

# CLUSTER SEGMENT ANALYSIS REPORT

Elaborate Description of 2 cluster segments constructed by K-Means  
on Dataset Reduced to 3-dimensions using PCA.

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CLUSTER 0

Common  
Customers

CLUSTER 1

Premium  
Customers

## CLUSTER 0

### Cluster 0 : Common Customers

1) Mostly the TOTAL TRANSACTION AMOUNTS are smaller. 75% quantile of TOTAL\_TRANSACTION\_AMOUNTS of this cluster equates to just an AVERAGE TRANSACTION AMOUNT From CLUSTER 1.

But the upper limit outlier transactions are at par with top transactions of CLUSTER 1 although lesser in frequency when compared to CLUSTER 1.

2) Far Lower in terms of Credit-Limit.

3) Age :Wider Customer Age spread although most of the customer are in age bracket of 30-60.

4) Months on Book : Anywhere between 10 months-60 months

5) Dependents : Highly Variable but mostly 2-3 dependents for an average customer.

6) Education : A high proportion of customers are Graduates and High-School passouts.

7) Income\_category : Mostly earn less than \$40K or earn in the range of \$ 40K -\$60K.

This corresponds to Lower-to Middle Income Group

8) Total relationships : Customers in this category are highly probable 3-7 relationships with the credit card company.

These are customers involved in a lot of other services of the company.

9) Average Utilization Ratio : For lower spending customers mostly it is 0 (zero credit utilization) or nearly 0.6. Hence these customers have LOW CREDIT SENSE and SCORE.  
Among the high spending customers it is in the range of 0.3-0.4 (better).

10) Attrition Flag

Most of the attrited customers are from this cluster with total transactions amount less than \$5K for most cases and nearly \$8K-\$10K for a few cases.

Among existing customers from this cluster typical transaction amounts are nearly \$5K and in some case \$15K also.

11) Gender

Nearly all the females lie in this cluster and typically have total\_transaction values under \$5K and \$15K at a few instances.

The Males lying in this cluster exhibit nearly the same characteristics as the females in this cluster.

12) Revolving Balance : For low-spending customers it is typically either 0 or \$1500. And it was nearly \$1500 -\$2000 for high spending customers(which are exclusively attrited female in this cluster).

13) Months inactive : Mostly 3 months but may be higher than that.

14) Avg Open\_to\_Buy: Mostly lesser than \$5K for both high-spenders and low-spenders and strictly less than \$20K.

15) Total Amount Change ratio : mostly 0.7 ; in range of 0.3-1.17. High spenders maintain it at nearly 0.7.

Quarter-4 is likely to have slightly lesser amount as compared to Quarter-1 in most cases but some customers with lower transaction amounts spend more in Qtr-4.

16) Higher Attrition rate in this Cluster : 16.5% from this cluster are Attrited\_customers.

17) Marital Status : Divorcees spend nearly \$5K- \$7K(max). Whereas Single and Married low spending customers spend \$5K but others may spend as high as \$15K.

## CLUSTER 1

### Cluster No. 1: Premium Customers

- 1) **Higher** in terms of **Total Transaction amount** in the credit cards.
- 2) **Way Higher** in terms of **Credit-Limit**.

These are **Exclusive members who are given particularly high credit limit**.

- 3) Age-Group : 30-60 years with a majority of customers in **middle-ages(40-50)**.
- 4) Customers who have **20-50 months** on book. Typically Higher Transaction limits
- 5) Dependents : Mostly 2-3 dependents on the customer akin to Cluster no. 0.
- 6) Education level : Mostly **Graduates** or **High-School graduates** akin to Cluster 0.
- 7) Income-Category: Mostly customers earn **\$120K+** followed by customers in **\$80K-\$120K** bracket. **Upper-Mid to High Earning Customers**.
- 8) No. of Relationships with company : Varies but mostly **2-3**. **Involved in lesser no. of services** offered by the company.
- 9) Utilization Ratio typically lower. Mostly **10 % utilization ratio** but strictly less than 20%.  
This corresponds to people with **high credit score**.
- 10) These are **mostly Existing Customers**; mostly spend **\$3K-\$5K** but there is also a **smaller proportion of big spenders who spend \$15K+**
- 11) **Lower Attrition rate in this Cluster** : Only **12.96 %** from this cluster are Attrited\_customers.
- 12) Gender Ratio : **Females constitute only 9.45%** of this Cluster. Hence **90+ % are males**
- 14) Revolving Balance: Average customer or even the High-spenders **either have no Revolving balance** OR Revolving balance in the range : **\$500 -\$1500**
- 15) Months inactive : Customers are mostly likely to be inactive for **1-3 months. Not more than that**
- 16) Average Open to Buy ratio: Avg(Current Balance - Credit-Limit)  
**Average Customers have this ratio greater than \$10K**. Only **Top Spenders** have avg. open to buy ratio **less than \$10K**.
- 17) Total Amount Change ratio (Q4/Q1): mostly 0.6 ; in range of **0.4-1.0**.  
Quarter-4 is likely to have slightly lesser transaction amount as compared to Quarter-1.
- 18) Marital Status : **Divorcees spend at max \$5K**.  
Whereas **Single and Married** low spending customers spend **\$5K** but others **may spend as high as \$17K**.  
**Single and Married customers** transaction **distribution** is nearly **identical**.