

Customer Shopping Behavior Analysis

End-to-End Data Analytics Portfolio Project

This project showcases a comprehensive skill set in data analytics, from raw data to actionable business insights.

SQL

Data extraction and manipulation

Power BI

Interactive dashboards and visualizations

Python

Advanced analysis and scripting



Project Overview

Our objective was to dive deep into customer data to unearth patterns and insights that inform strategic business decisions.

Analyzed 3,900 Customer Transactions

A robust dataset providing a rich foundation for behavioral analysis.

Studied Key Metrics

- Demographics
- Subscription status
- Purchase history
- Customer reviews

Goal: Derive Actionable Business Insights

Transforming raw data into strategic recommendations for growth.

Key Metrics

A snapshot of the primary metrics that define our customer base and their purchasing habits.

3.9K

Total Customers

A significant base for comprehensive analysis.

\$59.76

Avg. Purchase Amount

Indicator of individual transaction value.

3.75

Avg. Review Rating

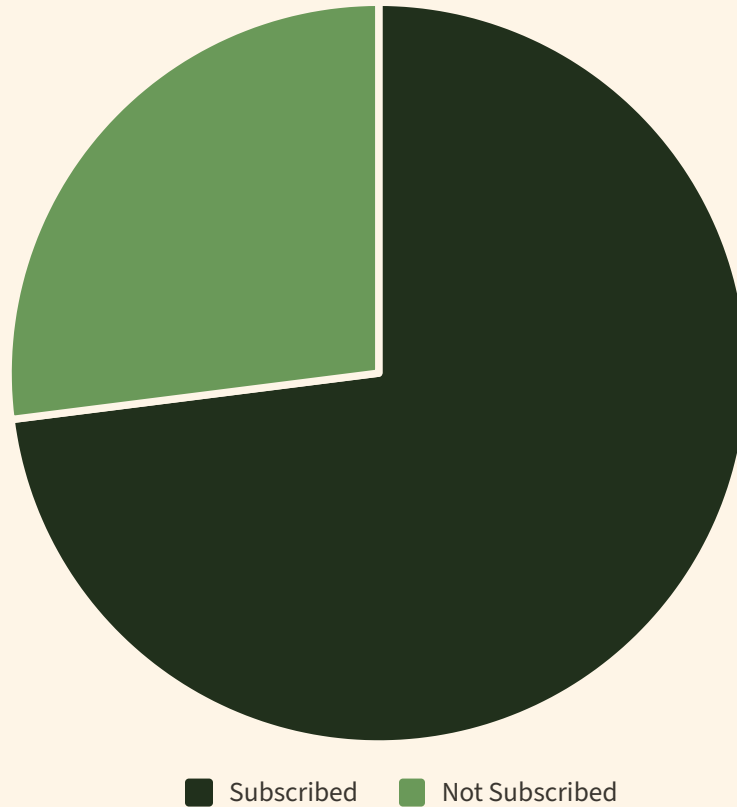
Reflects overall customer satisfaction with products and services.

These consistent metrics across various segments highlight predictable customer purchasing behavior, offering a stable foundation for business forecasting.



Customers by Subscription Status

Understanding subscription trends is crucial for forecasting recurring revenue and customer retention.

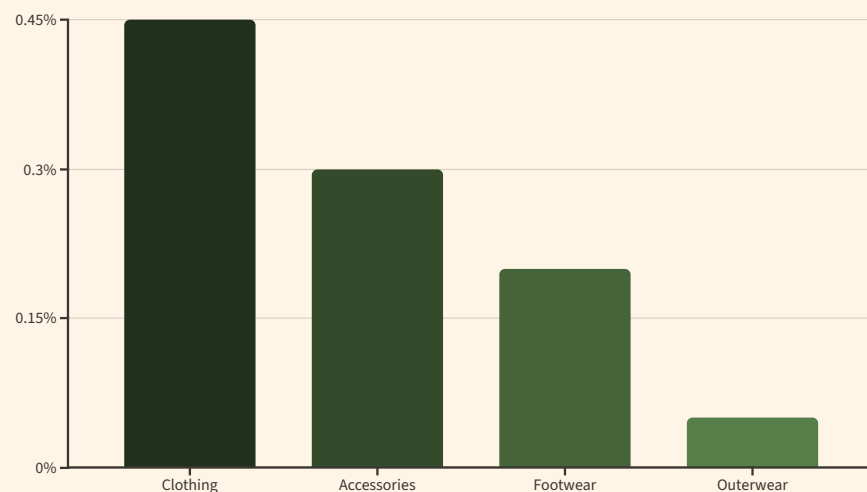


The high percentage of subscribed customers (73%) indicates strong adoption of our subscription programs, driving loyalty and consistent engagement.

Revenue Insights

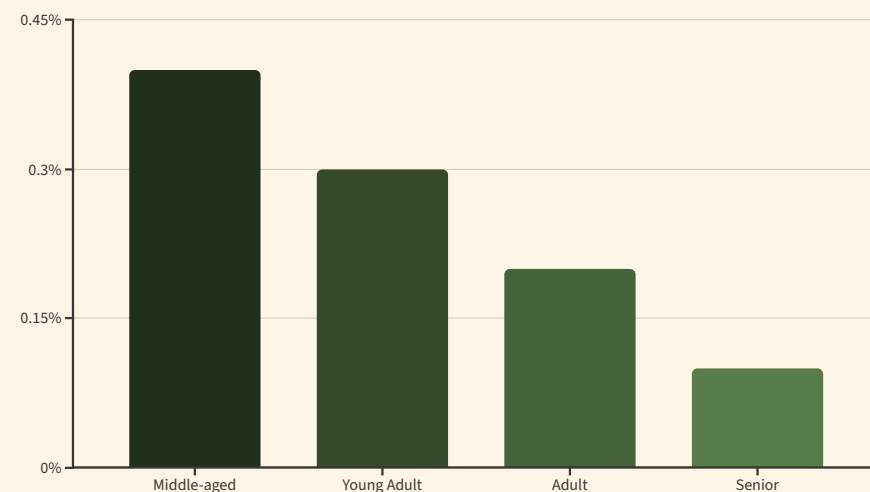
Analyzing revenue by category and age group reveals key segments for targeted marketing and product development.

Revenue by Category



Clothing leads as the highest revenue generator, with accessories and footwear also contributing significantly.

Revenue by Age Group



Middle-aged and young adult demographics drive the most revenue, indicating these are prime targets for engagement.

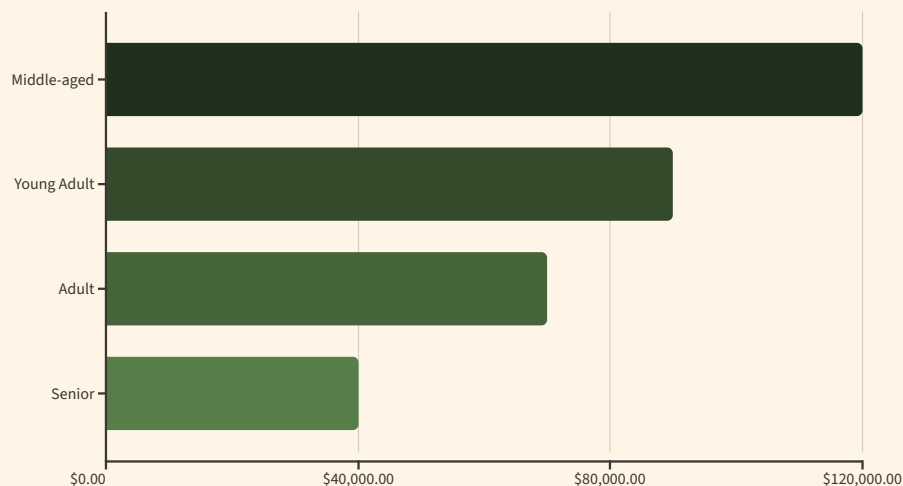
These insights suggest that focused marketing efforts on high-performing categories and age groups can significantly improve overall revenue.

Revenue by Age Group & Gender

A deeper look into the demographic breakdown of revenue highlights specific segments that drive our financial performance.

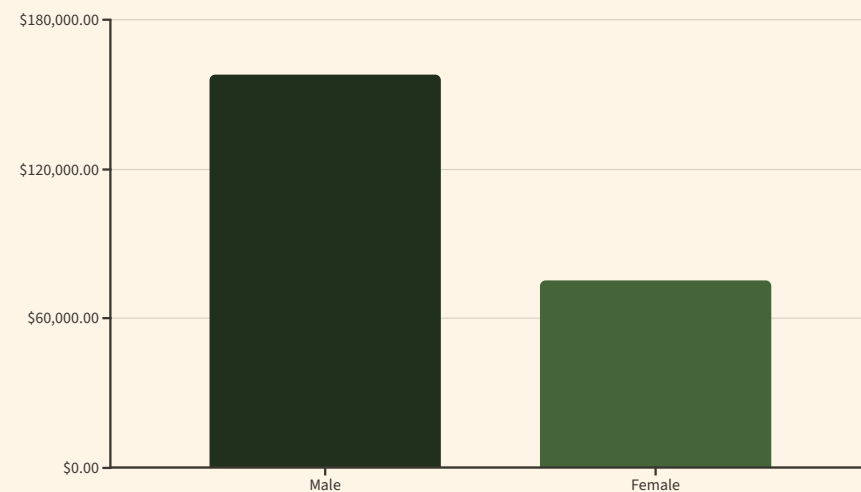
Revenue by Age Group

Middle-aged customers generate the highest revenue, followed by young adults. Adults contribute a medium level, with seniors being the lowest.



Revenue by Gender

Male customers contribute significantly more to overall revenue than female customers.



These detailed demographic insights are invaluable for tailoring marketing campaigns and product offerings to maximize engagement and revenue from our most valuable customer segments.



Actionable Takeaways

Synthesizing our findings into concrete actions for business optimization.



Target Key Demographics

Focus marketing efforts on male customers and middle-aged groups to capitalize on their higher revenue generation.



Enhance Subscription Programs

Further invest in subscription benefits to boost customer retention and increase average spend per user.



Leverage Product Ratings

Promote highly-rated products and use customer feedback to improve offerings, driving repeat purchases.

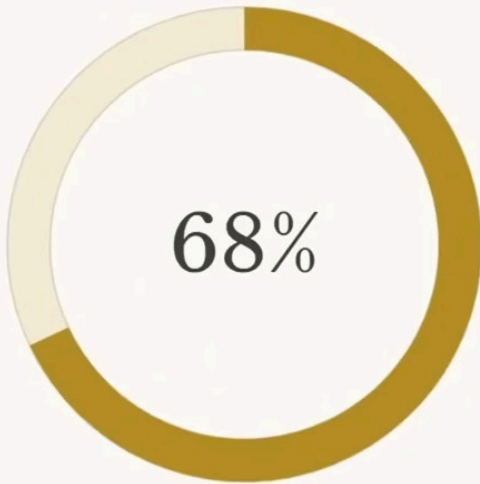


Optimize Shipping Options

Ensure diverse and efficient shipping methods are available to meet customer preferences and improve purchase conversion.

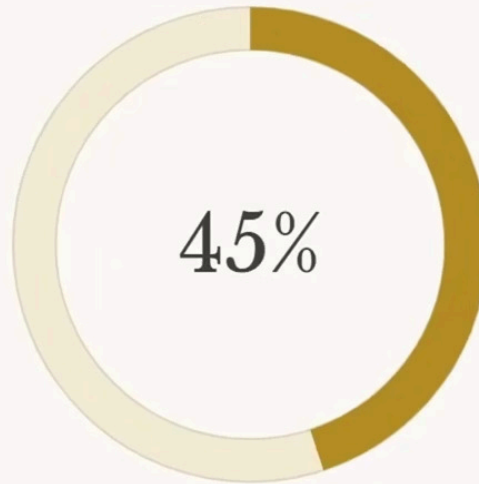
By acting on these insights, businesses can refine their strategies, leading to improved customer satisfaction and sustained financial growth.

Subscription Impact



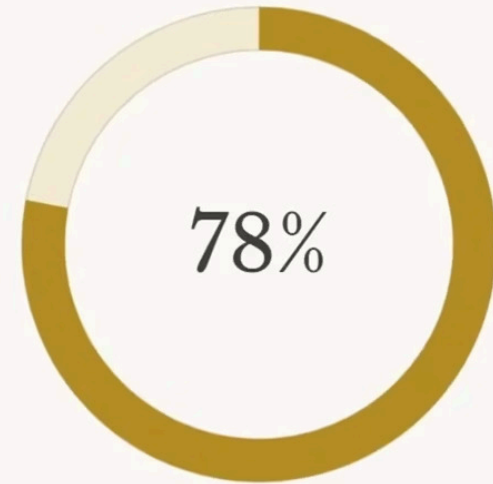
Higher Spend

Subscribers vs non-subscribers



Revenue Share

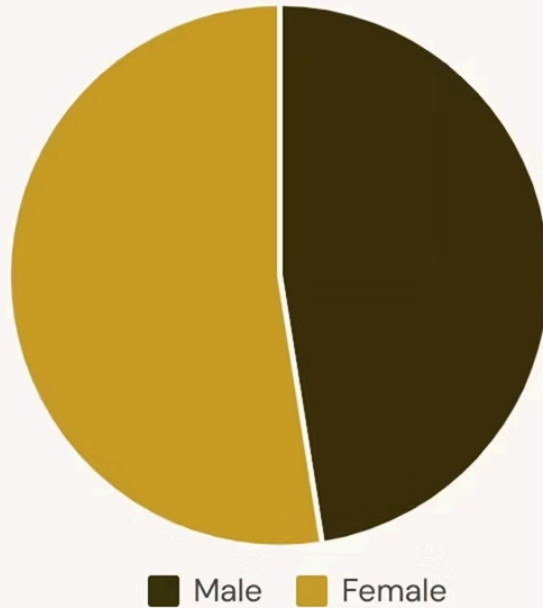
From subscription customers



Loyalty Rate

Repeat purchase frequency

Revenue by Gender Analysis



Key Insight

Female customers generate slightly higher total revenue than male customers

- Gender-based marketing strategies could optimize revenue streams



High-Value Discount Users

Customers using discounts while spending above average

Smart Shoppers

High spenders who maximize value with discounts

Strategic Opportunity

Target premium customers with exclusive offers



Top-Rated Products

★★★★★ 5

Blouse

Highest customer satisfaction

★★★★★ 5

Dress

Consistently excellent reviews

★★★★☆ 4

Shirt

Strong customer approval

Shipping Preferences Impact

Express Shipping

\$65

Average purchase amount

Standard Shipping

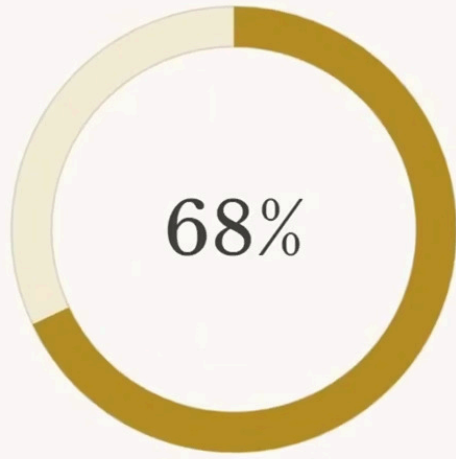
\$58

Average purchase amount

Express shipping customers spend 12% more per transaction

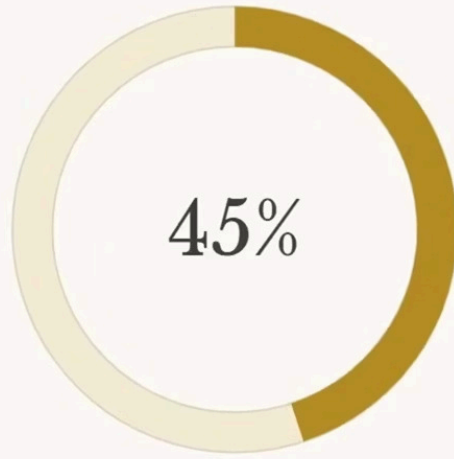


Subscription Impact



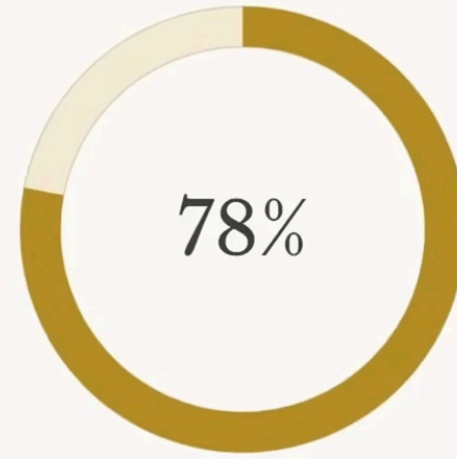
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Revenue Share

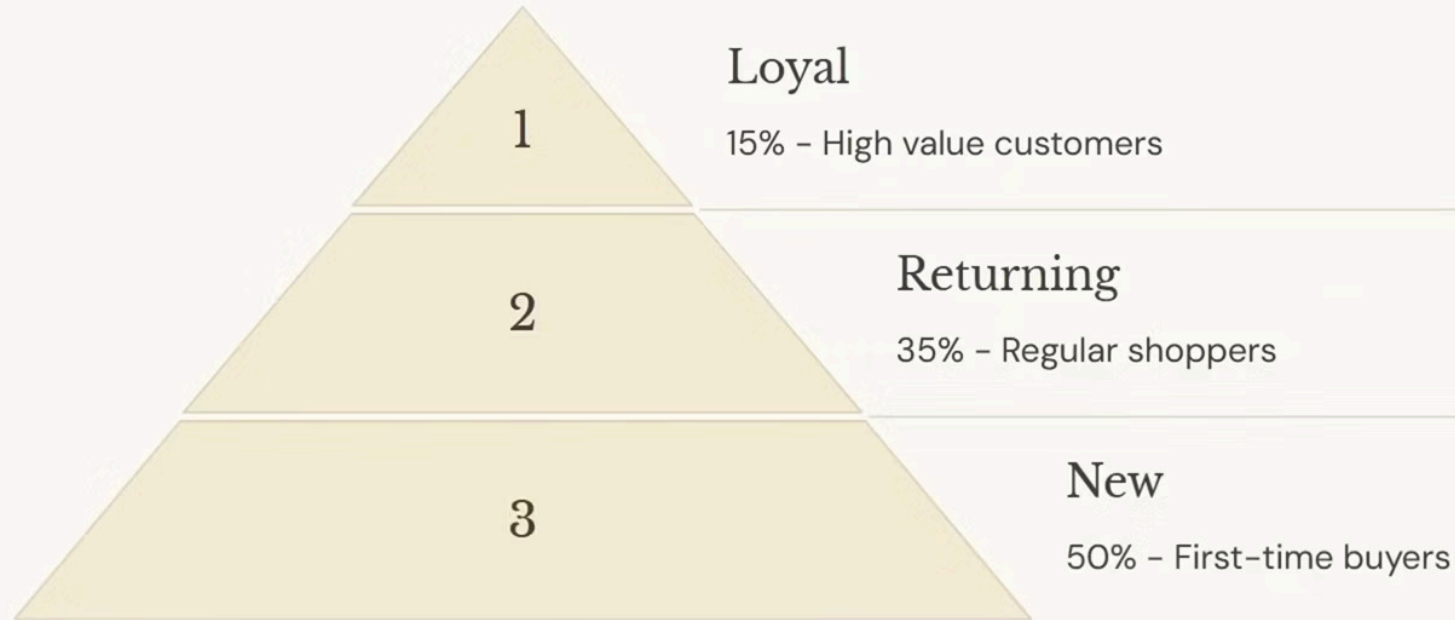
From subscription customers



Loyalty Rate

Repeat purchase frequency

Customer Segmentation



Focus on converting New to Returning, Returning to Loyal

Final Insights

This project demonstrates a robust understanding of data analytics, Power BI visualization, and business storytelling.



Subscriptions & Demographics

These factors are primary drivers of revenue and offer opportunities for sustained growth.



Targeted Promotions

Category-level insights enable more effective and personalized marketing campaigns.



Skill Demonstration

- SQL analytics
- Power BI visualization
- Business storytelling



