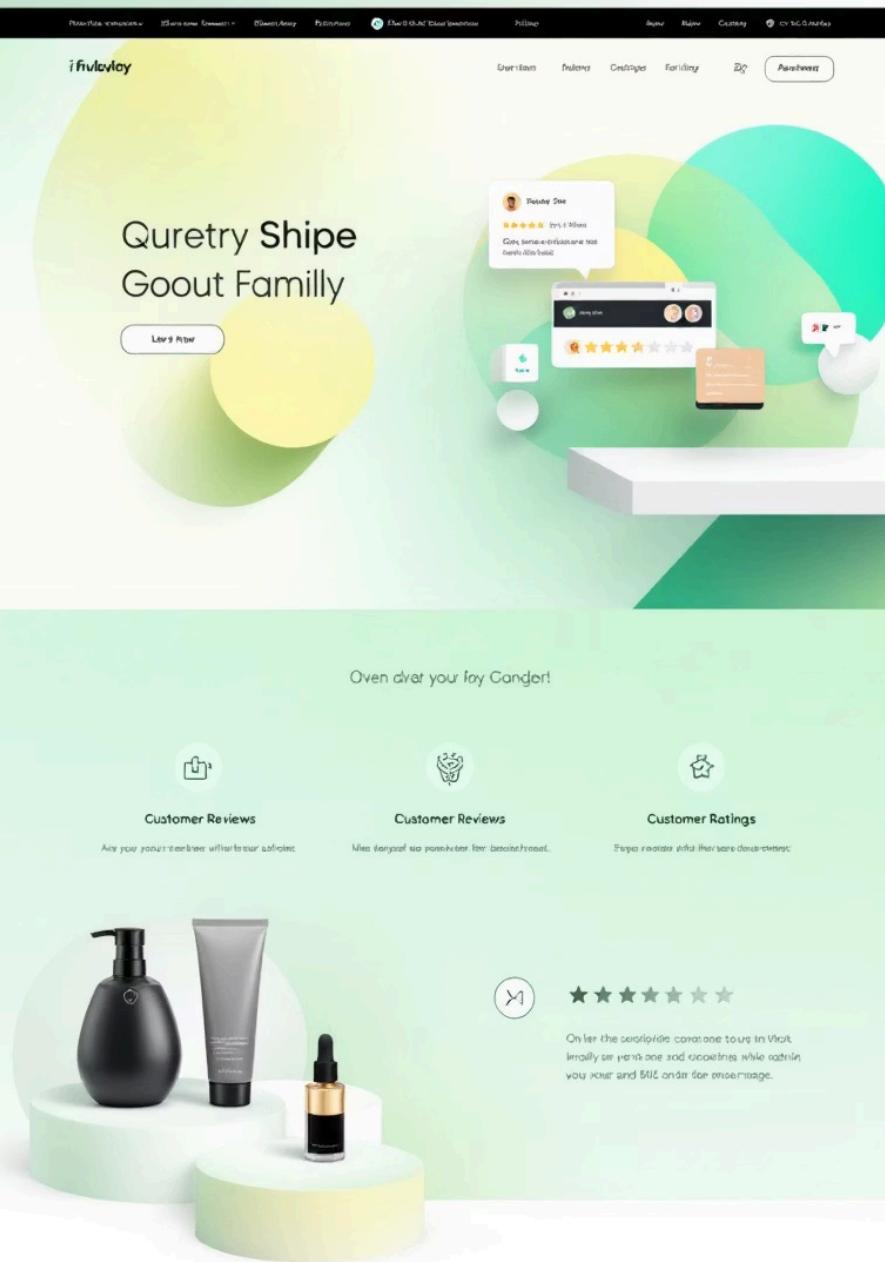
Returned Orders

Return patterns by city, category, and brand identification

3

Complaints Raised

Customer count, revenue, and ratings for complaint cases by segment



Sentiment Analysis Results

Positive Reviews

Customer count and ratings by category, brand, and review title for positive sentiment

- High satisfaction indicators
- Brand loyalty patterns
- Category preferences

Negative Reviews

Analysis of negative sentiment across categories and brands

- Pain point identification
- Improvement opportunities
- Quality concerns

Excel Dashboard Insights

Customer Behavior Trends

Pivot tables reveal purchasing patterns and segmentation

Sales Performance

Top-selling categories and revenue contribution analysis

Strategic Applications

Supports pricing strategy, inventory planning, satisfaction improvement

Tableau Interactive Dashboards

Dynamic Exploration

Interactive filters for categories, revenue, and customer segments

Visual Clarity

User-friendly interface for data-driven decision making

Strategic Impact

Enables marketing strategy, product planning, and customer satisfaction initiatives

