# 1. EDA REPORT

1.1 Region & Signup year count:

In "Customers" dataset, count of regions that customer resides from and Signup year done by customers are given below:

a) Regions with number of customers:
- i)   South America -   59
- ii)   Europe   -   50
- iii) North America -   46
- iv)   Asia   -   45

b) Number of customers with signup count on every year:
- i)   2022   - 64
- ii)   2023   - 57
- iii) 2024   - 79

c) Findings:
- a. The most frequent region is **South America**.
- b. The most frequent customers were signed up in the year **2024.**

Distribution of Customers Across Regions

Histogram of Customer Signup Years
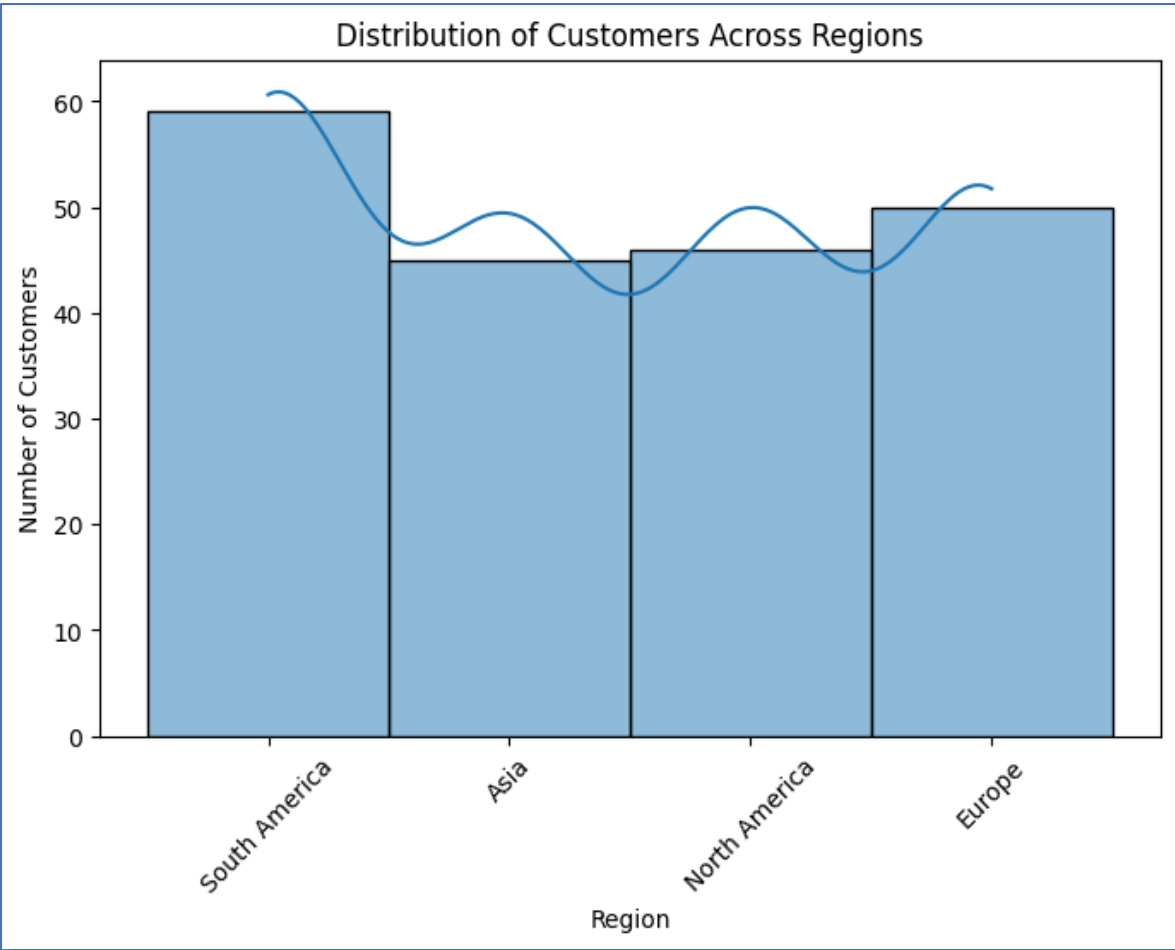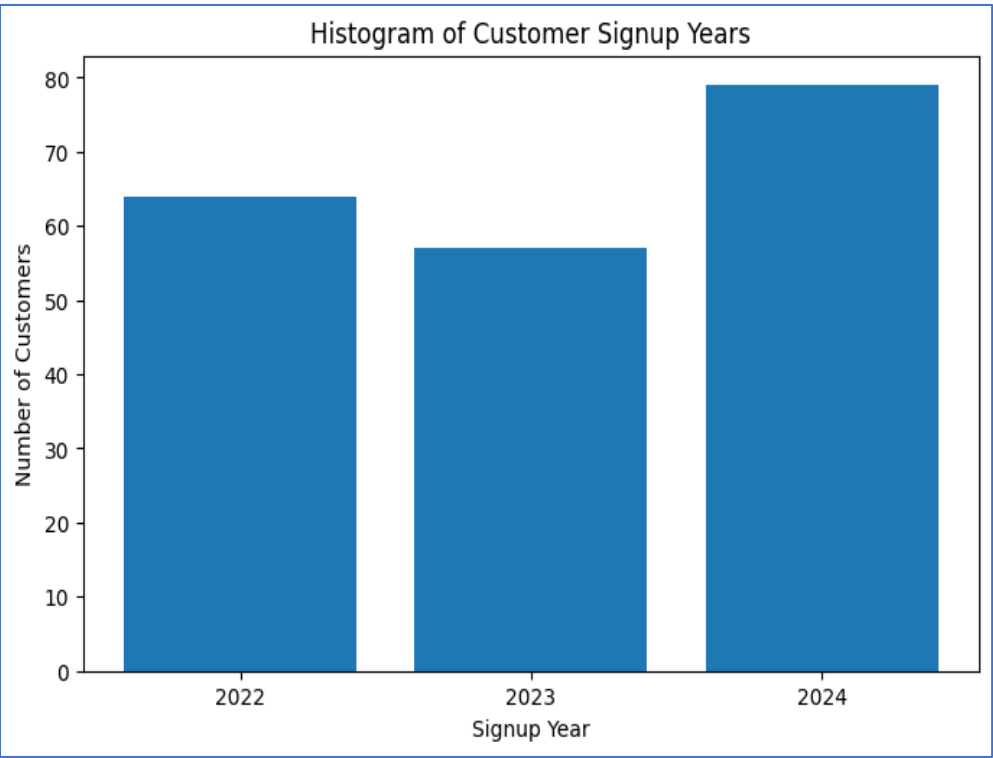
1.2 Percentage of customers from each region and signup year:

In "Customers" dataset, the percentage of customers from each region is listed below:

a) Percentage of customers from each region:
   i)   South America   -   29.5 %
   ii)   Europe   -   25.0 %
   iii) North America   -   23.0 %
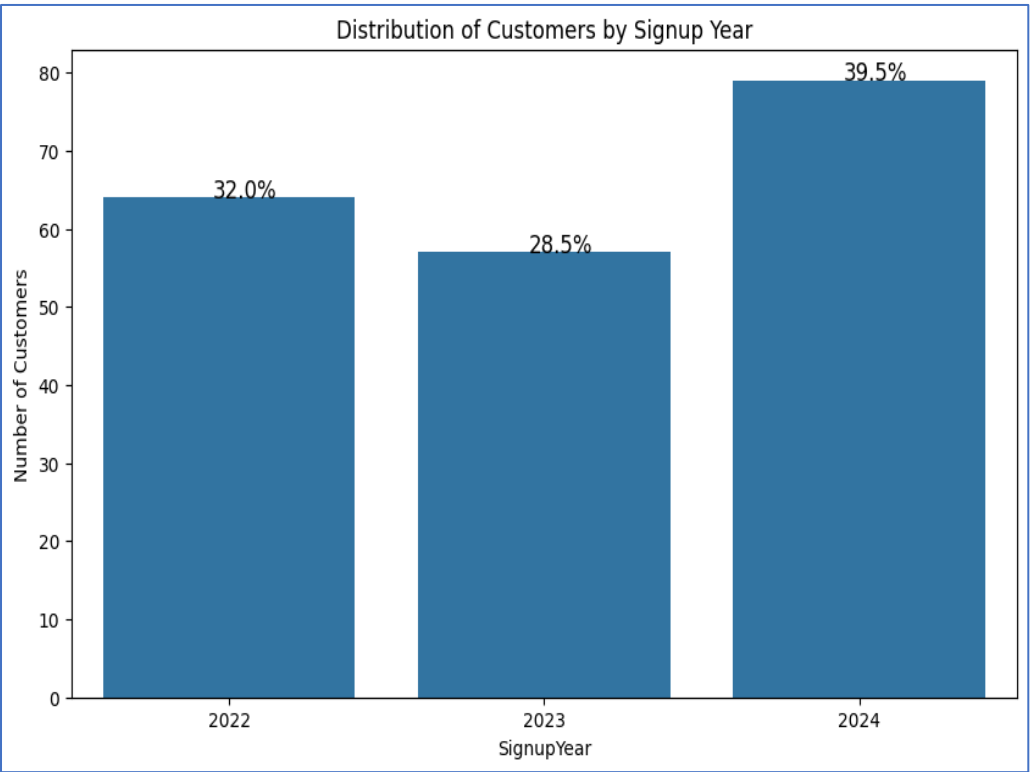   iv)   Asia   -   22.5 %

b) Percentage of customers on signed up year:
   i)   2022   -   32.0 %
   ii)   2023   -   28.5 %
   iii) 2024   -   39.5 %

c) Findings:
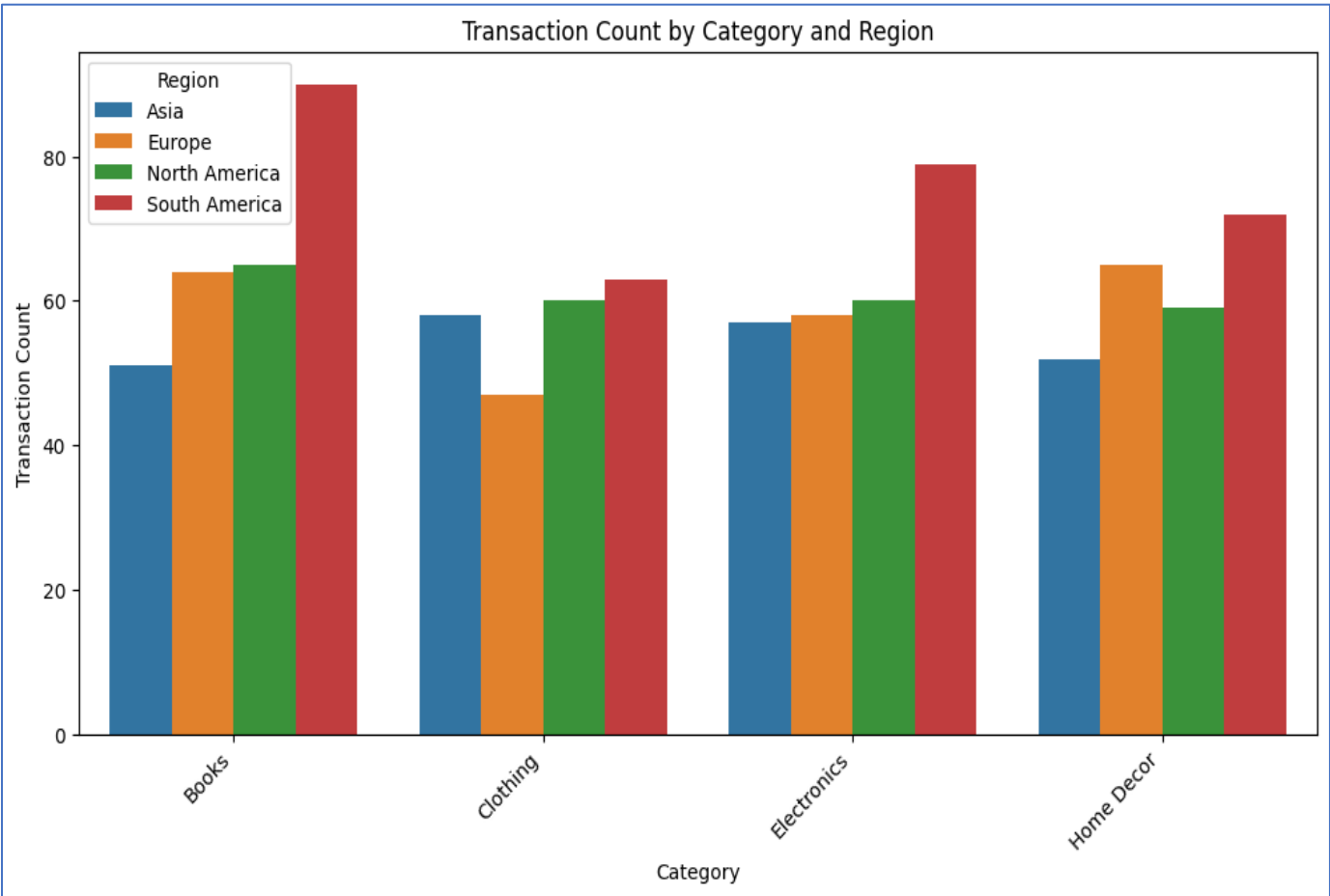   a. The region with majority of customers – **South America** (29.5%)
   b. A year with majority of customers signed up in the year **2024** (39.5%)

Distribution of Customers by Region

Distribution of Customers by Signup Year
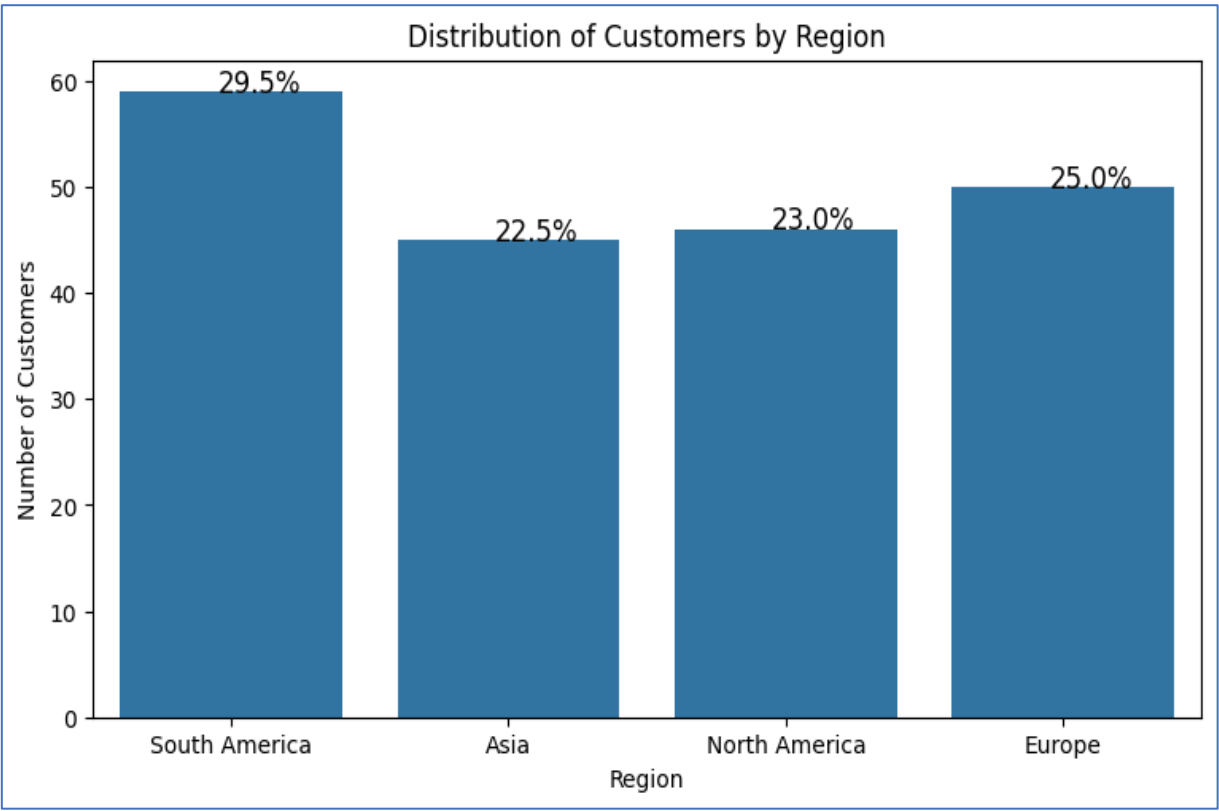
1.3 Transaction Count by Category and Region:

This insight depicts the relationship between transaction count by category and region.

a) **Findings:** The region with majority of number of transactions made by customers is **South America** mostly purchased under the product category **Books.**
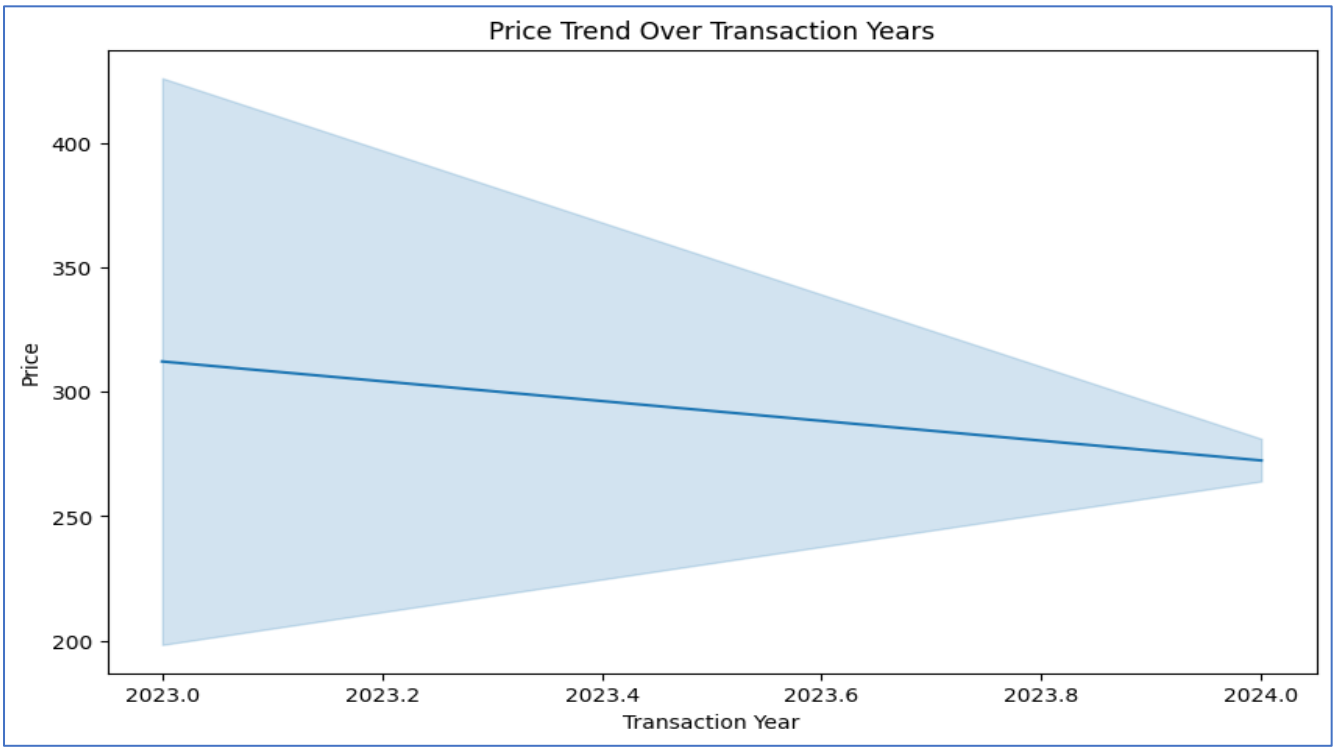
1.4 Price Distribution by Category

This insight represents a pie chart about the price distribution by product category.
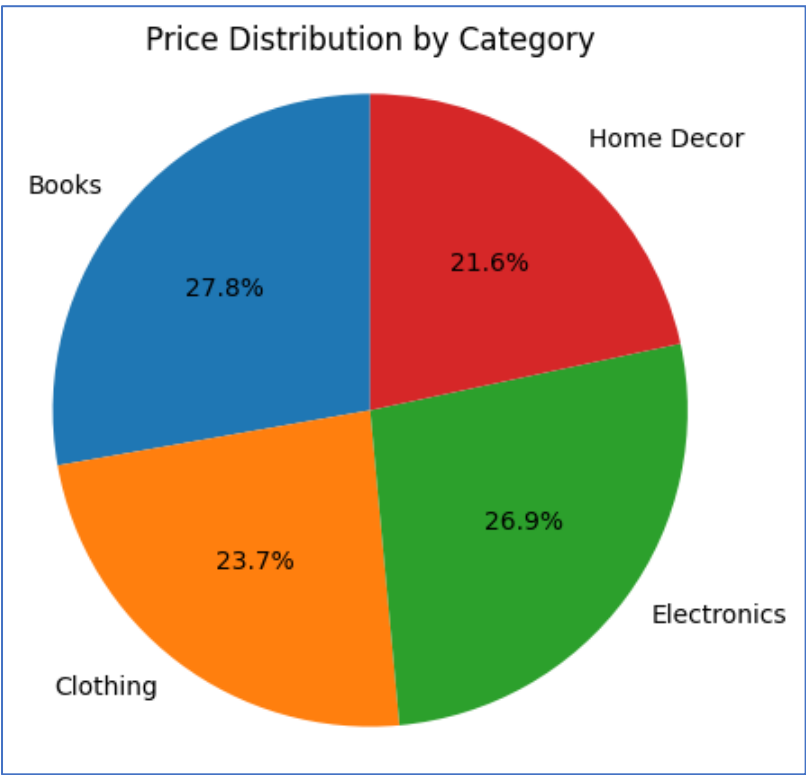
a) **Findings:** Most prices in product category – **Books**

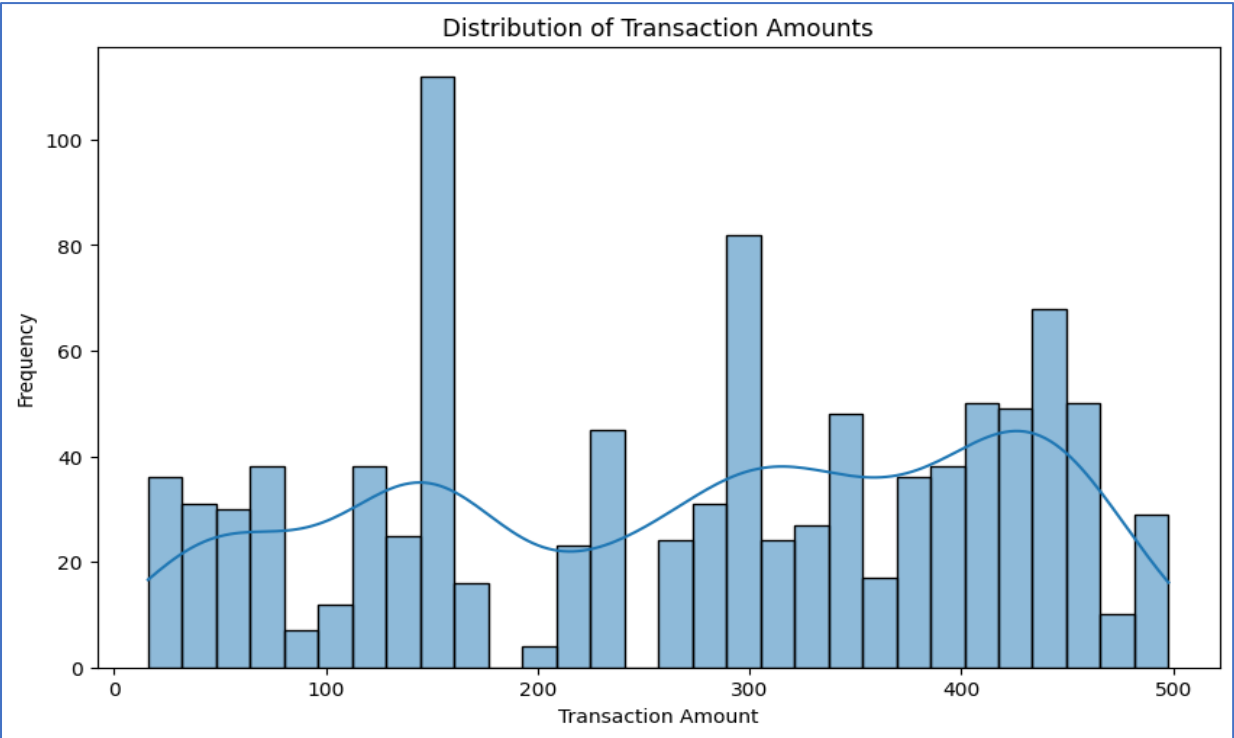## 1.5 Price trend over transaction years

This insight captures a trend on price of products over transaction years.

a) **Findings:** The above plot shows that the price is constantly falling on transaction years.
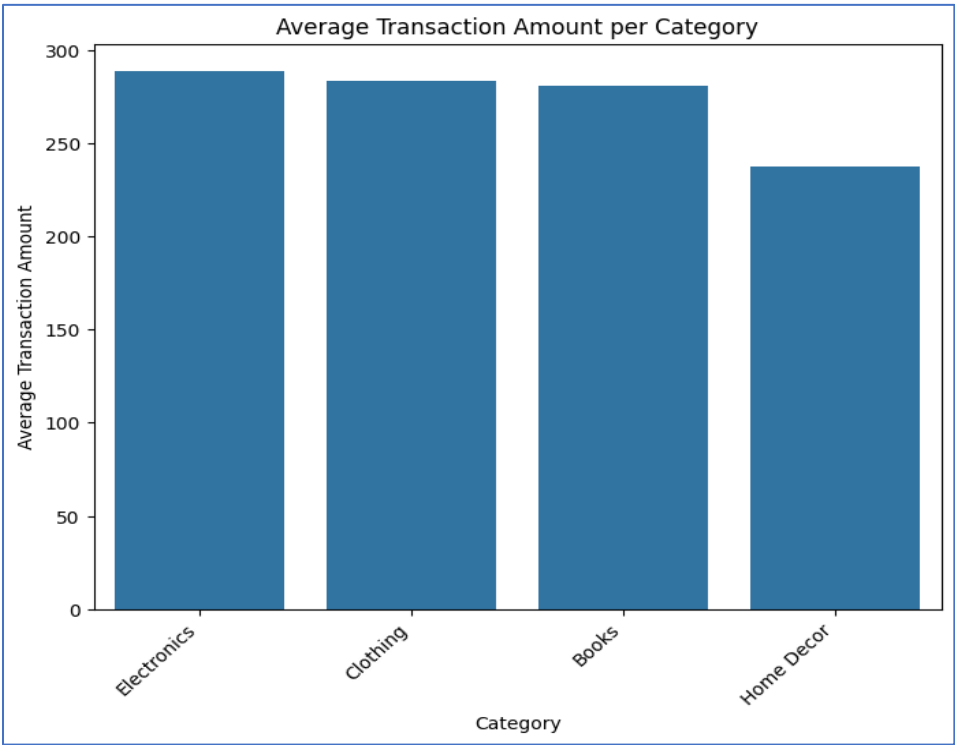
1.6 Distribution of Transaction Amounts

This insight represents the distribution of transaction amounts.

1.7 Average Transaction amount per Category

This insight visualizes the average transaction amount made per product category.

a) Findings: The highest average transaction amount made on **Electronics** product category.

1.8 Relationship between Quantity and Price

This insight represents the relationship between Quantity and Price by using regression plot.