DATA ANALYSIS

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Introduction

This report provides a summary of the data analysis conducted on a dataset containing customer information, including customer ID, age, gender, and purchase item details. The primary goal of this analysis was to identify key trends and insights related to customer demographics and their purchasing behavior. By analyzing the distribution of age and gender, along with the types of items purchased, we can uncover potential patterns that may inform business decisions and marketing strategies. This report highlights the main findings and offers a concise overview of the customer base and their purchasing tendencies.

Data Summary

Age Distribution

The dataset includes customers ranging in age from 18 to 70 with the mean age of 44.23. The age distribution shows that the majority of customers fall within the 31-50 age group, accounting for 37.05% of total purchases. Average age of customers for each type of item is around 40.

Gender Distribution

Since there are no females in the dataset. There isn't anything to say about the gender distribution

Purchase Item Overview

The dataset contains a total of 25 unique purchase items. The most commonly purchased items include Pants, Sweater and Jewelry, which together account for 14.35% of all transactions.

Key Insights

Top Purchased Items

The analysis shows that the top three most frequently purchased items are Pants, Sweater, and Jewelry, together accounting for 14.35% of all transactions.These items are particularly popular among the 31-50 age group.

Age-Based Purchasing Patterns

Customers in the 31-50 are the most active buyers, contributing to 37.05% of total purchases.Younger customers, particularly those aged 19-30, tend to purchase more Sweater, while older customers, aged 60+, show a preference for Jewelry.
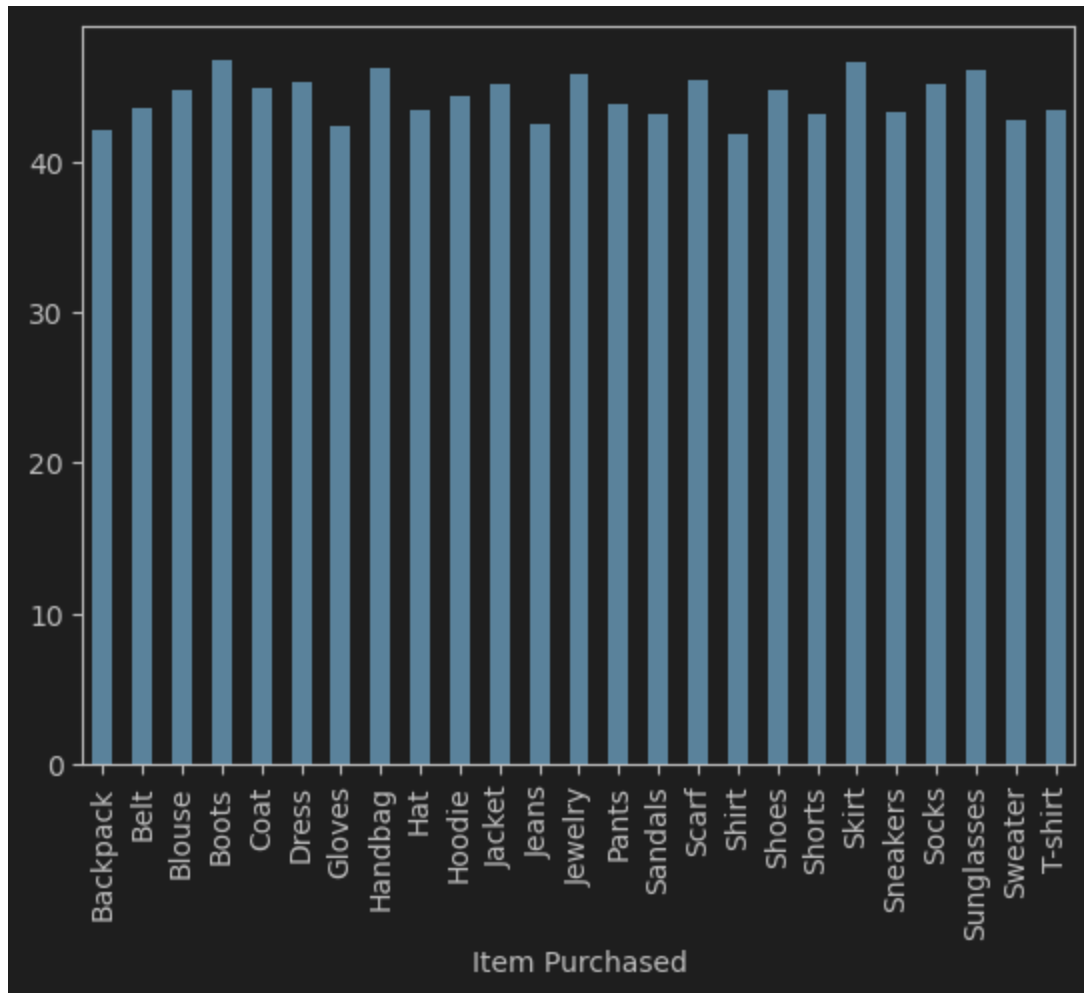
Observations:

Based on the data analysis, several key observations were made regarding customer demographics and purchasing behavior:
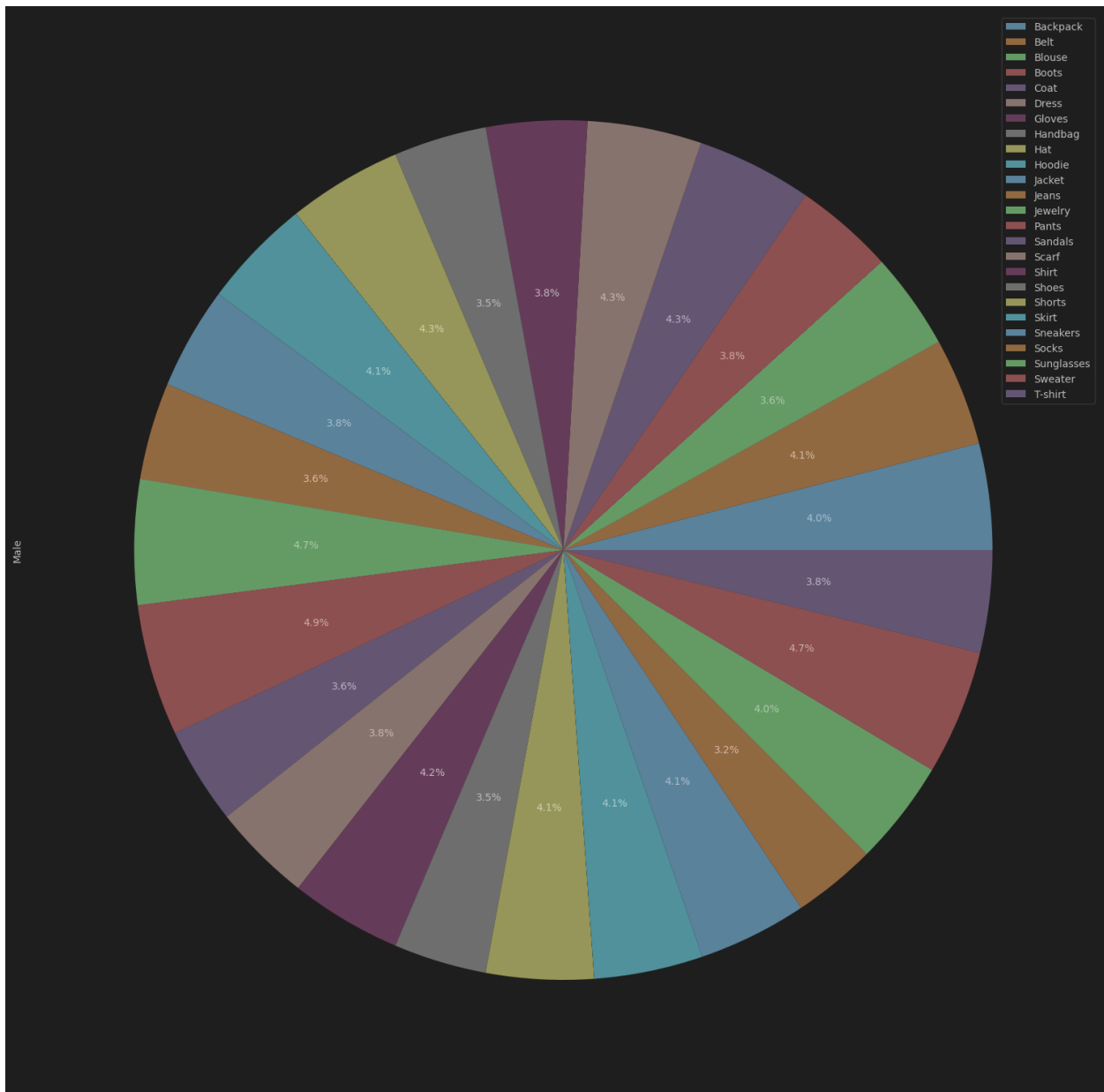
The above pie chart shows the amount of particular item purchased by male gender.
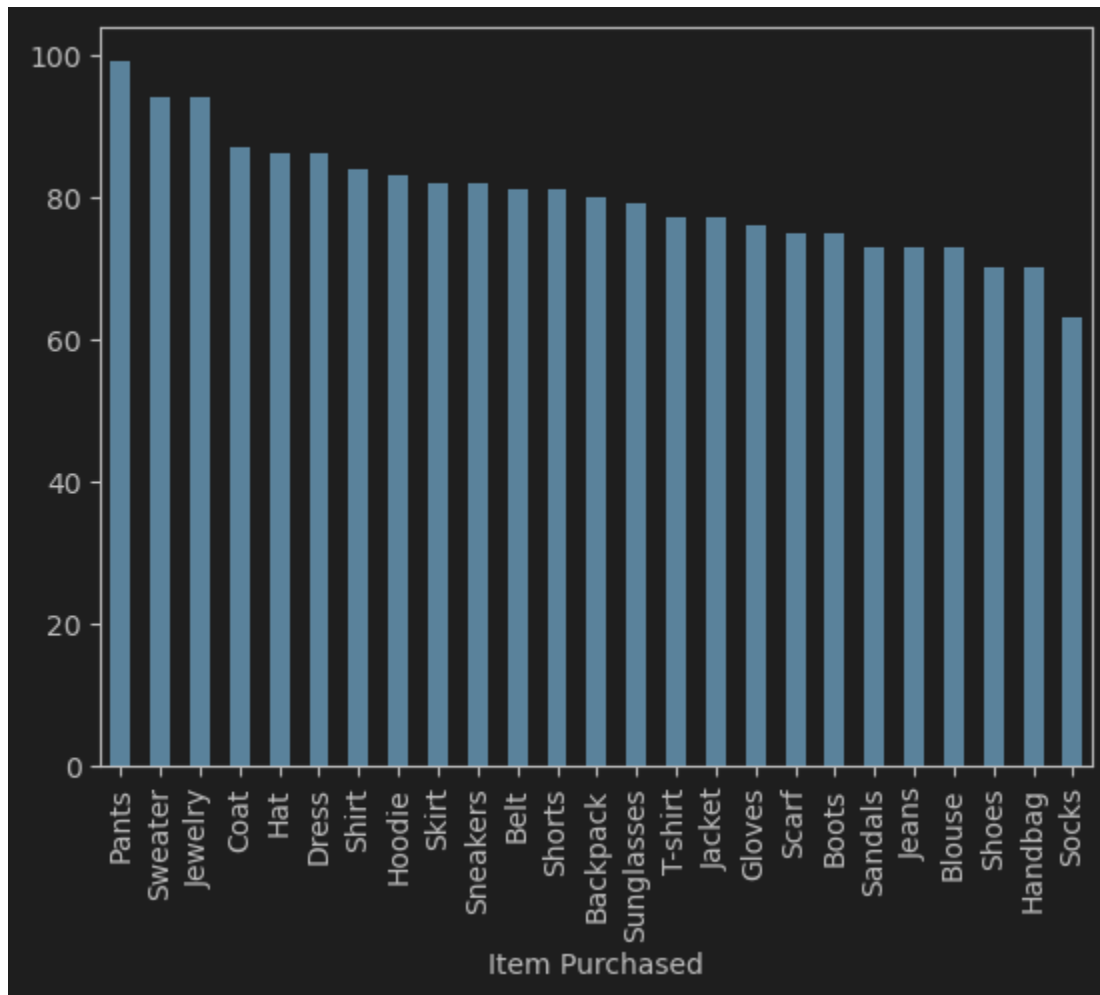
The above bar graph shows the Number of Item purchased per item. We see highest item is Pants, followed by Seater and Jewlery

The above graph shows the Item Purchased average age. As we can see that the average age is roughly in the 40s for all the items.

Conclusion

The data analysis reveals key insights into customer purchasing behavior, which can inform future business strategies. The top three items—Pants, Sweater, and Jewelry—make up 14.35% of all transactions, with the 31-50 age group being the most active buyers. This demographic accounts for 37.05% of total purchases and shows a broad preference for these items.

Younger customers (aged 19-30) are more inclined to buy Sweaters, while older customers (60+) prefer Jewelry. These age-based preferences present opportunities for targeted marketing and product promotions tailored to each group's specific interests. Leveraging these insights can help optimize product offerings and customer engagement strategies, ultimately driving sales growth.