Detailed Summary Based on Uploaded Graphs

1. Purchase Amount Distribution

A histogram was plotted to understand how the purchase amounts are distributed among customers.

The distribution shows a right-skewed pattern, meaning most customers made purchases of lower to medium amounts.

The peak is around the small purchase range, and the number of customers decreases as purchase amount increases.

There are few high-value outliers (very expensive purchases), but they are very rare compared to the overall dataset.

Conclusion: The majority of customers prefer purchasing products in the affordable to mid-range category during the sale.

2. Gender-wise Customer Count

A bar chart was created to visualize the number of male and female customers participating in the Black Friday sale.

It was observed that male customers are significantly more than female customers.

The bar representing males is much taller compared to females.

Conclusion: Male customers dominate the purchasing activity during Black Friday, suggesting that marketing campaigns might be more targeted towards male shoppers.

3. Age Group vs Purchase Amount (Boxplot Analysis)

A boxplot was created to compare the purchase amounts across different age groups.

The 26–35 years age group showed the highest median purchase amount.

Other age groups like 18–25 and 36–45 also showed good purchasing power but slightly lower than the 26–35 range.

The spread (interquartile range) is widest for 26–35, meaning this group has both small and very large purchases.

Conclusion: Customers in the 26–35 age range are the most valuable for business, and they show high and consistent purchasing behavior.

4. Pairplot Analysis (Age, Purchase Amount, Stay in City Years)

A pairplot was plotted to examine the relationships between Age, Purchase Amount, and the number of years a customer has stayed in the current city.

No very strong direct correlations were observed among these variables.

Purchase amounts seem to be fairly consistent across different levels of Stay in City Years.

Younger customers (especially 26–35 years) show relatively higher spending, regardless of how long they have stayed in a city.

Conclusion: Customer loyalty based on the number of years in the city doesn't seem to have a major impact on purchase amount, but age is a stronger factor influencing purchases.

Overall Conclusions:

Male customers are more frequent buyers compared to females.

The 26–35 years age group contributes most significantly to the total sales.

Most purchases are affordable to mid-range, with very few expensive outliers.

Customer's stay duration in the city does not significantly impact how much they purchase, but age does.