

IBM Applied Data Science Capstone

*Opening a New SPA in
Mumbai*




▶ **Business Problem**

- ▶ • Location of the SPA is one of the most important decisions that will determine whether the SPA will be a success or a failure
- ▶ • Objective: To analyse and select the best locations in the city of Mumbai to open a new SPA center
- ▶ In the city of Mumbai, if a property Investor/Individual is looking to open a new SPA center, where would you recommend that they open it?



Data

- ▶ • **Data required**
 - ▶ • List of neighbourhoods in Mumbai
 - ▶ • Latitude and longitude coordinates of the neighbourhoods
 - ▶ • Venue data, particularly data related to SPA

 - ▶ • **Sources of data**
 - ▶ • Wikipedia page for neighbourhoods(https://en.wikipedia.org/wiki/Category:Neighbourhoods_in_Mumbai)
 - ▶ • Geocoder package for latitude and longitude coordinates
 - ▶ • Foursquare API for venue data
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Methodology

- ▶ •Web scraping Wikipedia page for neighborhoods list
- ▶ •Get latitude and longitude coordinates using Geocoder
- ▶ •Use Foursquare API to get venue data
- ▶ •Group data by neighborhood and taking the mean of the frequency of occurrence of each venue category
- ▶ •Filter venue category by SPA
- ▶ •Perform clustering on the data by using k-means clustering
- ▶ •Visualize the clusters in a map using Folium





Discussion

- ▶ • Most of the SPA are concentrated in the South area of the city
- ▶ • Oversupply of SPA mostly happened in the south area of the city, with the suburb area still have very few SPA



Recommendations

- ▶ Open new SPA in neighbourhoods in Suburban mumbai and north mumbai with little to no competition
- ▶ Avoid neighbourhoods in South Mumbai, already high concentration of SPA and intense competition



Conclusion

- ▶ • Answer to business question: The neighbourhoods in Suburban and north Mumbai are the most preferred locations to open a new SPA center
- ▶ • Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decisions to open a new SPA



Thank you....

