

Customer Segmentation Analysis Using K-Means Clustering

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Understanding Customer Behavior

Problem Statement

Analyze customer purchase behavior to improve marketing strategies.

Key Objectives

- Segment customers using clustering.
- Identify high and low-value customers.
- Enhance marketing strategy effectiveness.

Dataset Description

2205

Customer Records

Clean dataset with no missing values.

39

Features

Includes Income, Spending, and Recency.



Average Income

₹51,622



Average Spending

₹562

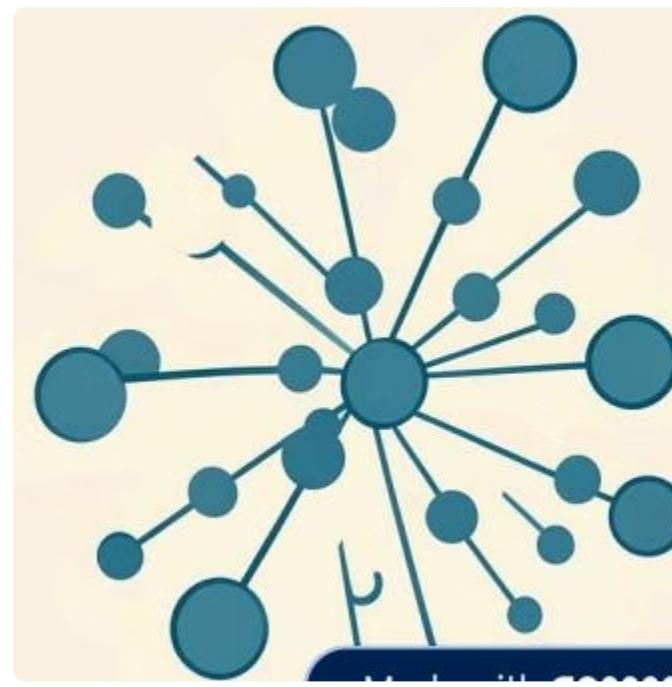
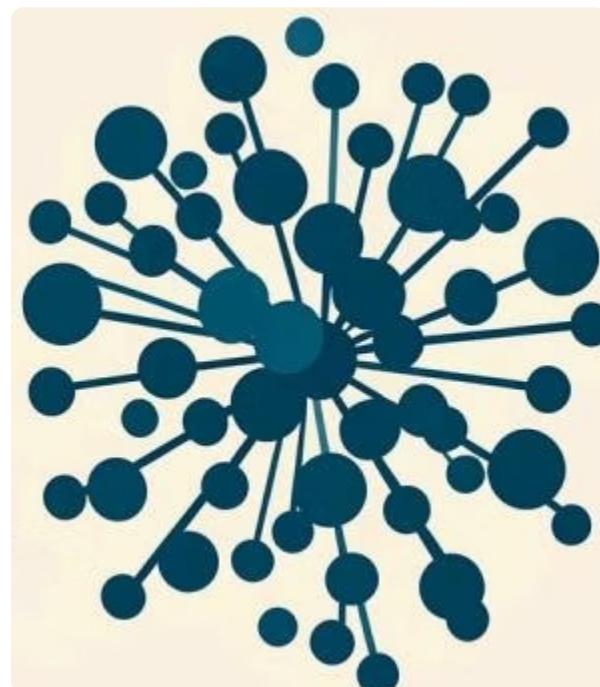
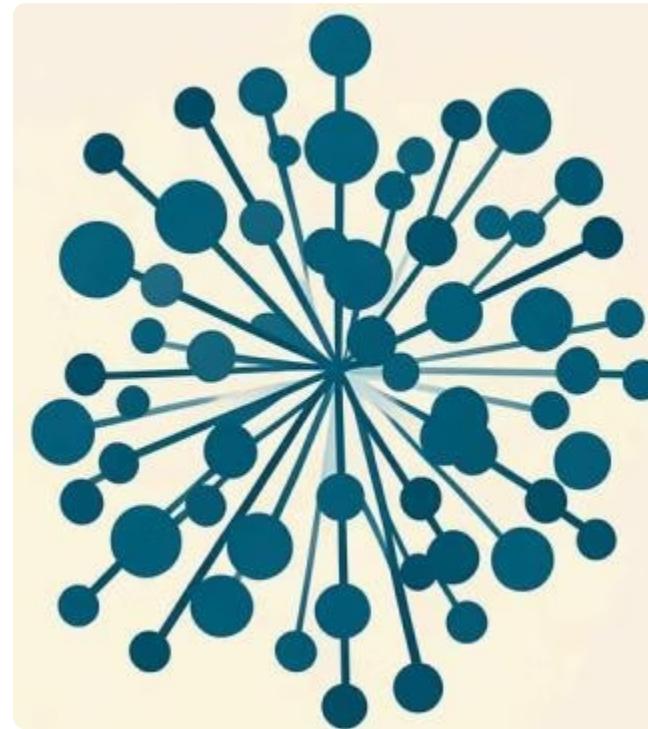
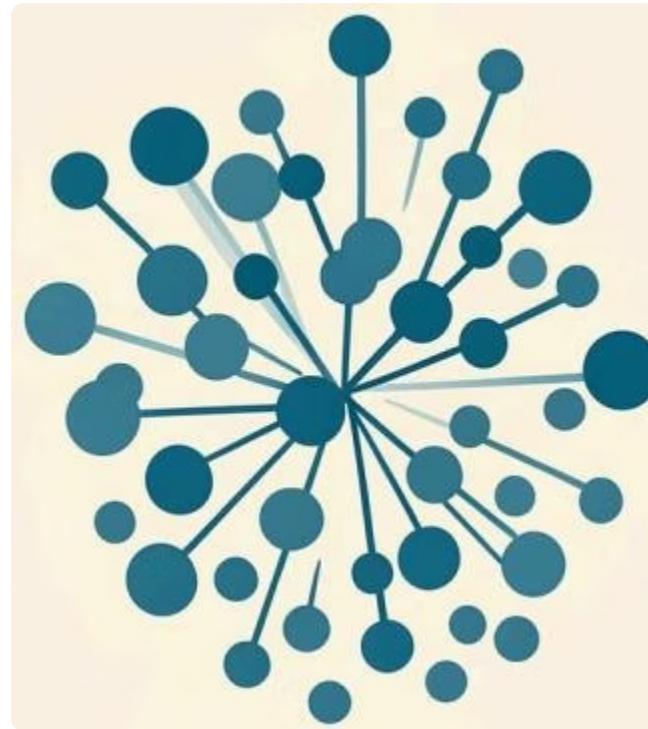


Average Recency

49 days

K-Means Clustering Technique

We applied K-Means Clustering to segment customers into 4 distinct groups based on Income and Total Spending.





Customer Segments Distribution



Cluster 0

578 customers



Cluster 1

510 customers



Cluster 2

337 customers



Cluster 3

596 customers

Detailed Segment Breakdown



11
Laptop, Phone, Camera, Smartwatch
Gaming, Travel, Fitness, Music, Books
Food delivery, E-commerce, Social media

03
Laptop, Phone, Camera, Smartwatch
Gaming, Travel, Fitness, Music, Books
Food delivery, E-commerce, Social media



75
Laptop, Phone, Camera, Smartwatch
Gaming, Travel, Fitness, Music, Books
Food delivery, E-commerce, Social media

33
Laptop, Phone, Camera, Smartwatch
Gaming, Travel, Fitness, Music, Books
Food delivery, E-commerce, Social media

1

Cluster 0

Low Income (₹26,604), Low Spending (₹61)

2

Cluster 1

High Income (₹66,447), High Spending (₹857)

3

Cluster 2

Very High Income (₹79,062), Premium Customers (₹1,569)

4

Cluster 3

Medium Income (₹47,903), Moderate Spending (₹231)

Key Insights & Strategic Actions



Highest Revenue

Cluster 2 generates the most revenue.



Valuable Customers

Premium customers (Cluster 2) are fewer but highly valuable.



Lowest Contribution

Cluster 0 contributes the least revenue.



Moderate Spenders

Majority of customers are moderate spenders (Cluster 3).



Cluster 2

Loyalty rewards



Cluster 1

Premium offers



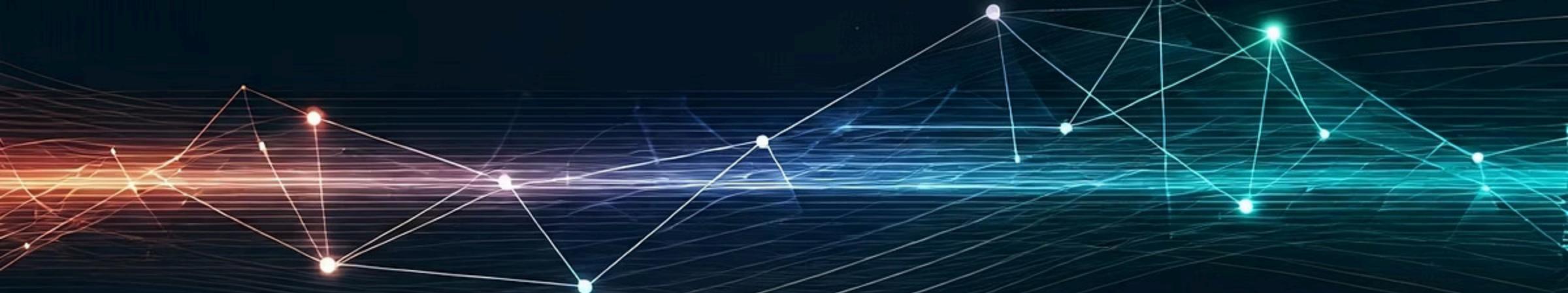
Cluster 0

Discount campaigns

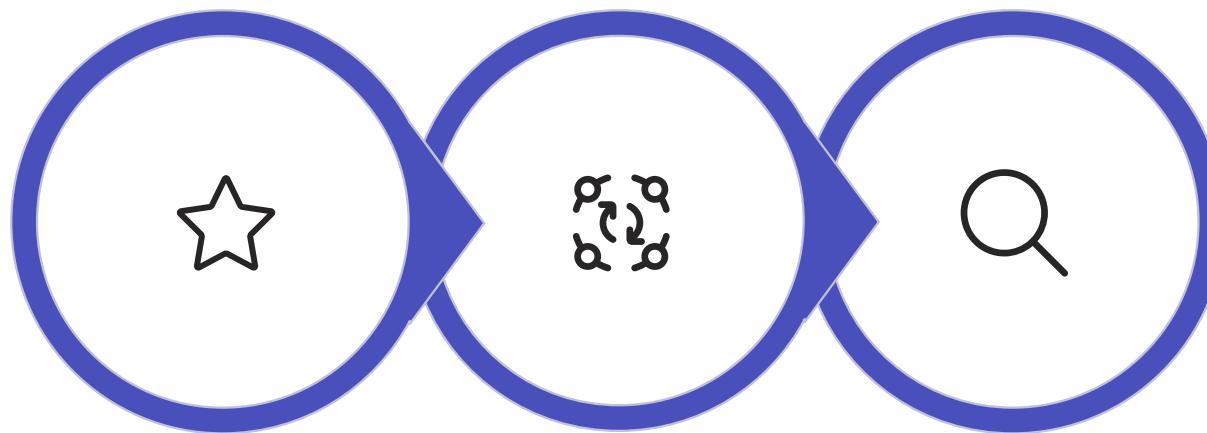


Cluster 3

Engagement strategies



Conclusion



Applied K-Means

Found 4 Groups

Generated Insights

Successfully segmented customers, providing actionable insights for targeted marketing and improved business outcomes.