



MARKET SEGMENTATION FOR SENSES COFFEE COMPANY

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Agenda



Project goal and objectives



Data sources



Data acquisition and cleaning



Basis of Senses Company market segmentation



Using the K-Means clustering and agglomerative clustering algorithms



Results



Recommendations for Senses management



Conclusion

Project goal

This project intends to provide Senses Coffee company's management and investors with insightful data that assist them in starting their new business in the largest 100 municipalities in Canada, by segmenting the Canada market into three segments, each segment will be operated by an operation office. Total of three operation offices will be opened in Canada to run the business. Senses Coffee company produce three coffee brands, each brand is targeting a dedicated market, i.e, hotels, bakeries, and grocery stores.



Elite is fine coffee suitable for hotels markets,



Instance is average coffee that is suitable from taste and price for Bakeries markets,



Chill is an iced coffee that is very popular with good price and suitable for Grocery stores markets.

Project Objectives

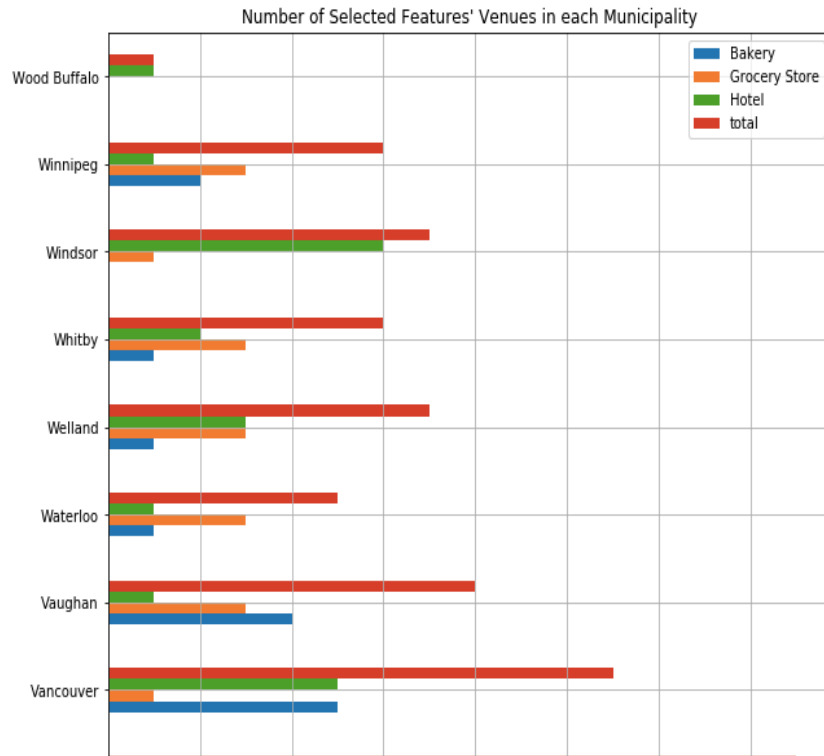
- Provide the company management with the needed information that helps them decide which municipality will be managed by which operation office.
- Provide the operation offices with the size of the new potential market in each market segment, and this will help them in preparing their new business plan
- Provide the information that helps Human Capital Department in deciding on the number of employees needed to operate each operation office.

Data Sources

No	Dataset	Description	Data Source
1	List of the largest 100 municipalities in Canada	Data fields include Municipalities, Province, Growth rate and population.	I scraped the following Wikipedia site to obtain this data https://en.wikipedia.org/wiki/List_of_the_100_largest_municipalities_in_Canada_by_population
2	Geo-Location data of each municipality in Canada	Data fields include the longitude and latitude coordinates of each municipality.	I obtained this data using the Python geocoding web services API.
3	Potential customers' data	Data fields include the venue name, category, longitude and latitude.	I obtained this data by exploring the municipality's venues using the Foursquare API
4	Canada map GIS data	Data of Canada with the largest 100 municipalities.	I obtained this data using the Folium API

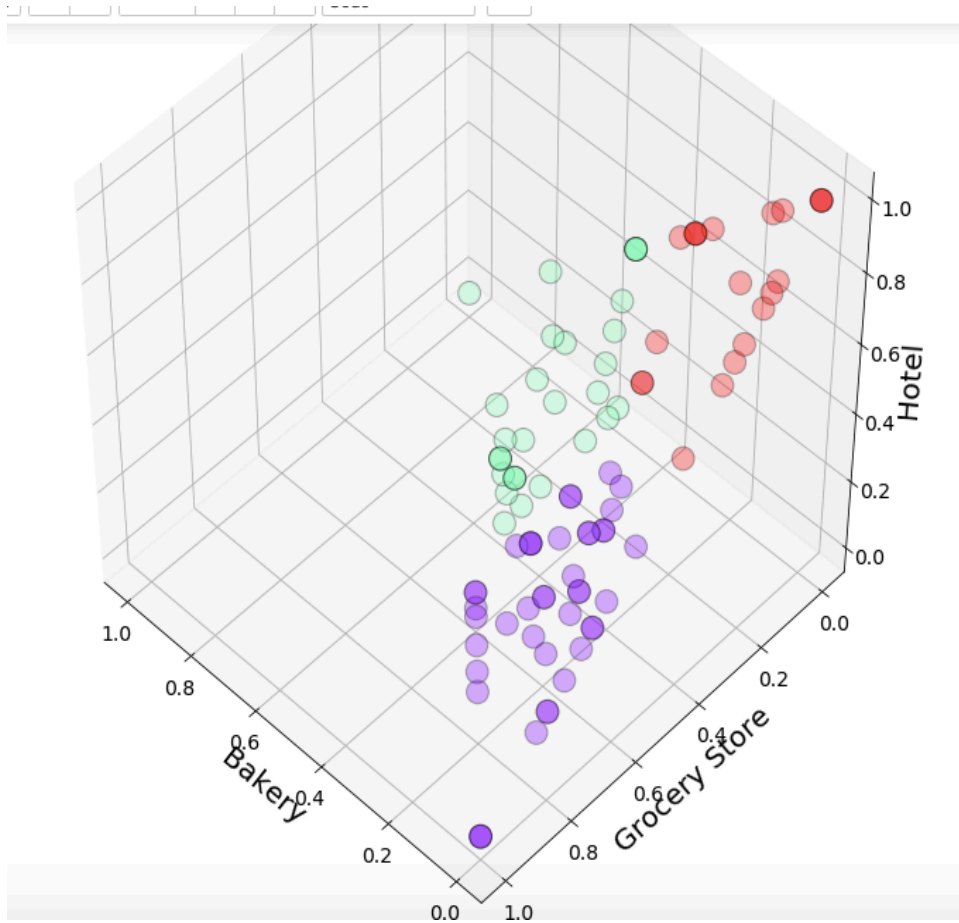
Data Acquisition and cleansing

No	Dataset	Dataset Type	Description	Number of records
1	Canadian municipalities raw data	Master data	Raw data of the 100 largest canadian municipalities	100
2	Canada municipalities used	Master data	Data of municipalities that have venue information in the Foursquare daabase	100
3	Canadian municipalities' venues	Original venues operational data	Data if the venues belonging to the 100 municipalities in Canada	8719
4	Selected Canadian municipalities' venues	Features data	Data after taking out the NAN values and duplicated data, and filtering out all venues except the targeted markets (Hotels, Grocery Stores, Bakeries)	761



Segmenting Senses Canadian municipalities market

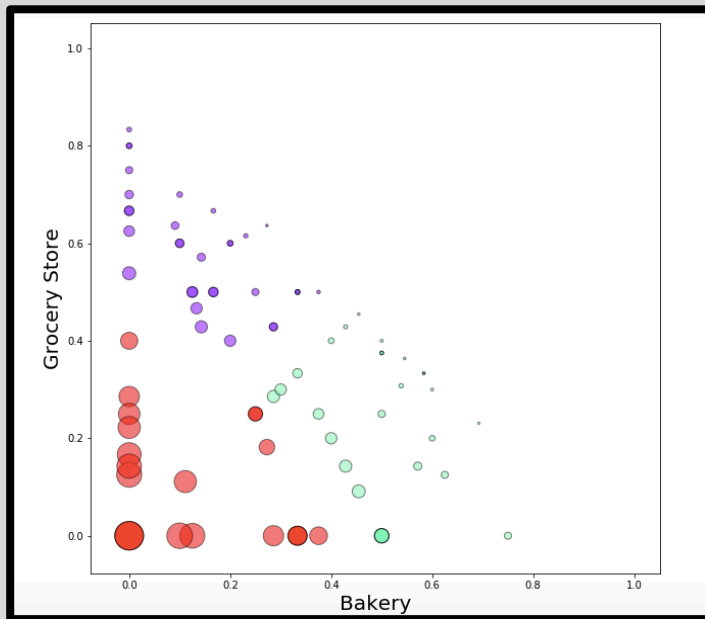
Segmenting based on the frequency of occurrence of hotels, bakeries, and grocery stores.



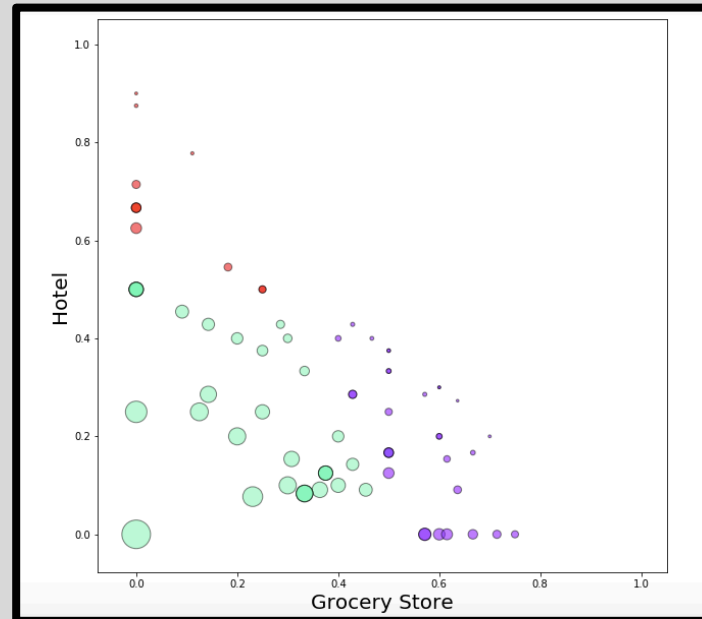
Using the K-Means clustering and agglomerative clustering algorithms

Same results were produced by Both K-Means and Agglomerative Clustering algorithms.

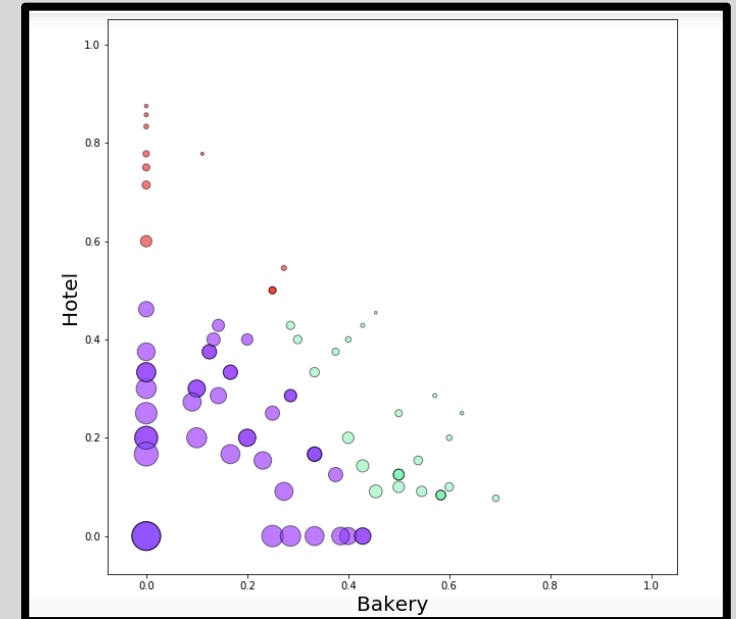
K-MEANS clustering results



**Distribution of municipalities
based on the frequency of
occurrence of
Bakery and Grocery Store venues**

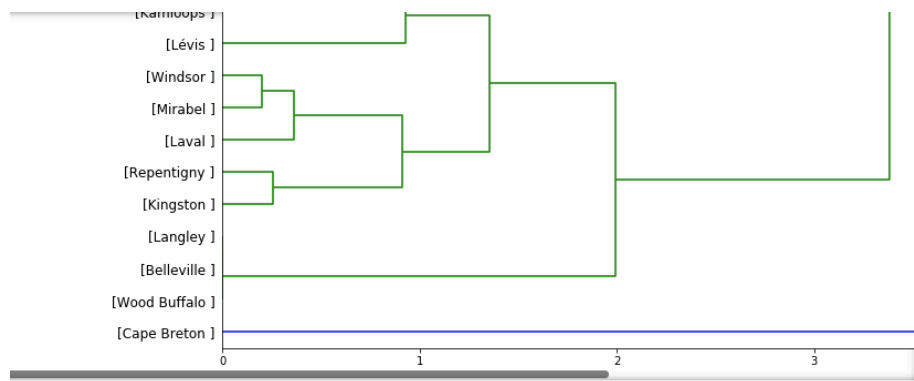


**Distribution of municipalities
based on the frequency of
occurrence of
Grocery Store and Hotel venues**



**Distribution of municipalities
based on the frequency of
occurrence of
Bakery and Hotel venues**

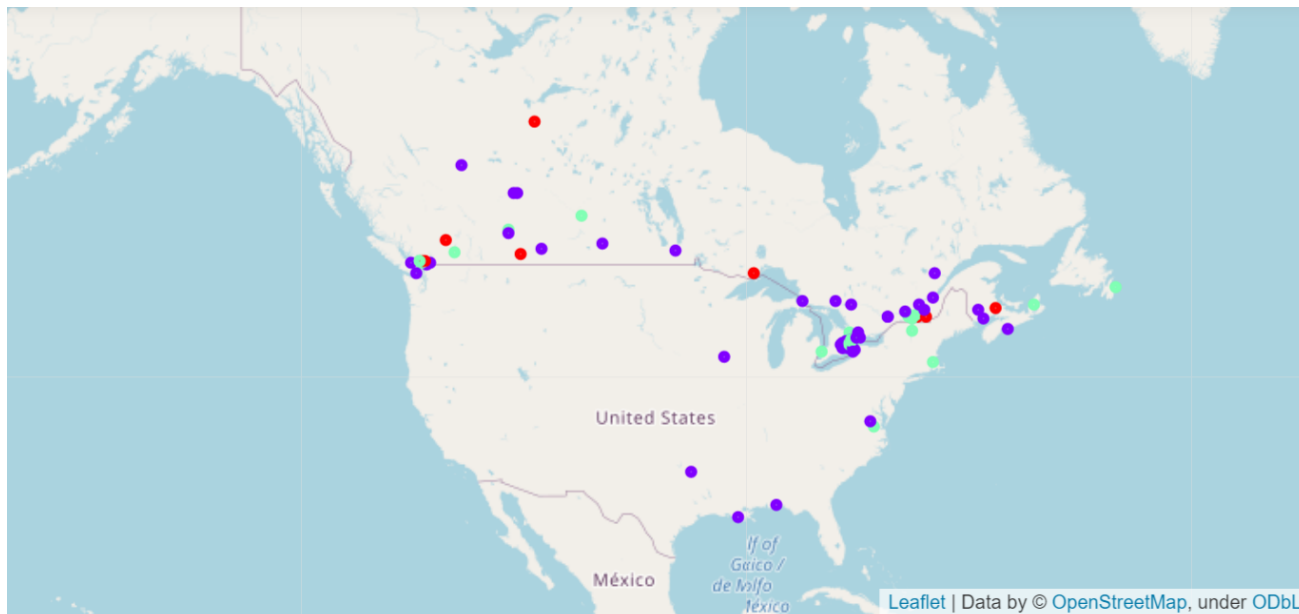
Agglomerative clustering algorithms results



A Dendrogram generated by the hierarchical agglomerative clustering algorithm showing the distribution of Canadian municipalities on the three market segments.

RESULTS

Distribution of Canadian municipalities on the three market segments

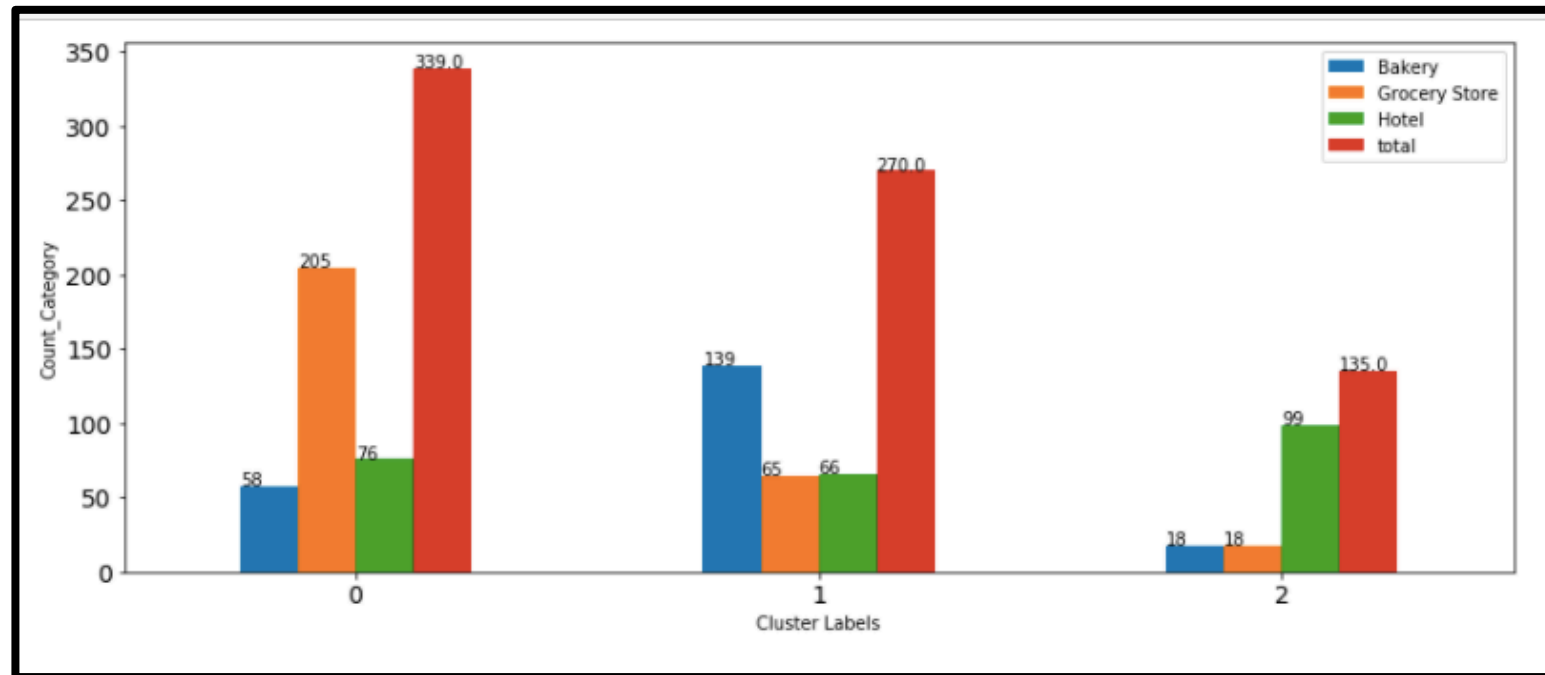


● Cluster 0 (Market Segment 1) ● Cluster 1 (Market Segment 2) ● Cluster 2 (Market Segment 3)

Number of Bakery, Grocery Stores & Hotels in each market segment

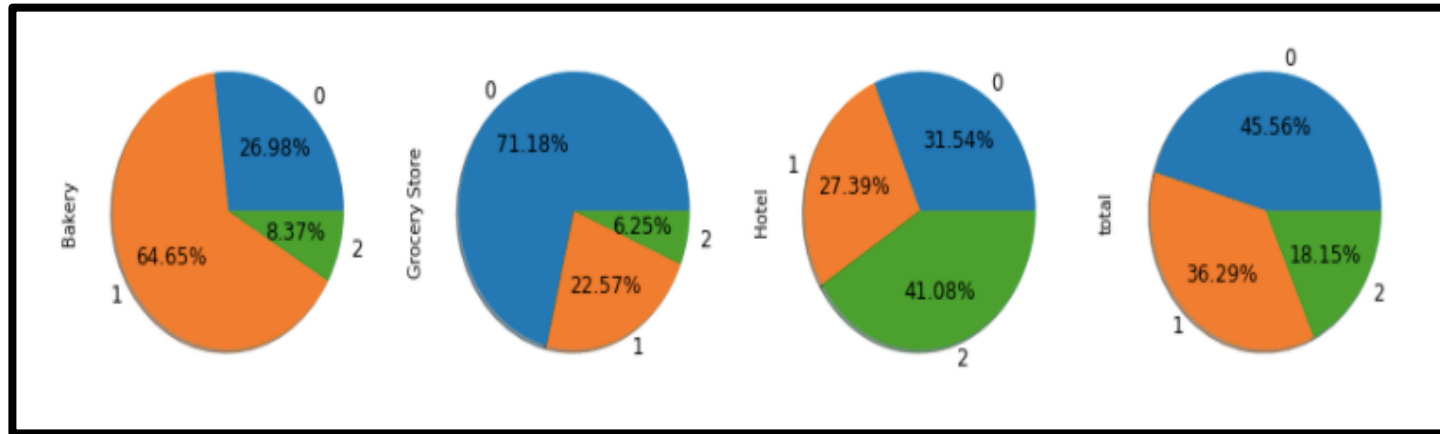
	Bakery	Grocery Store	Hotel	total
Cluster Labels				
0	58	205	76	339.0
1	139	65	66	270.0
2	18	18	99	135.0

RESULTS

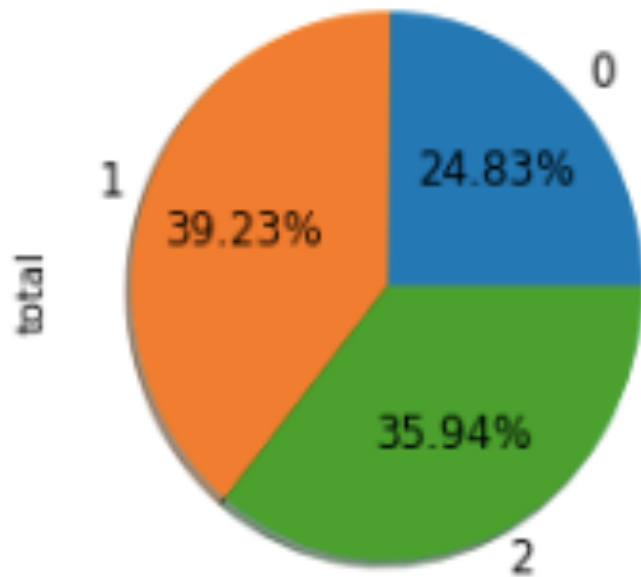


Number of Grocery Stores, hotels and Bakeries in each market segment

RESULTS



Density of Bakery, Grocery Store and Hotel in each market segment



Recommendations for Senses Company's management

- Total number of potential clients in each market segment is somewhat different (339, 270 and 135 for market segments 1,2, and 3 respectively). Based on this data, the management of the company is advised to consider adjusting its organization structure and uplifting its human capital capabilities in order to be able to successfully implement the new marketing strategy and cope with the requirements of the new Canadian market.

Conclustion

- In this project I used the K-Means and the Agglomerative clustering machine learning models to segment the Canadian market of Senses coffee company.
- The frequency of occurrence of Hotels, Grocery Stores Bakeries were identified as important features that affect the segmentation of this market.
- These models can be very useful in helping Senses management in several ways. For example, it could help develop a new organization chart, and plan the human capital and competencies necessary to implement the company's new marketing strategy

THANKS YOU

