

Business Insights from EDA:

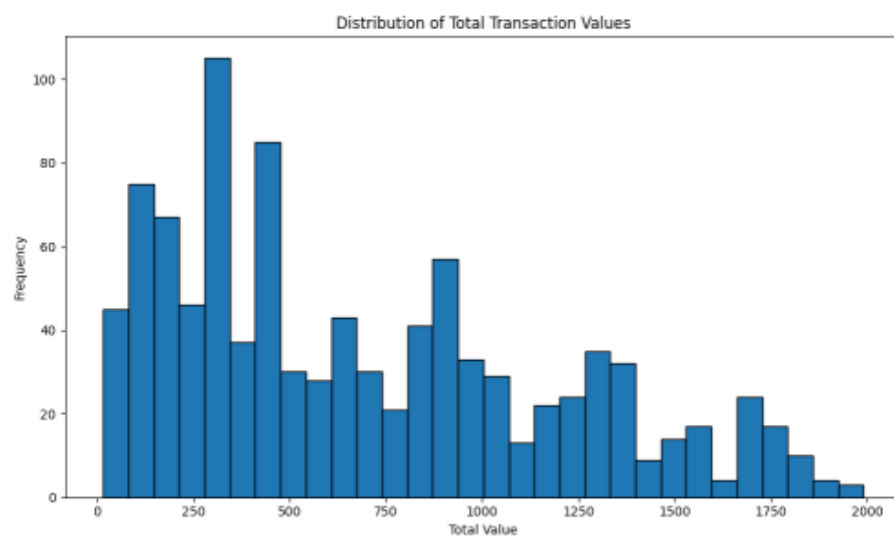
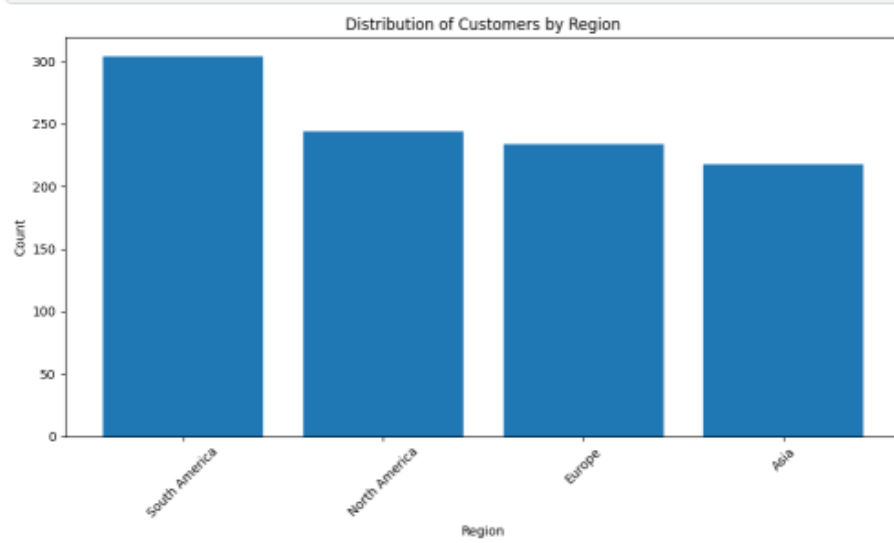
1. Regional Distribution of Customers: South America has the highest customer count, indicating a strong market presence, while Asia and Europe are equally significant, suggesting potential growth opportunities in these regions.

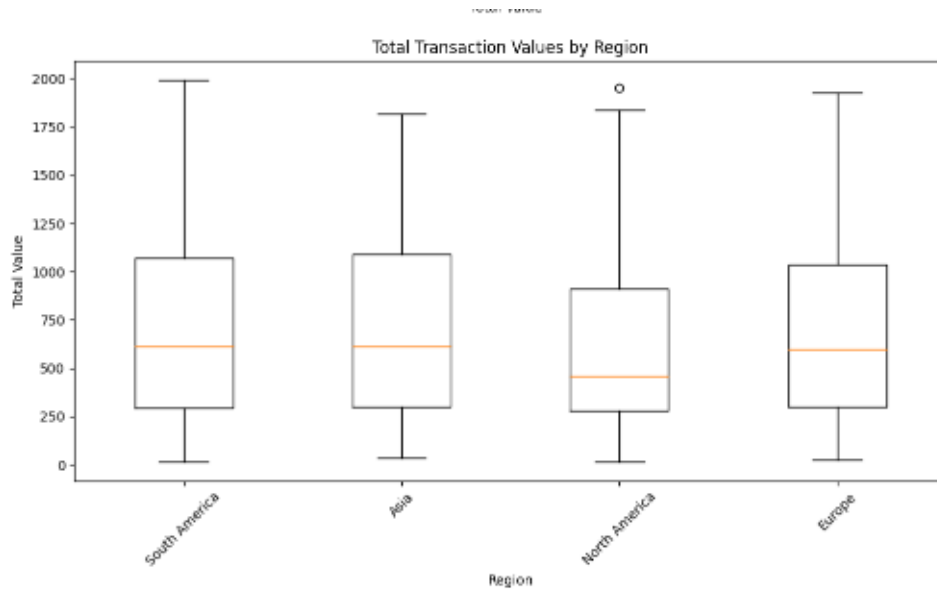
2. Transaction Value Distribution: The majority of transactions fall under lower value ranges (250–500), reflecting a price-sensitive customer base or popular low-cost products.

3. Regional Spending Patterns: North America exhibits a higher median transaction value compared to other regions, indicating higher purchasing power or preference for premium products.

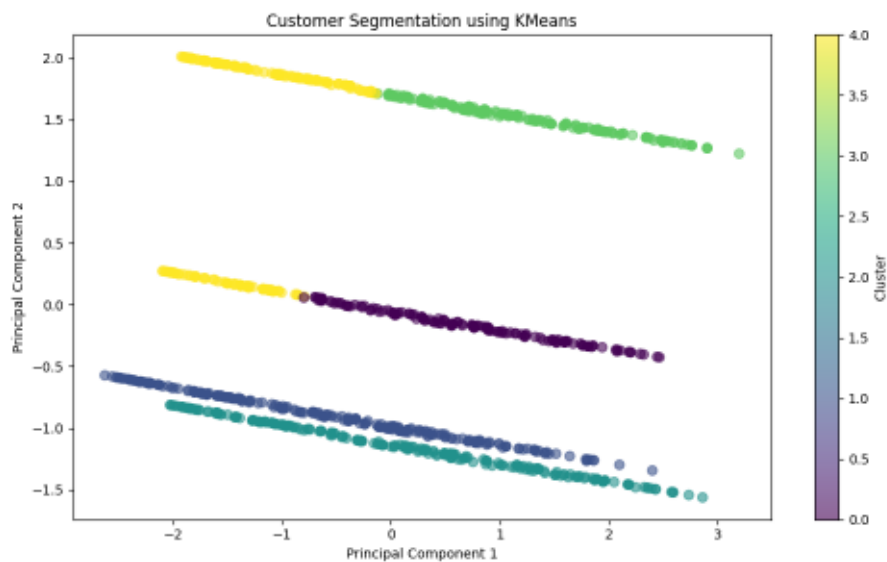
4. Customer Segmentation: KMeans clustering reveals distinct customer segments with varying transaction patterns and preferences, allowing for targeted marketing strategies.

5. Cluster Analysis Insight: Cluster 3 (South America) has the lowest mean transaction value, emphasizing the need for affordable offerings in this region to drive growth.





Davies-Bouldin Index: 0.8827488814281491
Silhouette Score: 0.4146415447378831



Cluster Analysis:

Cluster	TotalValue		Price		Region
	mean	count	mean	median	
0	927.16	147	916.24	358.38	Asia
1	624.24	244	456.92	265.24	North America
2	718.49	234	596.58	275.57	Europe
3	1819.91	185	958.88	377.59	South America
4	244.48	198	197.22	115.75	South America