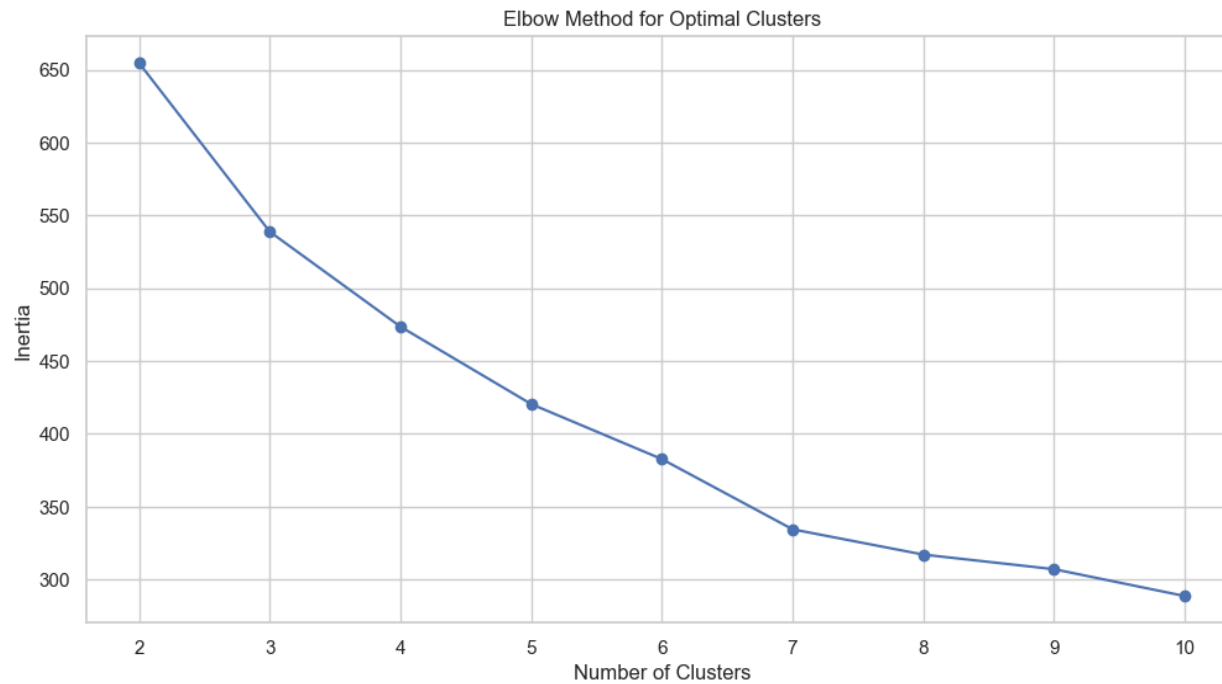


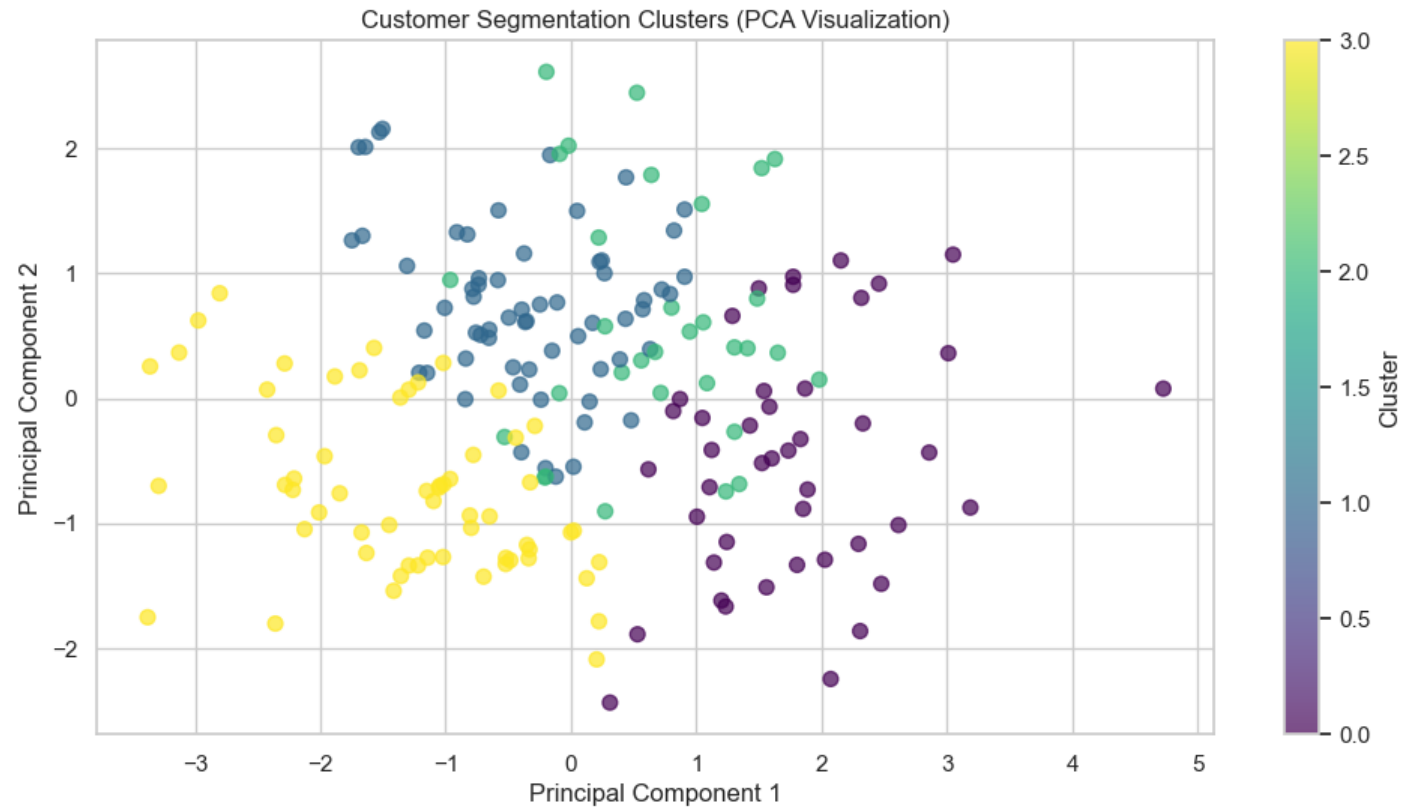
CLUSTERING REPORT:

- Using the Elbow Method to find the optimal number of clusters



the Elbow Curve

- Using a scatter plot of the clusters



Customer Segmentation Clusters (PCA Visualization)

- Cluster Analysis:

clusters	transaction_count	avg_transaction_value	Total_spend	signup_year
0	1.356650	0.203499	1.284803	-0.223859
1	-0.148993	-0.074786	-0.271077	0.925889
2	-0.339234	1.375950	0.437588	-0.274329
3	-0.657509	-0.804547	-0.890938	-0.661712