Customer Shopping Behaviour Analysis

Leveraging 3,900 transactions to uncover insights into spending patterns, customer segments, and product preferences that drive strategic business decisions.

Business Problem Statement

The Core Question

How can the company leverage consumer shopping data to identify trends, improve customer engagement, and optimize marketing and product strategies?

This analysis transforms raw transactional data into actionable insights for growth.

Dataset Overview

3,900

Total Purchases

Transactions analyzed

18

Data Columns

Feature dimensions

25

Product Types

Items tracked
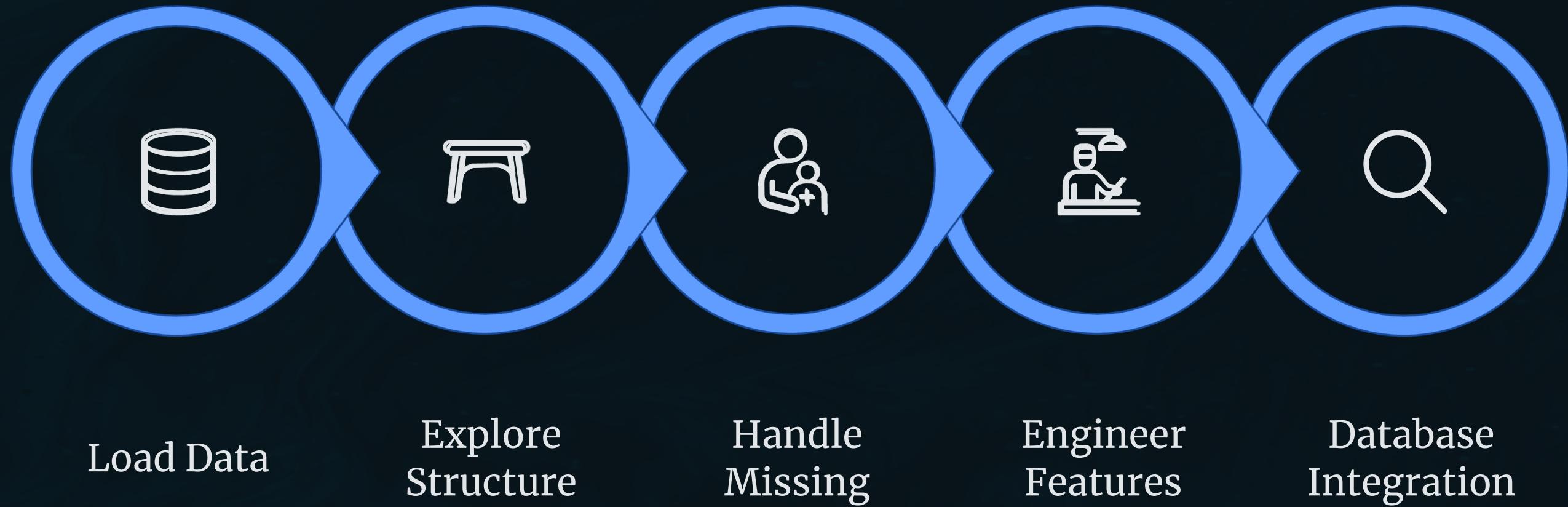
50

Locations

Geographic coverage

Key features include customer demographics (age, gender, location, subscription status), purchase details (item, category, amount, season), and shopping behaviour (discounts, reviews, shipping preferences).

Data Preparation Process

Load Data

Explore
Structure

Handle
Missing

Engineer
Features

Database
Integration

We cleaned and standardized the dataset using Python, handling 37 missing review ratings through median imputation, creating age groups, and integrating with PostgreSQL for advanced SQL analysis.

Key Customer Insights

Gender Revenue Split

Male customers: $157,890

Female customers: $75,191

Average Purchase

$59.76 per transaction

Review rating: 3.75/5.0
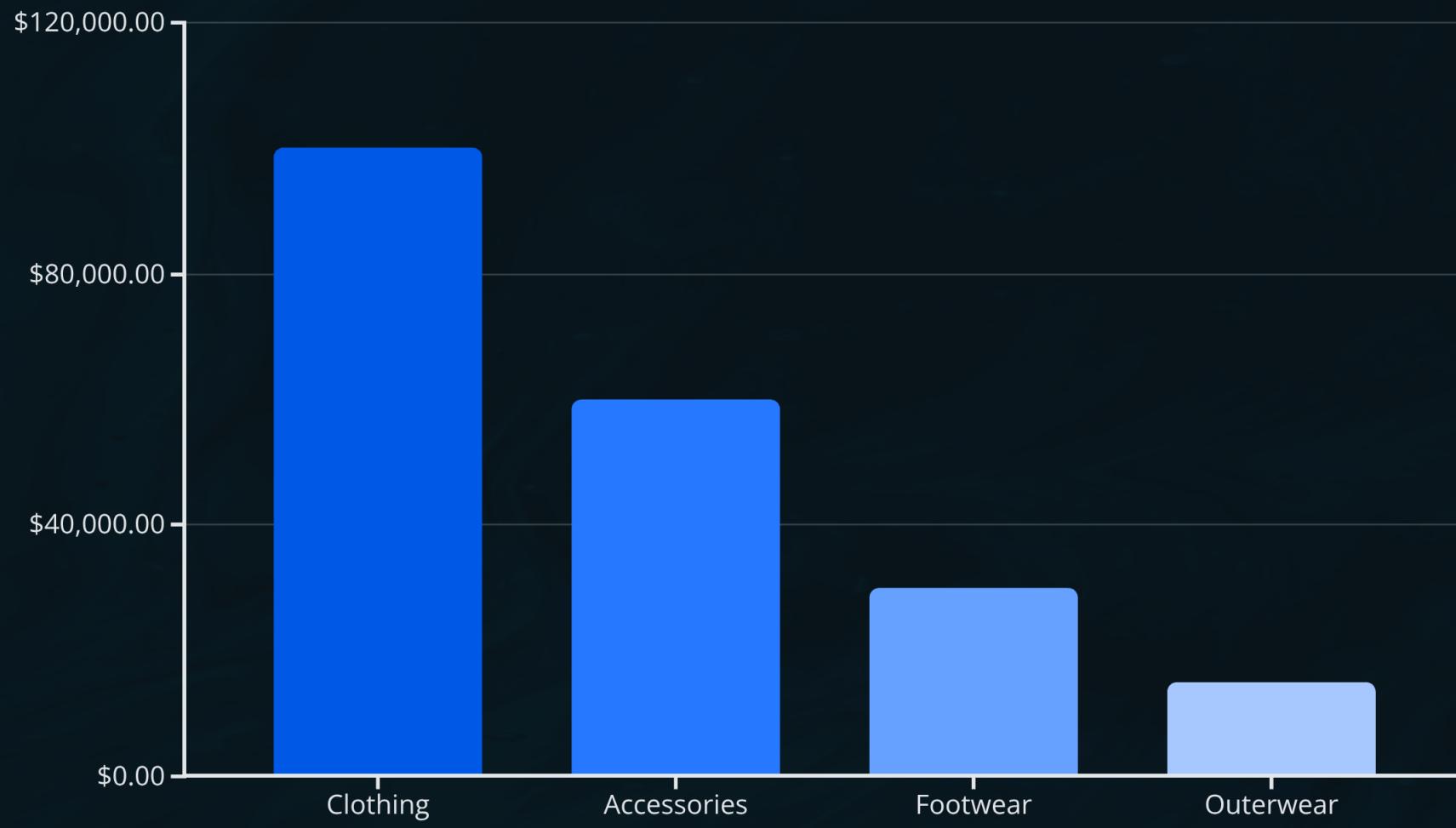
Subscription Status

27% subscribed (1,053)

73% non-subscribers (2,847)
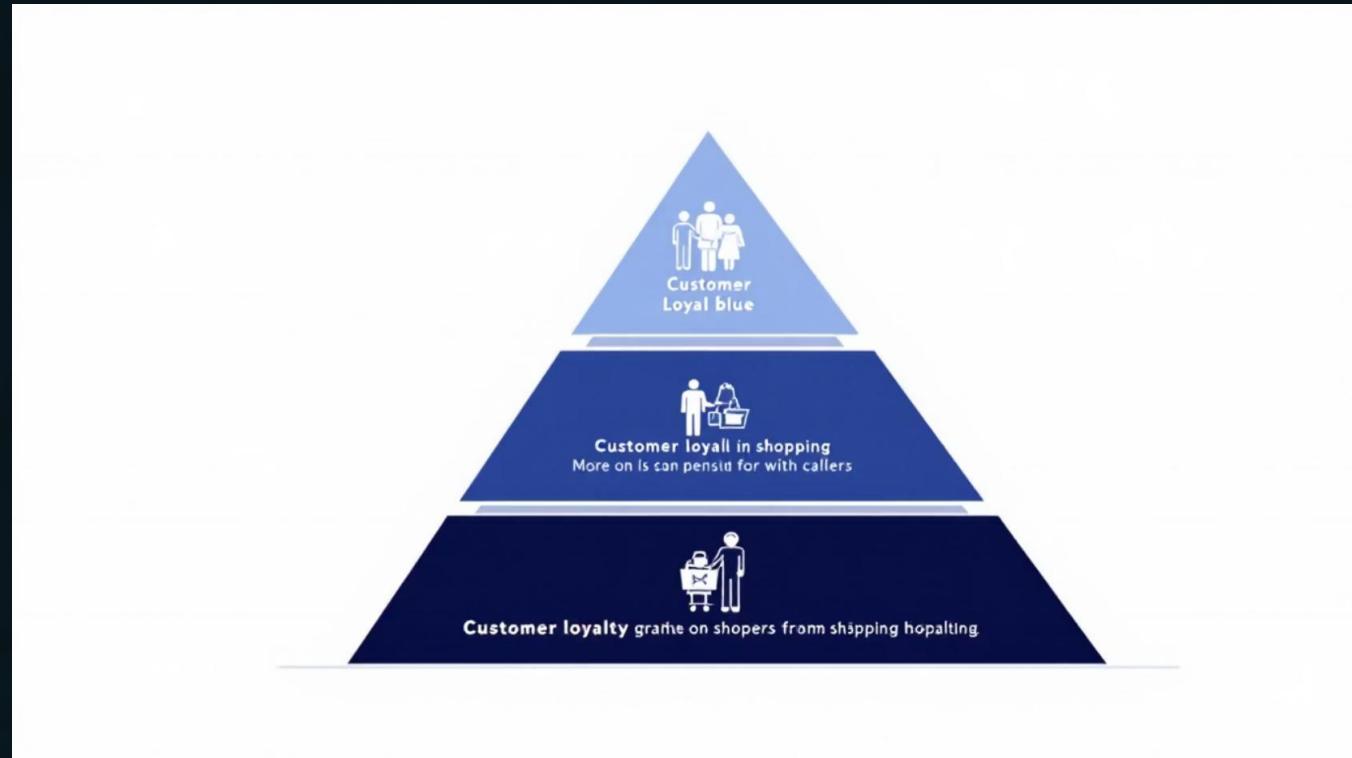
Customer Segmentation Analysis

Loyal Customers

3,116 customers (80%)

Returning

701 customers (18%)
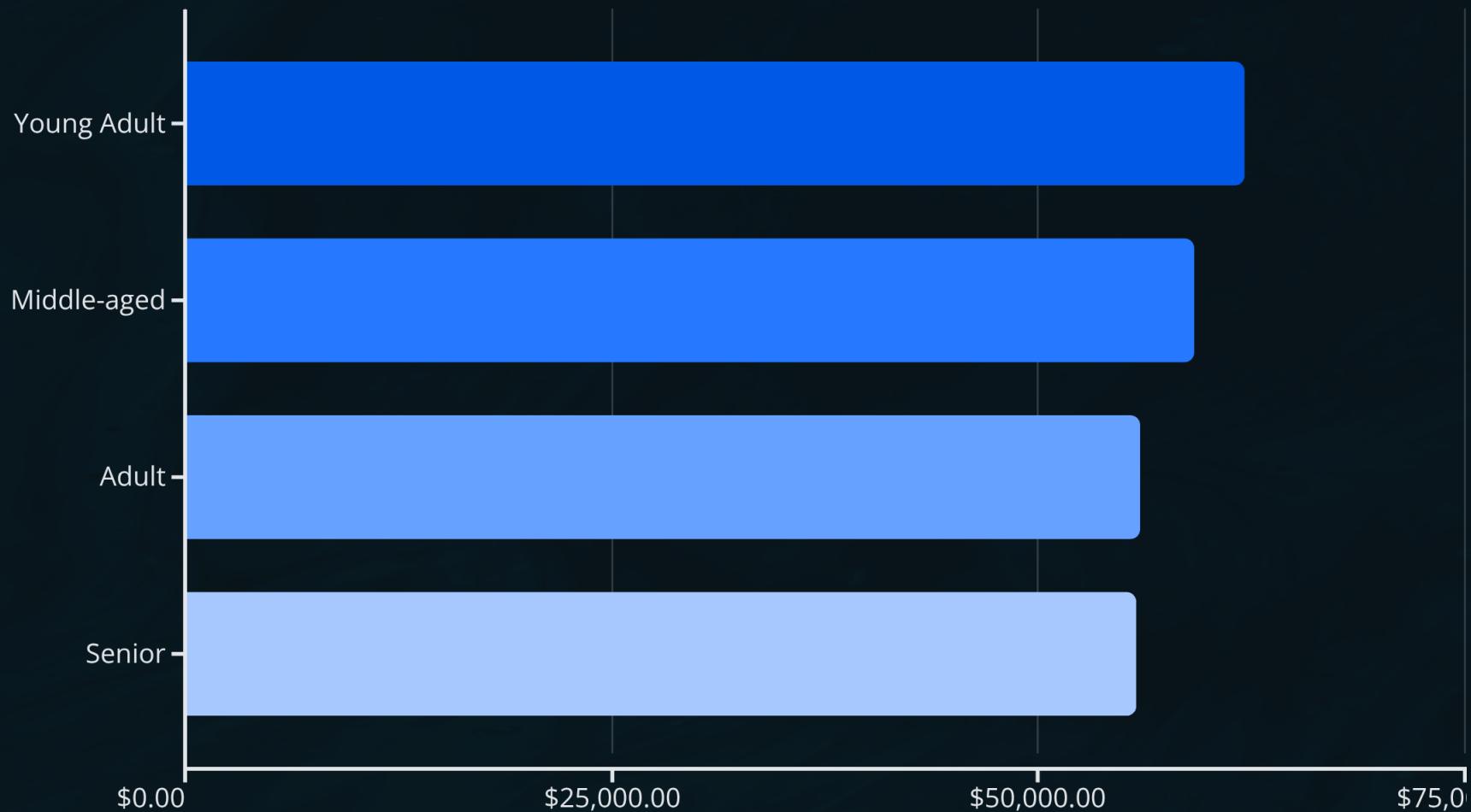
New Customers

83 customers (2%)

Repeat buyers (>5 purchases): 3,476 total, with 958 subscribed and 2,518 non-subscribed.

Strategic Recommendations

01

Subscription Growth

Target 73% non-subscribers with exclusive discounts to increase recurring revenue

02

Boost Average Order Value

Implement $75 free shipping threshold to lift $60 average purchase

03

Category Diversification

Launch seasonal campaigns for underperforming Outerwear and Footwear

04

Young Adult Retention

Create loyalty programs for most active buyer segment

Key Takeaways

Massive Subscription Opportunity

Converting even 10% of non-subscribers could add $17K+ in recurring revenue

Category Imbalance

Clothing generates 5x more revenue than Outerwear— balance through targeted marketing

Loyal Customer Base

80% loyal customers provide stable foundation for growth initiatives

This analysis provides a data-driven roadmap to optimize marketing strategies, improve customer engagement, and drive sustainable revenue growth.