FINDING LOCATIONS TO OPEN A HOTEL IN KAROL BAGH (DELHI), INDIA

Business Problem:

• The aim of this project is to find suitable locations to open a hotel in karol bagh greater metropolitan area [Karol bagh and its suburbns], Delhi (India).

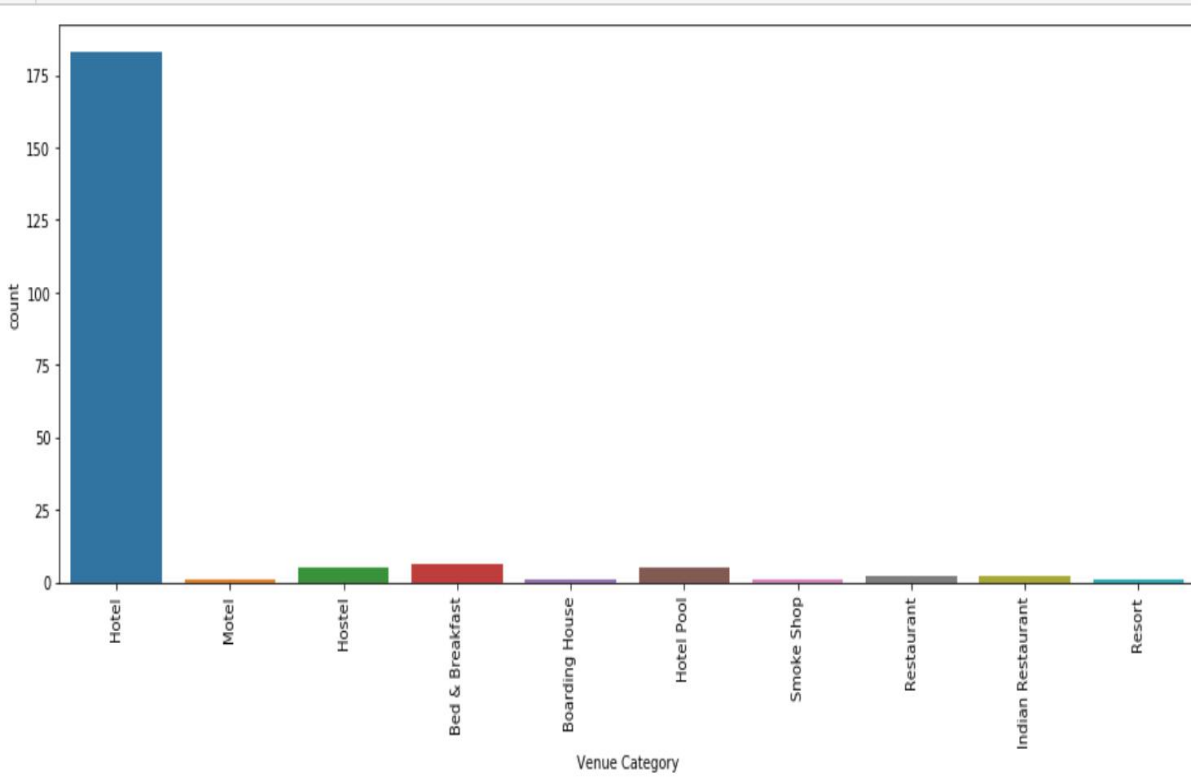
- **Data**
- Starting point: KAROL BAGH MARKET
- Obtain its geospatial coordinates
- • Using Foursquare API:
- Find all metro stations in a radius of 15 km from KAROL BAGH MARKET
- Find existing hotels in a radius of 1000 m from each station
- Calculate minimum distance from every station to a hotel

Alipur Tehsil
Muradnagar
NH44
North West
Delhi
Loni
Ghaziabad
Central Delhi
Bahadurgarh
NH
Ghaziabad
NH9
Punjabi
Bagh Tehsil
Delhi
West Delhi
NH24
NH 9
NH34
334C
New Delhi
Najafgarh
Tehsil
South West
Delhi
Delhi Cantonme
DND
Noida
New Delhi
Kapashera
Tehsil
Indira Gandhi
International
Airport
21
South East
Delhi
Dadri
NH236
NH248BB

DATA CLEANING

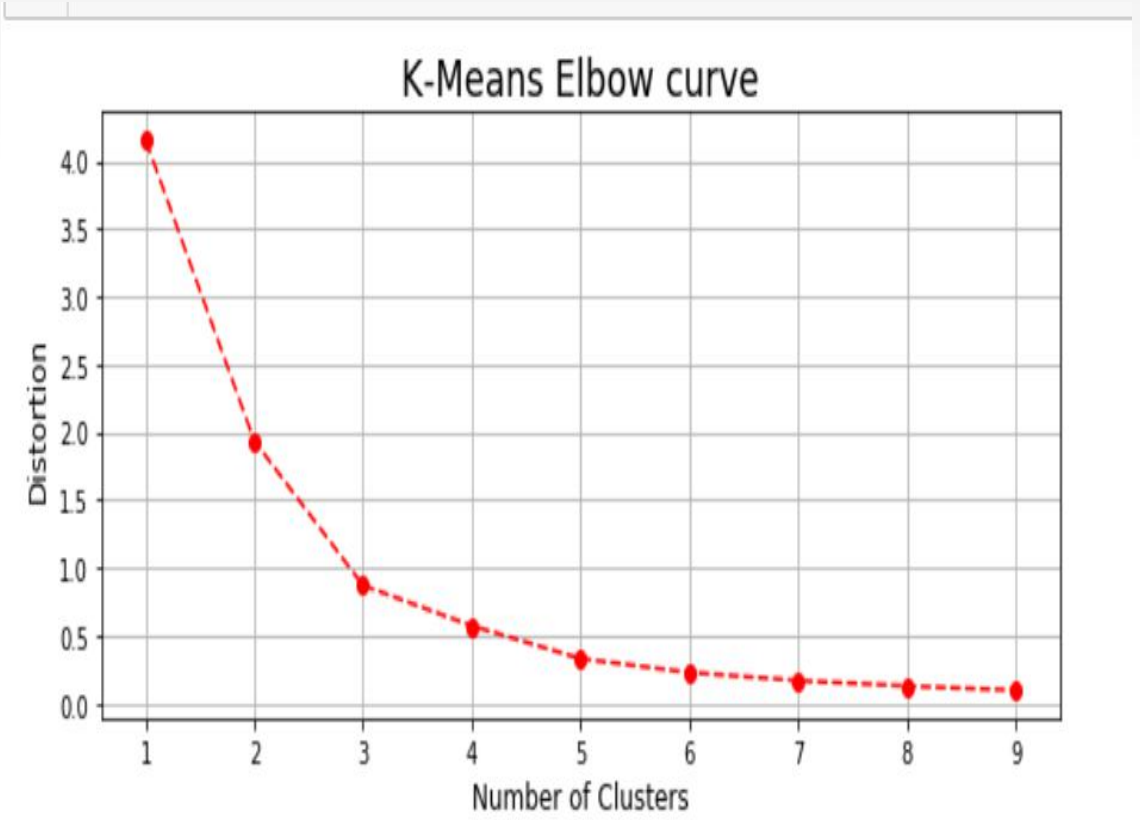
- We will only keep as my data set the results that correspond only to 'Hotel Pool','Bed & Breakfast' and ‘Hotel’ subcategories.

- I will remove the rest of the subcategories such as 'Boarding House','Indian Restaurant', 'Motel', etc.

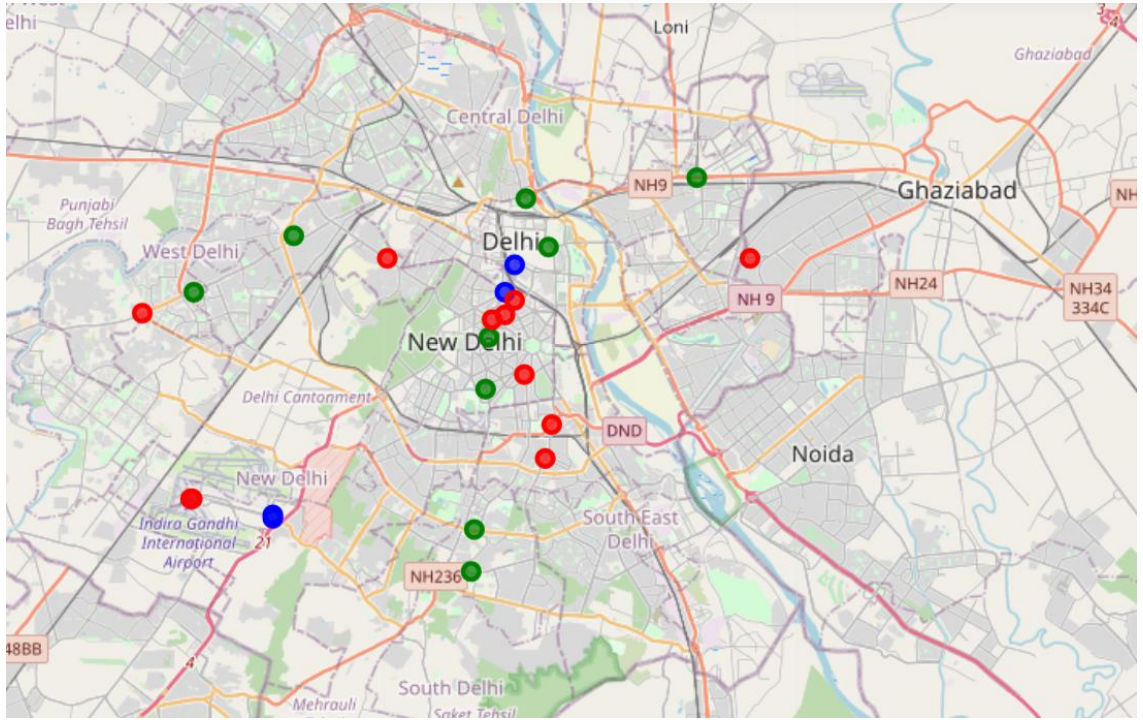


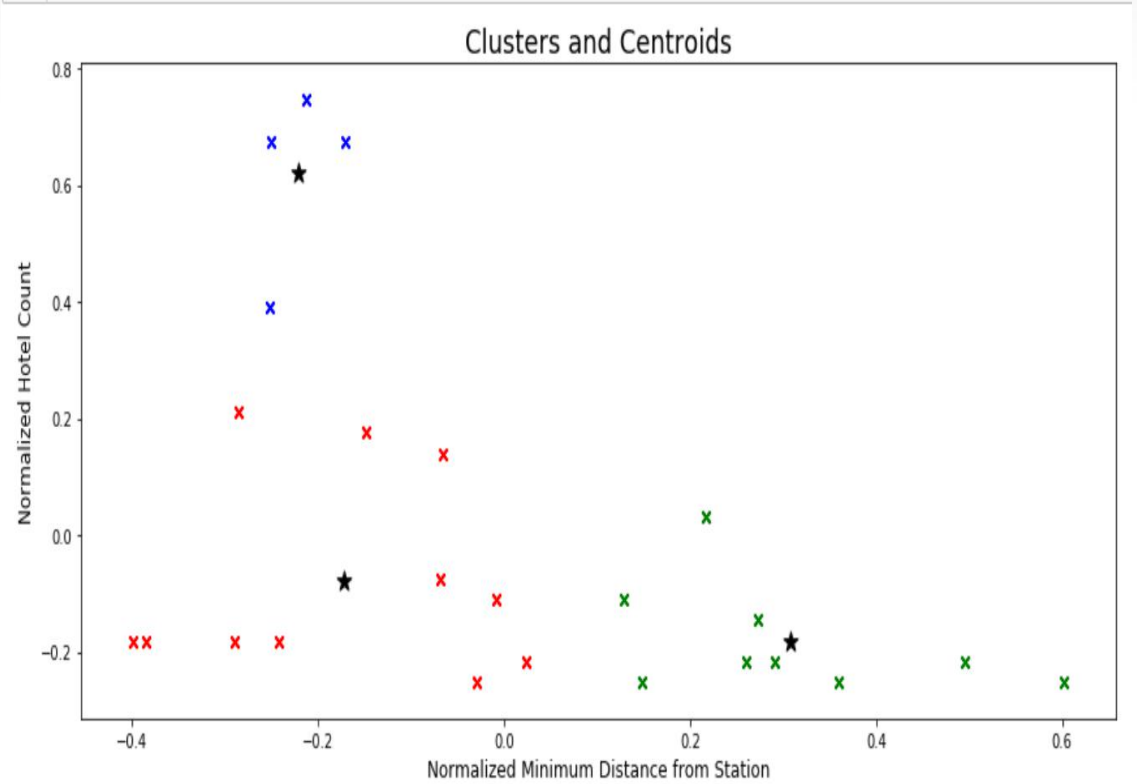
Methodology

- Machine Learning (K-Means clustering algorithm) was used to create clusters of stations
- 3 numbers of clusters were calculated based on the algorithm recommendation (elbow method)



CLUSTER VIEW





RESULT

Cluster 1 – LOW potential

- There are already many existing hotels in the area and the nearest hotel is in most
- cases in a relatively short distance from the station.

Cluster 2 - AVERAGE potential

Although not a prohibitive metro station to open a hotel in its vicinity, there is already a fair number of hotels in the area and the nearest one is not far from the metro station.

Cluster 3 - HIGH potential

- There are not many already existing hotels in the area and the nearest hotel is in
- most cases relatively not in a short distance to the metro station.

DISCUSSION

- Possible areas that were not in the Foursquare database should also be examined so that it can be determined if it is just lack of data about these stations or indeed there are no hotels in the vicinity of the stations. A lot more factors can be considered when choosing an appropriate location. Some examples of extra factors can be:

- Area near Airport side so travelling connecting people can wait at airport or take a room in hotel
- Population density in the area
- Per day rent in this area is this area expensive or not
- Near by surrouding Airport
- Number of people daily visitng this area
- Property prices in the area
- Number of businesses operating in the area

Conclusion

- * The above results can be a good starting point for a prospective businessman that is interested in opening a hotel. Similar methodology can be used for other types of businesses probably with customized criteria.

- * Delhi is Main city in India ,and mostly all connecting international flights go from Delhi Airport .so many people can stay in this hotel this area is near to airport area and only few hotels are there .

- * Due to few hotels their is more chance to ppeople can book their.

- * With the availability of a number of different tools and Machine Learning algorithms, it is possible to find solutions (or possible solutions) to an ever increasing number of problems and queries.

- * And it is getting better and better!

References

- * Karol Bagh - Wikipedia
- * Google (many postal code are NaN so for cleaning the data)
- * Forsquare API
- * Google Map
- * K-Mean Cluster