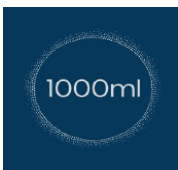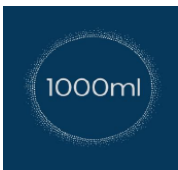# 1000ml Insurance

Customer Segmentation

Presented by: Emily Canete
4.13.2020

- Background

- Objectives

- Data Review

- Customer Groups

- Recommendations

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Background

There is a need for 1000ml Insurance to update their customer segments due to the ever changing profile of their customers, their products and the competitive landscape.
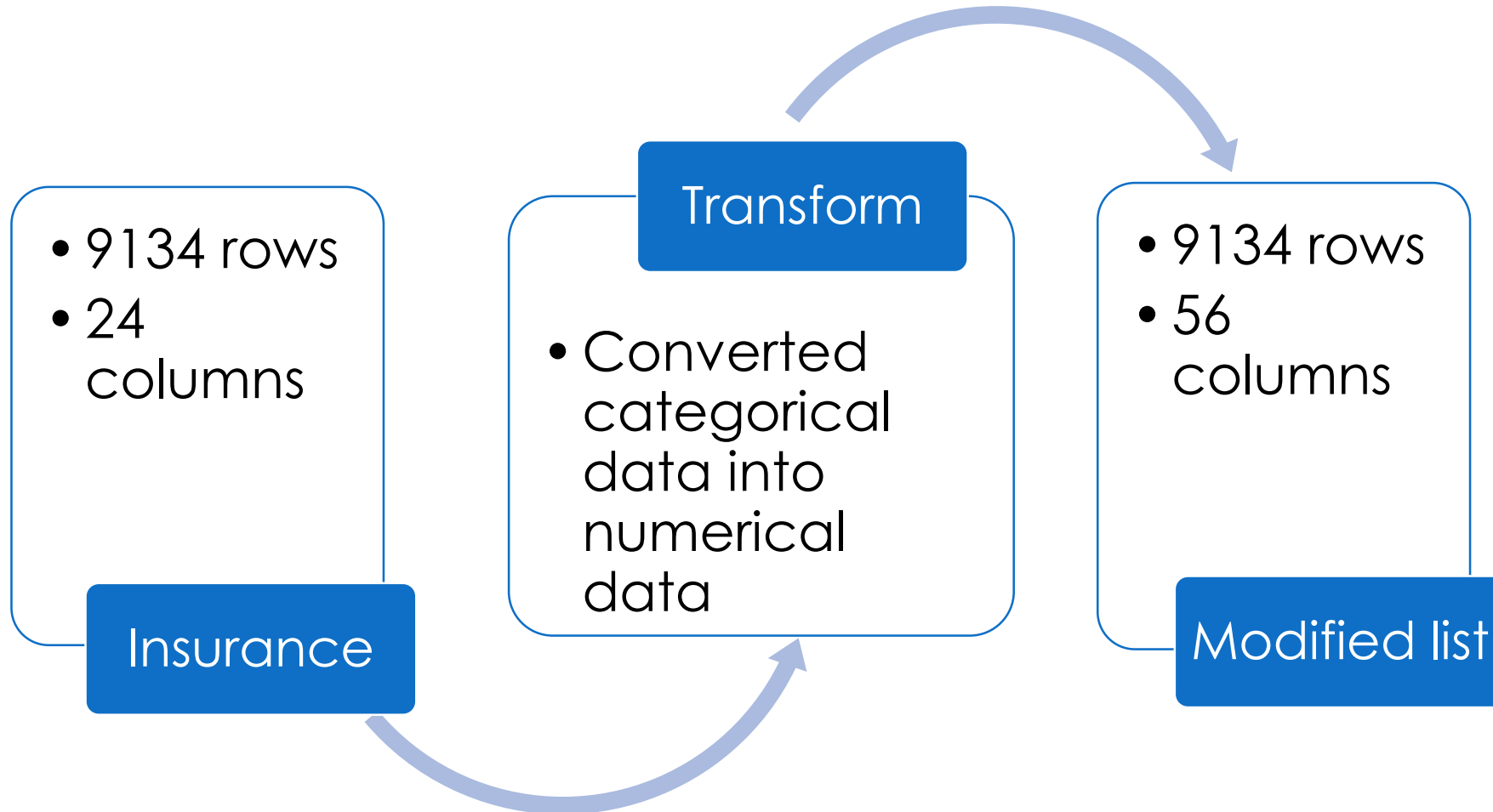
Objectives

- Create a customer segments list using the company's customer data.
- Report any trends, patterns, customer behaviors or interesting facts about the data.
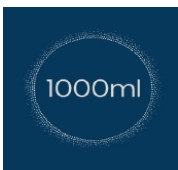
Data Review

Insurance
- 9134 rows
- 24 columns

Transform
- Converted categorical data into numerical data

Modified list
- 9134 rows
- 56 columns

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Dataset variable combinations

- All variables
- All numerical variables
- Geographic variables
- Demographic variables
- Behavioral variables
- Psychographic variables
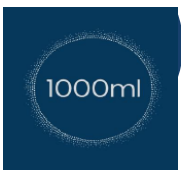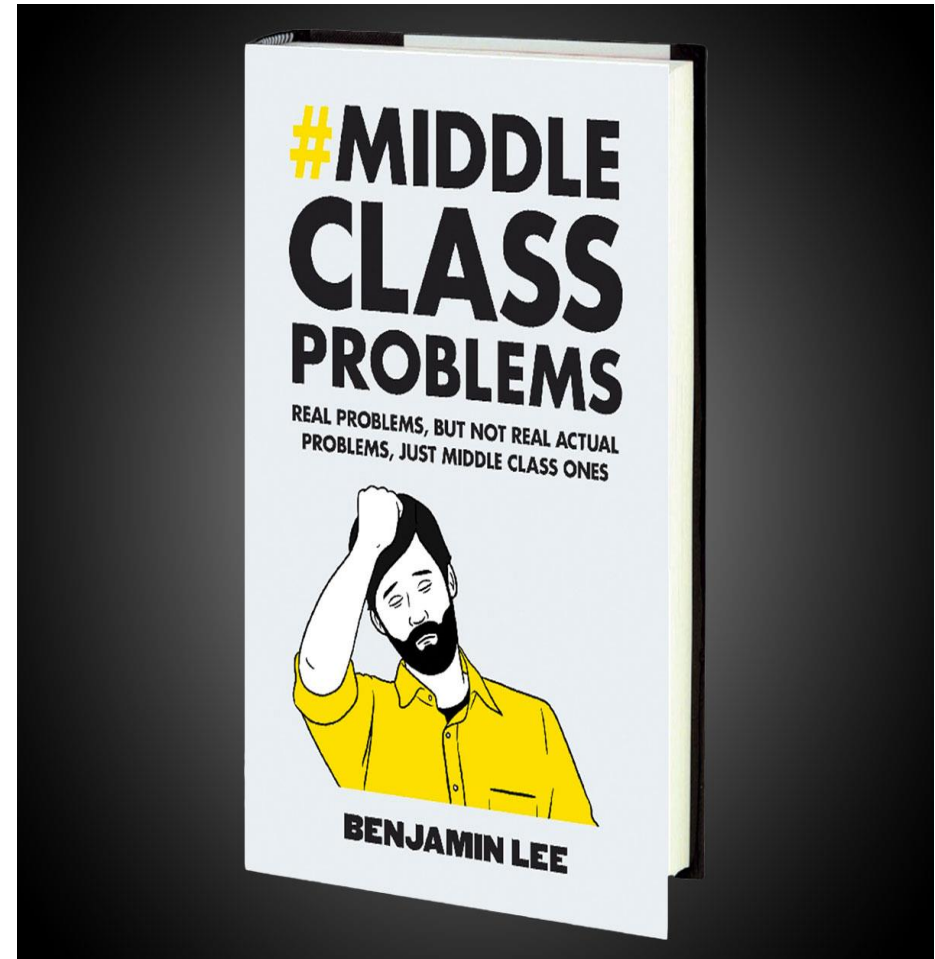
Different Walks of Life*

1. Copper 'Common middle class'

2. Bronze 'Suburban jobseeker'

3. Silver 'Low income loyalist'

4. Platinum 'Low income VIP'

5. Bronze 'Low income whiner'

6. Gold 'Premium low income VIP'
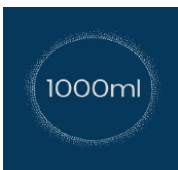
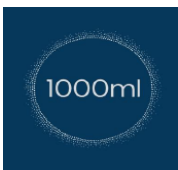*Ordered largest group population to the smallest

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Copper Common Middle Class

- Almost all are employed

- $61K average income (highest)

- $5.9K average CLV (lowest)

Bronze Suburban Jobseeker

- Mostly suburban dwellers

- Majority are unemployed

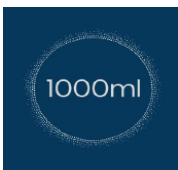- $9.4K average income (lowest)

- $6K average CLV

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Silver Low Income Loyalist

- 7 average number of policies (highest)
- $37.7K average income
- $6.6K average CLV

Platinum Low Income VIP

- $40K average income

- $24.5K average CLV (highest)

- $104 average monthly premium (2nd highest)
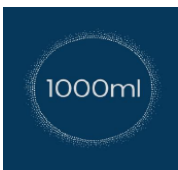

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Bronze Low Income Whiner

- 3 average open complaints (highest)
- $39.7K average income
- $6.2K average CLV

Gold Premium Low Income VIP

- Majority own luxury vehicles

- $30K average income

- $14K average CLV

- $193 average monthly premium (highest)

- $1.2K average total claim (highest)

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Other Interesting Facts

- Overall average CLV, income and claim amount is about the same per state
- Rural/urban average income is 2x the suburban income
- Luxury car owners have the highest CLV
- Renewal offers are mostly rejected by customers
- Average monthly premium and claim amount are about the same per policy and policy type

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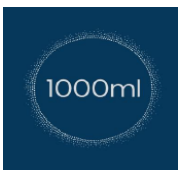
Recommendations

- Find ways to increase CLV (profitability) especially for the copper common middle class as it's the largest group
- Encourage customer loyalty
- Learn from what's doing well with other customer groups
- Review effectiveness of renewal offers

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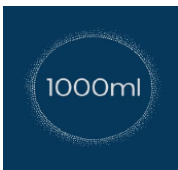
Appendices

Model: KPrototype

- All variables
- Clusters: 6 (optimal)
- Method for initialization: 'Cao'
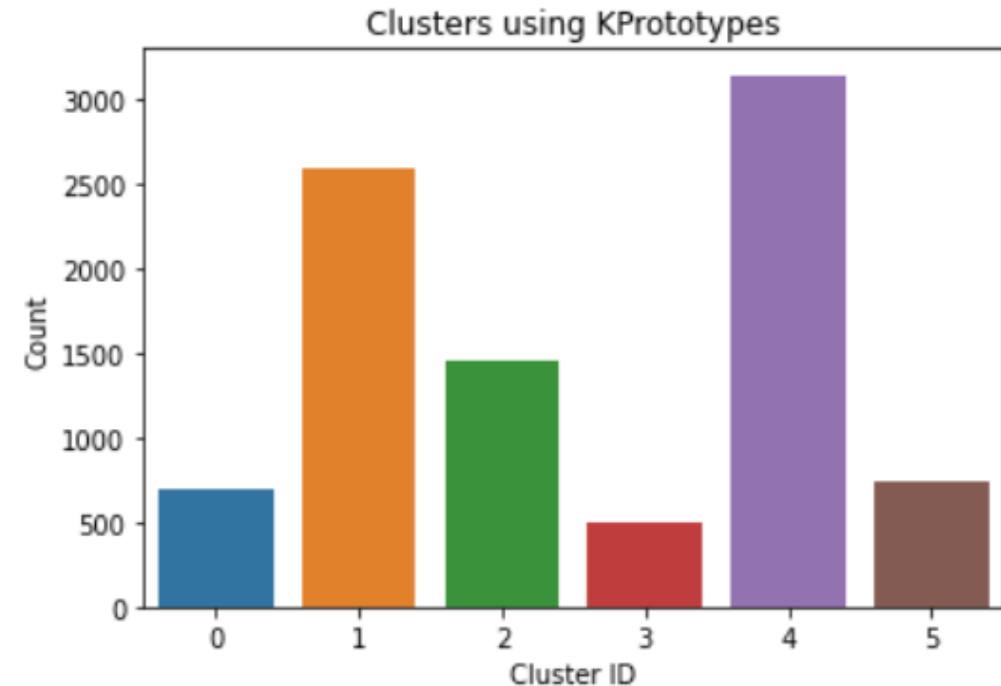
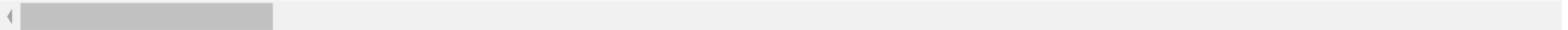Clusters using KPrototypes

Legend:
0 – Bronze Low Income Whiner
1 – Bronze Suburban Jobseeker
2 – Silver Low Income Loyalist
3 – Gold Premium Low Income VIP
4 - Copper Common Middle class
5 - Platinum Low Income VIP

Model: Kprototype Clusters

cluster_id_all	Customer_Lifetime_Value	Income	Monthly_Premium_Auto	Months_Since_Last_Claim	Months_Since_Policy_Inception	Number_of_Open_Complaints	Number_of_Policies
0	6194.753210	39709.881598	85.699001	15.186876	48.881598	3.035663	2.871612
1	5993.126733	9380.626348	87.890216	15.155624	48.407935	0.147535	2.008860
2	6638.566414	37725.376462	85.991053	15.205781	45.835513	0.179628	7.364074
3	14050.655378	30010.197211	192.613546	16.029880	48.764940	0.332669	3.085657
4	5862.838053	61182.290487	84.330894	14.825008	48.736239	0.128540	1.948457
5	24479.470907	40051.077131	103.569689	15.115020	47.133965	0.227334	2.018945

Legend:
0 – Bronze Low Income Whiner
1 – Bronze Suburban Jobseeker

2 – Silver Low Income Loyalist
3 – Gold Premium Low Income VIP
4 - Copper Common Middle class

5 - Platinum Low Income VIP

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Customer Segmentation Code

https://github.com/mecan80/DS_projects/blob/master/Insurance_Cust_Segmentation.ipynb

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