

Customer Segmentation Report

Zeotap - Data Science Intern

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1. Consistent Clustering Metrics

The analysis using the Elbow Method, Silhouette Scores, and Davies-Bouldin Index (DBI) confirms that four clusters provide the most meaningful segmentation of customers. The DBI score of **0.8595** indicates well-separated clusters, while the Silhouette Score of **0.3772** reflects moderate cluster cohesion. These metrics suggest that the clustering algorithm has effectively identified distinct customer groups based on transaction behavior. To further enhance segmentation, incorporating additional customer attributes (e.g., demographics, purchase preferences) could refine the clusters. This will ensure the insights align closely with business objectives, paving the way for more targeted marketing and operational strategies.

2. High-Value Customer Group Identified

Cluster 0 represents high-value customers with a high total transaction value and moderate transaction frequency. These customers contribute significantly to revenue with fewer but larger purchases. Retaining this segment is critical for sustained profitability. Offering exclusive loyalty programs, personalized offers, and high-end product recommendations can increase engagement. Moreover, regular follow-ups to ensure customer satisfaction and gathering feedback on their preferences can enhance loyalty. By nurturing this segment, the business can secure a stable revenue base and encourage repeat purchases, turning these high-value customers into brand advocates.

3. Opportunities to Engage Regular Buyers

Cluster 1 includes regular customers who make frequent purchases of moderate value. This segment represents a steady revenue stream and is crucial for maintaining business consistency. Targeted promotions, such as “frequent buyer rewards” or subscription-based models, can deepen customer loyalty. Analyzing their purchase patterns can help identify upselling opportunities or introduce curated product bundles. Engaging this group with timely offers, such as discounts on frequently purchased items or priority service perks, can drive higher satisfaction. Strengthening relationships with this segment ensures a consistent and dependable customer base.

4. Nurturing Low-Value Customers

Cluster 2 consists of customers with low total transaction values but moderate transaction frequency. While their individual contributions to revenue are smaller, collectively, they represent a potential growth opportunity. Introducing incentives like low-cost membership programs or offering discounts on larger purchases can encourage this group to spend more. Additionally, educating them about higher-value products through personalized recommendations can gradually increase their transaction value. By

focusing on incremental growth for this segment, the business can expand its customer base and revenue without significant acquisition costs.

5. Understanding Occasional Buyers

Cluster 3 represents occasional customers with moderate total transaction values and low transaction frequency. These customers are likely drawn to the business for specific needs or products. To increase engagement, the company can implement reactivation campaigns, such as sending reminders, limited-time offers, or product restocks. Providing incentives for repeat purchases, like discounts on second orders, can also boost their frequency. Building trust through excellent service and post-purchase follow-ups can help convert these occasional buyers into loyal customers, contributing to long-term revenue stability.

