

# **BUSINESS PROPOSAL**

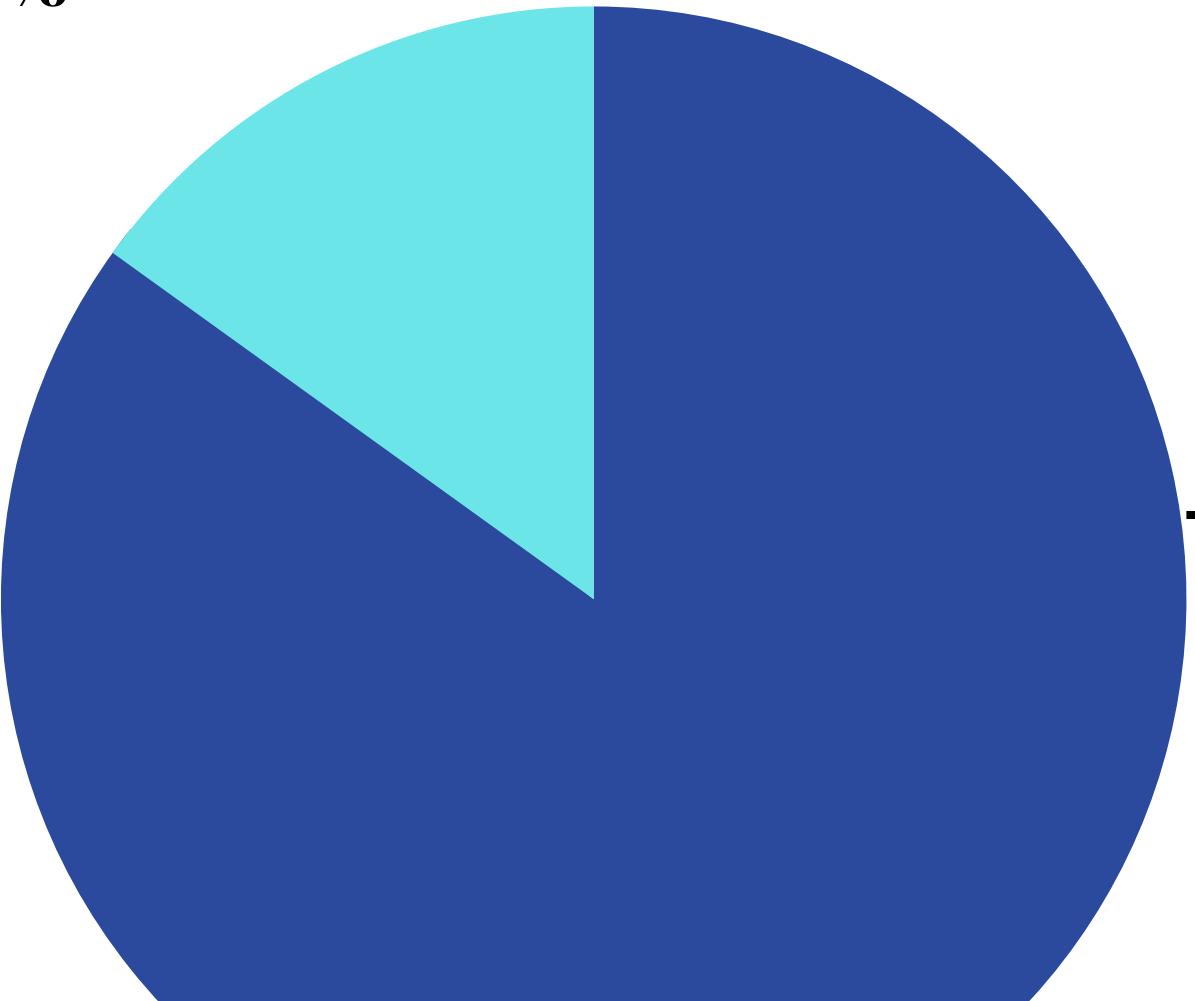
**SUPERMARKET**



# CONCLUSION

**Non-Member**

**15.1%**



**Member**

**84.9%**

MEMBERSHIP (Total Customer)

**3,439**

MEMBERSHIP (Total Spending)

**85%**

Total spending

**949,467.93\$**

Segmentation

**4 Group**



# Agenda

Analysis Objectives

Analysis Specification, Constraints, and Assumptions

Customer insight

- Behavior of customer by segmentation

# Analysis Objectives

- To identify customer behavioural segmentation, in addition to existing customer type
- To provide product class insights, relevant customer insights



# Features

1

## CUSTOMERS CODE

*Distinct Customers code*

2

## STARTED DATE

*first impression to purchase*

3

## LAST DATE

*Latest purchase*

4

## TOTAL SPEND

*Total Spending per Customer Code*

5

## MEAN TIME BETAWEEN PURCHASE

*Started date - Last date then divided by Purchase Frequency*



# Features

6

## LIFETIME

*Today Date(July 2008) - Registered date*

7

## CLTV

*Lifetime multiplied by Average Usage per User*

8

## AVERAGE SPEND

*Average spending per basket per User*

9

## CUSTOMER PRICE\_SENSITIVITY

*customers response on price*

10

## CUSTOMER LIFESTAGE

*Segment customers by Thier's age*



# **Customer Segmentation**

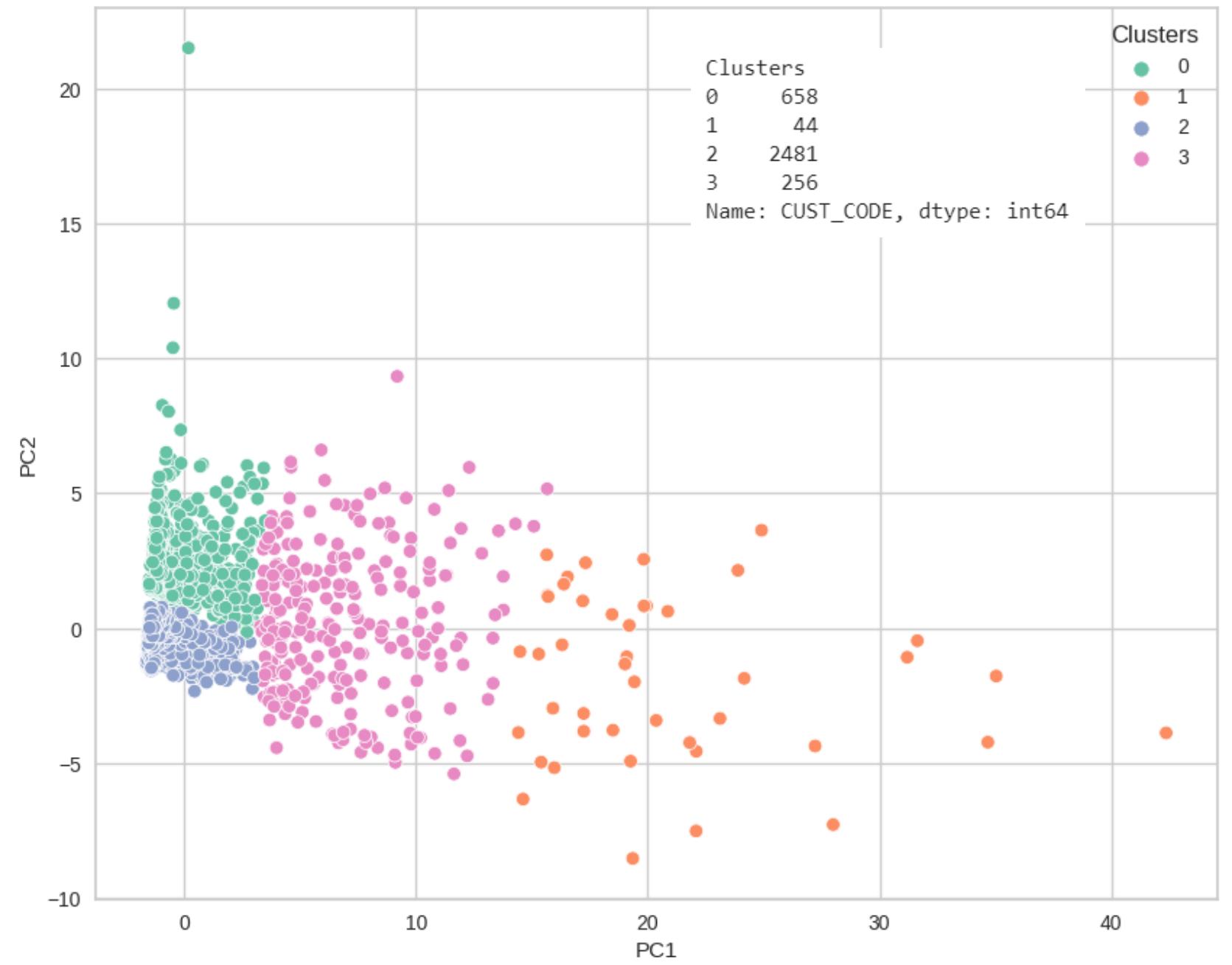


# CUSTOMER SEGMENTATION

```
df_features.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 3439 entries, 0 to 3438
Data columns (total 23 columns):
 #   Column
 --- 
 0   FQ
 1   Total_Spend
 2   MTBP
 3   Life_Time
 4   ARPU
 5   CLTV
 6   BASKET_SIZE_L
 7   BASKET_SIZE_M
 8   BASKET_SIZE_S
 9   BASKET_PRICE_SENSITIVITY_LA
 10  BASKET_PRICE_SENSITIVITY_MM
 11  BASKET_PRICE_SENSITIVITY_UM
 12  BASKET_PRICE_SENSITIVITY_XX
 13  BASKET_TYPE_Small_Shop
 14  BASKET_TYPE_Top_Up
 15  BASKET_TYPE_Full_Shop
 16  BASKET_TYPE_XX
 17  BASKET_MISSION_Fresh
 18  BASKET_MISSION_Grocery
 19  BASKET_MISSION_Mixed
 20  BASKET_MISSION_Non_Food
 21  MOD_CUST_LIFESTAGE_CD
 22  MOD_CUST_PRICE_SENSITIVITY_CD
dtypes: float64(19), int64(4)
```

```
For n_clusters = 2 The average silhouette_score is: 0.7046745507729711
For n_clusters = 3 The average silhouette_score is: 0.5508234596213862
For n_clusters = 4 The average silhouette_score is: 0.15519880681344403
For n_clusters = 5 The average silhouette_score is: 0.1553745725211303
For n_clusters = 6 The average silhouette_score is: 0.1499809224705013
For n_clusters = 7 The average silhouette_score is: 0.14938997132733178
```



# CUSTOMER SEGMENTATION

- Clustering by K-Mean model with 10 features, we acquire 4 total clusters in total.

1

## CLUSTER 0 : VIP

*High CLTV,frequency, Large Basket size*

2

## CLUSTER 1 : OLD & LOYAL

*High frequency, elder community*

3

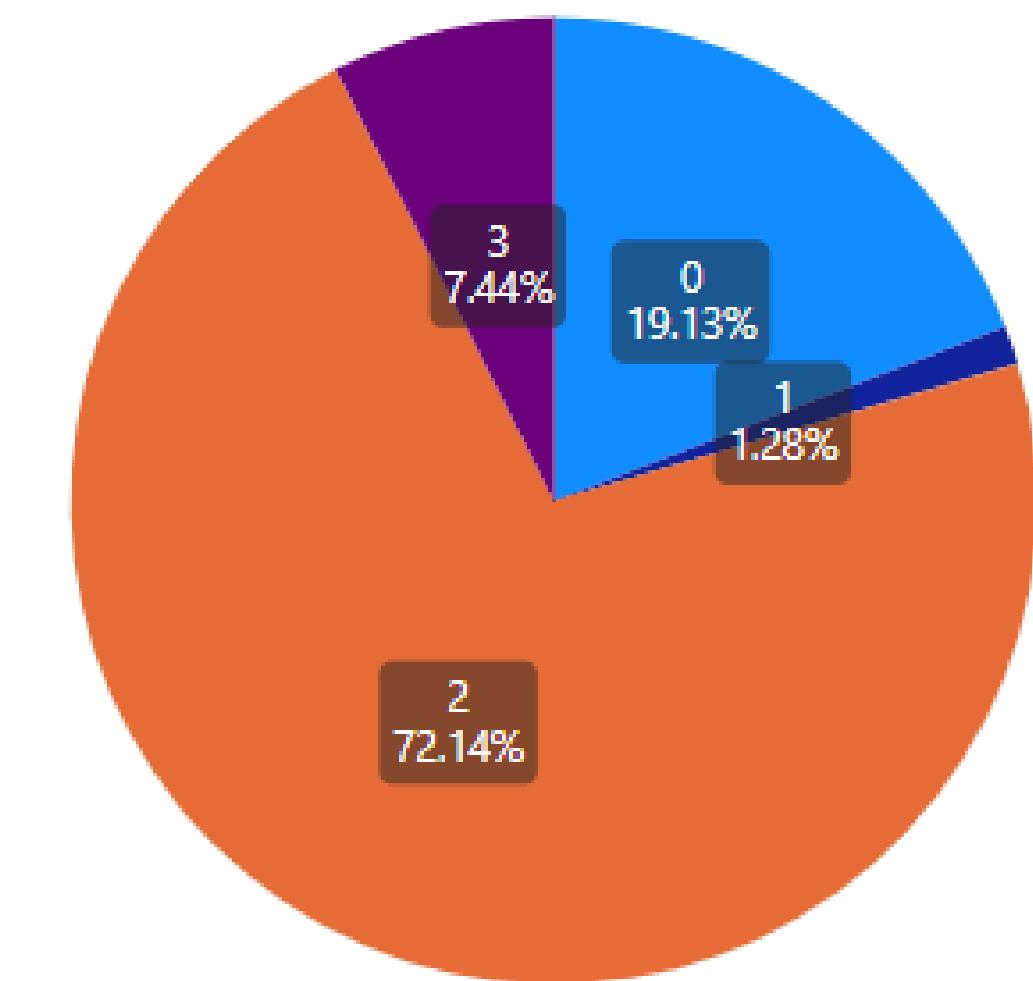
## CLUSTER 2 : FREQUENCE BUYER

*High frequency, Mid-Small contribution*

4

## CLUSTER 3 : ROUTINE SHOPPER

*low frequency with Large basket*



## CLUSTER 0- VIP

No. Customers	
658	
Avg Lifetime	CLTV
675 days	20,817\$
Avg Basket Size	Mean time btw purchase
33\$	55days

### Narritive

- Highest average basket size
- Highest Customer Life Time value
- Longest Mean Time btw Purchase

### Recommendation

- Reduce Mean time btw Purchase by Introduce Loyalty program.

### Next Steps

- Find customer insight for interested product to be use in Loyalty program

# CLUSTER 1 - OLD & LOYAL

No. Customers	44
Avg Lifetime	CLTV
814 days	9,125 \$
Avg Basket Size	Mean time btw purchase
11 \$	3 days

## Narritive

- Least number of customers
- Highest frequency
- Loyalty customers
- Mostly older adults

## Recommendation

- Engage campaign on Fresh product to up-sell, as well find the cross selling opportunity to other basket type

Avg. Basket mission Fresh	Avg. Basket mission Grocery	Avg. Basket mission Mix	Avg. Basket mission Non food
166.23	49.25	76.09	14.61
<b>166.23</b>	<b>49.25</b>	<b>76.09</b>	<b>14.61</b>

## Next Steps

- Find insight product that customer interested for cross-selling

## CLUSTER 2 - FREQUENCY BUYER

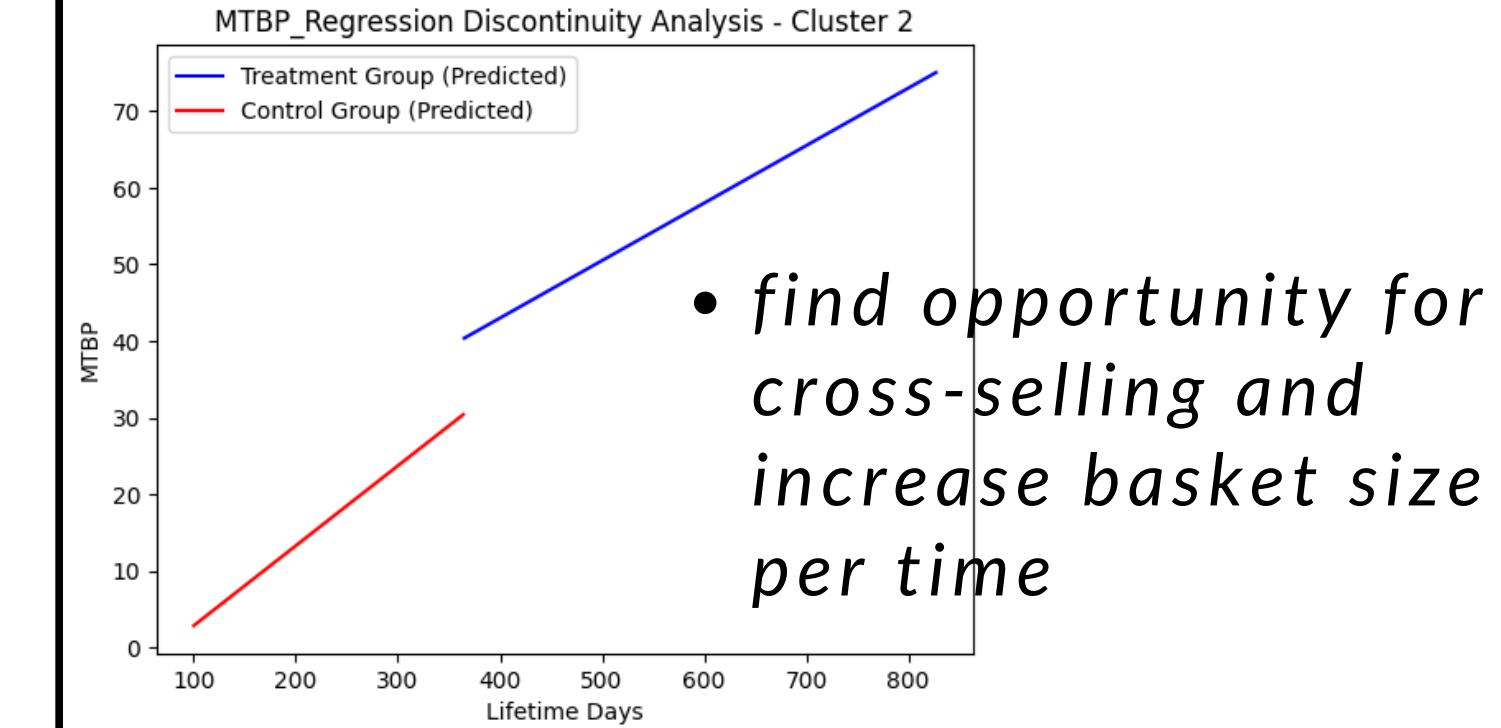
No. Customers	
2,481	
Avg Lifetime	CLTV
530 days	3,610 \$
Avg Basket Size	Mean time btw purchase
7 \$	49 days

### Highlights:

- 72% of total customers. Most are other customers (33% of total customers)
- Low contribution to total revenue
- Low frequency and small basket
- Like to buy fresh food

### Recommendation

- Improved basket size



### Next Steps

- Investigate on customer profile of who they are
- product dimensions to find opportunity for cross-selling and increase basket size per time

# CLUSTER 3 - ROUTINE SHOPPER

No. Customers	256
Avg Lifetime	CLTV
793 days	13,451 \$

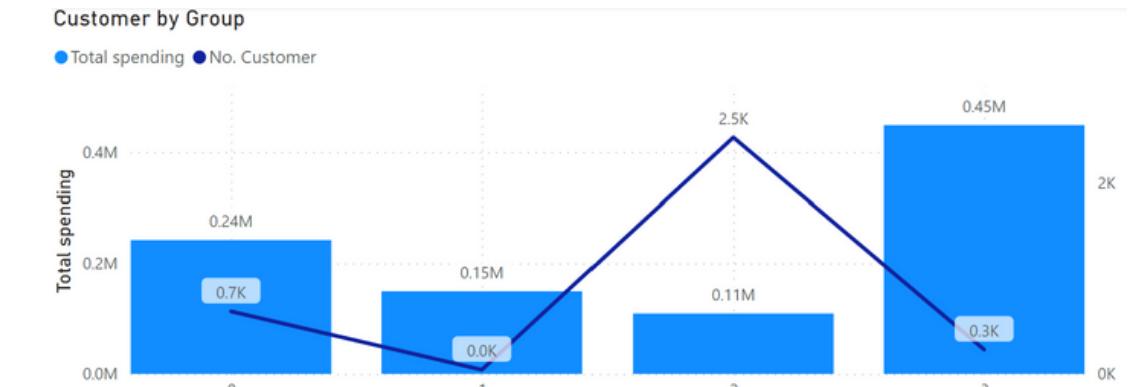
Avg Basket Size	Mean time btw purchase
17 \$	8 days

## Narritive

- Contribute largest portion of total spending (47%) but less no. of customer
- High life time value and basket size
- Mean time between purchase 8 days

## Recommendation

- Expand customer by pulling from group 0 or 1 to this group



## Next Steps

- Investigate most preference and price sensitivity product to find out opportunity for cross-selling and up-selling

# THANK YOU



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