

# Insights Report on Customer Behavior by Cluster (Task 3)

Dataset Used: Mall\_Customers.csv

Clustering Technique: K-Means

Features Used:

- Age
- Annual Income (k\$)
- Spending Score (1–100)

## Identified Customer Clusters (based on KMeans + PCA visualization)

Cluster	Age Profile	Income Range	Spending Behavior	Description & Interpretation
0	Young (<30)	Medium	High	<b>Target Shoppers:</b> These are young and active buyers who spend heavily. Ideal for fashion, electronics, and lifestyle campaigns.
1	Mature (30–45)	High	Medium	<b>Affluent Professionals:</b> Likely financially stable, less impulsive. Could respond well to premium and long-term value offerings.
2	Young (<35)	Low	Low	<b>Price-Conscious Youth:</b> May not have strong purchasing power; deal-based marketing may work.
3	Older (50+)	High	Low	<b>Wealthy Conservatives:</b> Financially sound but spend carefully. Focus on trust, service quality, and essentials.
4	All Ages	Medium–High	Very High	<b>Heavy Spenders:</b> Across ages but with very high spending habits. VIP loyalty programs and personalized offers can boost lifetime value.

## Behavioral Trends Observed:

- Cluster 0 & 4 are **high-spending, high-priority** segments for engagement and loyalty programs.
- Cluster 3 contains **older, conservative** customers who might not respond to aggressive marketing but could value personal service and legacy benefits.
- Cluster 2 may benefit from budget or combo offers to increase ticket size.
- Cluster 1 shows **moderate spending with high income**, suggesting a gap between ability and motivation —this can be closed with better personalization.

## Business Strategy Recommendations:

Action Area	Recommendation
Marketing	Use personalized campaigns based on cluster behavior. Young high-spenders → trendy ads; older frugal customers → value-based messages.
Product Strategy	Premium products for Cluster 1 & 4, essentials and savings for Cluster 2 & 3.
Retention	Introduce loyalty programs for Clusters 0 and 4; emphasize trust and customer service for Cluster 3.