

## **Customer Orders Analysis — Step-by-step Report**

### **1. Overview**

This document explains, step-by-step, what the analysis code did, shows the outputs, and provides business insights and recommendations.

### **2. Dataset (sample)**

Each order is stored as a tuple: (customer, product, price, category). The following orders are used:

John | Laptop | \$900.00 | Electronics

John | Headphones | \$50.00 | Electronics

Jack | T-Shirt | \$25.00 | Clothing

Jack | Jeans | \$40.00 | Clothing

Michael | Vacuum Cleaner | \$120.00 | Home Essentials

Michael | Laptop | \$900.00 | Electronics

Danny | Notebook | \$10.00 | Home Essentials

Danny | Pen | \$5.00 | Home Essentials

Amy | Smartphone | \$700.00 | Electronics

-Amy | Dress | \$60.00 | Clothing

### **3. Step-by-step: What the code does**

- Store customer orders in a list of tuples and build a customer -> orders dictionary.
- Map products to categories and build a set of unique categories.
- Compute total spending per customer and classify them as High-Value (>100), Moderate (50-100), or Low-Value (<50).
- Sum revenue per category and per product; count product frequency.
- Identify customer segments (electronics buyers, multi-category buyers, etc.) and compute summary metrics.

## 4. Results / Outputs

### 4.1 Customer spending & classification:

Customer | Total Spending (\$) | Classification | Orders Count | % of Total Revenue

John | 950.00 | High-Value | 2 | 33.81%

Jack | 65.00 | Moderate | 2 | 2.31%

Michael | 1020.00 | High-Value | 2 | 36.30%

Danny | 15.00 | Low-Value | 2 | 0.53%

Amy | 760.00 | High-Value | 2 | 27.05%

### 4.2 Revenue by category:

Category | Revenue (\$) | % of Total Revenue

Clothing | 125.00 | 4.45%

Electronics | 2550.00 | 90.75%

Home Essentials | 135.00 | 4.80%

### 4.3 Top products (by revenue):

Product | Revenue (\$) | Frequency | % of Total Revenue

Laptop | 1800.00 | 2 | 64.06%

Smartphone | 700.00 | 1 | 24.91%

Vacuum Cleaner | 120.00 | 1 | 4.27%

Dress | 60.00 | 1 | 2.14%

Headphones | 50.00 | 1 | 1.78%

Jeans | 40.00 | 1 | 1.42%

T-Shirt | 25.00 | 1 | 0.89%

Notebook | 10.00 | 1 | 0.36%

Pen | 5.00 | 1 | 0.18%

## 5. Summary metrics

- Total revenue: \$2810.00

- Number of orders: 10

- Number of unique customers: 5
- Average order value (AOV): \$281.00

#### **6. Customer segments and cross-category buyers**

Customers who purchased Electronics: John, Michael, Amy

Customers who purchased from multiple categories: Michael, Amy

Customers who bought both Electronics and Clothing: Amy

#### **7. Detailed Business Insights & Recommendations**

Electronics account for 90.75% of total revenue (\$2550.00 of \$2810.00).

Customer concentration: Michael: \$1020.00 (36.30%); John: \$950.00 (33.81%); Amy: \$760.00 (27.05%); Jack: \$65.00 (2.31%); Danny: \$15.00 (0.53%).

Top product by revenue: Laptop with \$1800.00 (64.06%).