

Coursera Capstone IBM Applied Data Science

Toronto, Canada: A shopping mall venture

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Business Problem

- Location is the deciding factor of success or failure for ventures, especially commercial ventures
- **Objective:** To answer the question of “where and if” pertaining to opening of a mall
- **Relevant,** as the city of Toronto has unequal distribution of wholesome malls in different areas
- **THE CRUX: As a property developer or a market strategist looking for expansion in Toronto, WHERE DO YOU BEGIN?**



Data

- Data Required

- List of Boroughs and Neighborhoods in Toronto
- Coordinates
- Venue data
- Statistical data for added insight

- Data Sources

- https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
- https://www.scribblemaps.com/maps/view/Neighbourhoods_in_Toronto_Ontario/Unki2xMmX6
- Geocoder API and Foursquare API for venue and coordinate data
- <https://www.toronto.ca/About-Toronto/community-statistics/neighbourhood-profiles>

Methodology

- Web scraping Wikipedia page for locality data
- Getting coordinates using Geocoder library
- Using Foursquare API to request venue data [JSON]
- Data cleansing and grouping based on frequency
- Filtering venue based on “Shopping mall”, for relevance
- Performing clustering, using K-Means Clustering
- Visualization using Folium mapping library



Results

Results

- Cluster 0: Areas depicting relatively lower pre existing market competition and therefore easier entry, marked in red
- Cluster 1: Area with relatively moderate market competition presence, entry may be slightly challenging, marked in blue
- Cluster 2: Area with intense existing market competition, not a worthwhile venture area for newcomers, marked in light green

Discussion

- Depicts the unequal distribution of shopping malls around Toronto
- Major opportunities are located in the central Toronto regions, more specifically the boroughs of York University Area, Etobicoke and Scarborough
- Cluster 2 is located up north catering the more expensive areas of Toronto
- The area of Wexford and Maryvale, depicted in blue, can boost profitability, if property developers having USP to stand out of the crowd

Recommendations

- Cluster 0 provides opportunity for opening a new mall
 - The boroughs of Etobicoke, Scarborough are high population [**632,000** and **345,000**], with median household incomes of **\$59,000** and **\$70,500** respectively
 - York University houses younger population and therefore a plausible market
- Cluster 1 can be an option
 - Provided the market strategist or property developer has USP to capture consumer base
 - Opportunity for medium scaled shopping complex as approx. 30% of population is youth with income range of \$30,000-\$50,000
- Cluster 2 is a difficult arena, majorly caters already established complexes and therefore difficult entry

Conclusion

- Answer to the “Where?”: Cluster 0, especially the boroughs of Etobicoke and York University
- Findings of the same is hopeful to provide relevant insight to aid in better decision making
- It is a stake of multi million dollar, capstone aims to make the bet a profitable one



**THANK
YOU**

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