

- COURSERA CAPSTONE
- IBM Data Science Module
- Research to open a Mall in the city of India
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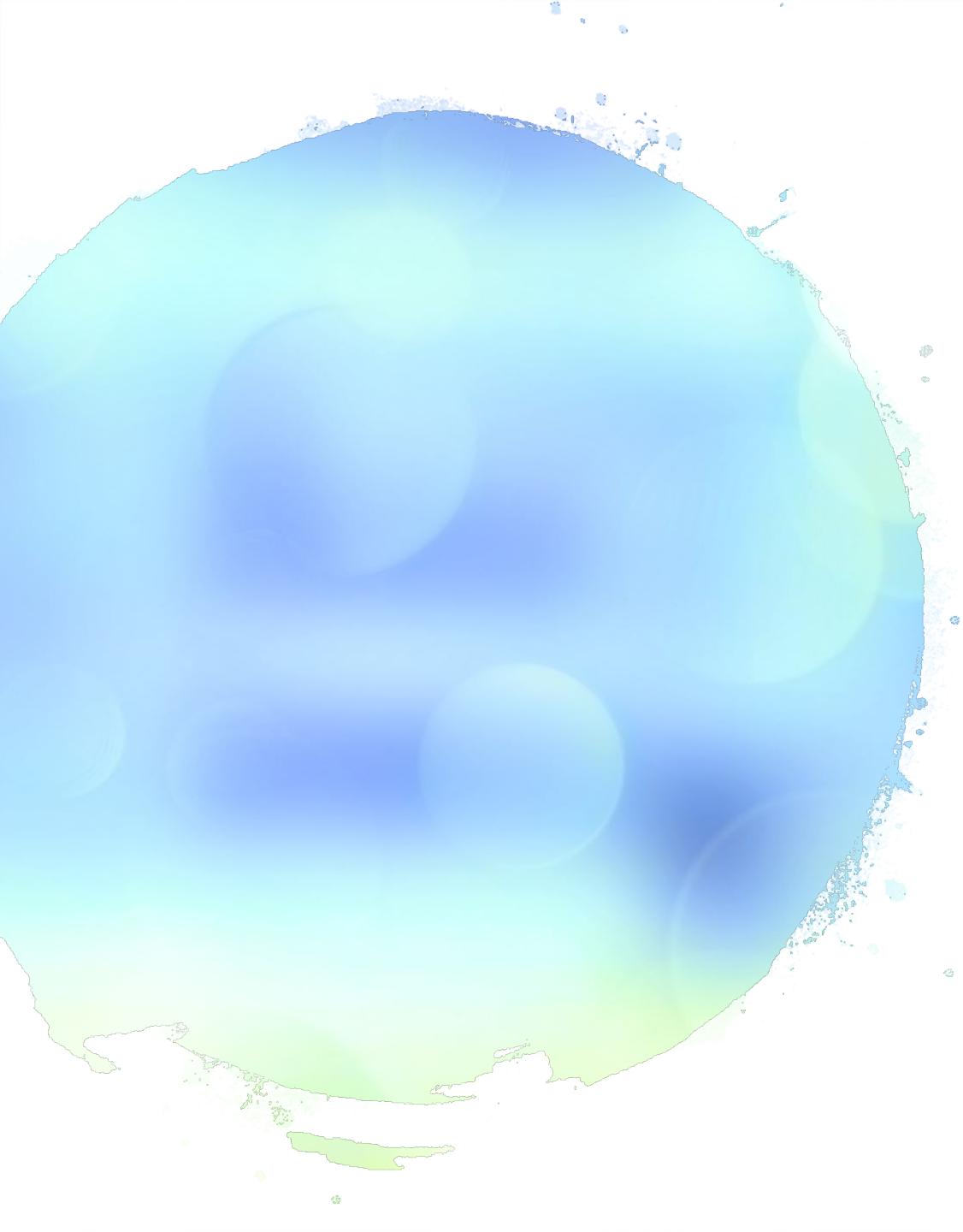


Business Problem

- Location of the mall is one of the most important decisions that will determine whether the mall will be a success or a failure
- Objective: To analyse and select the best locations and city of India, to open a new mall.
- Business question
 - Research to recommend to open a mall in the popular city of India?

Used data

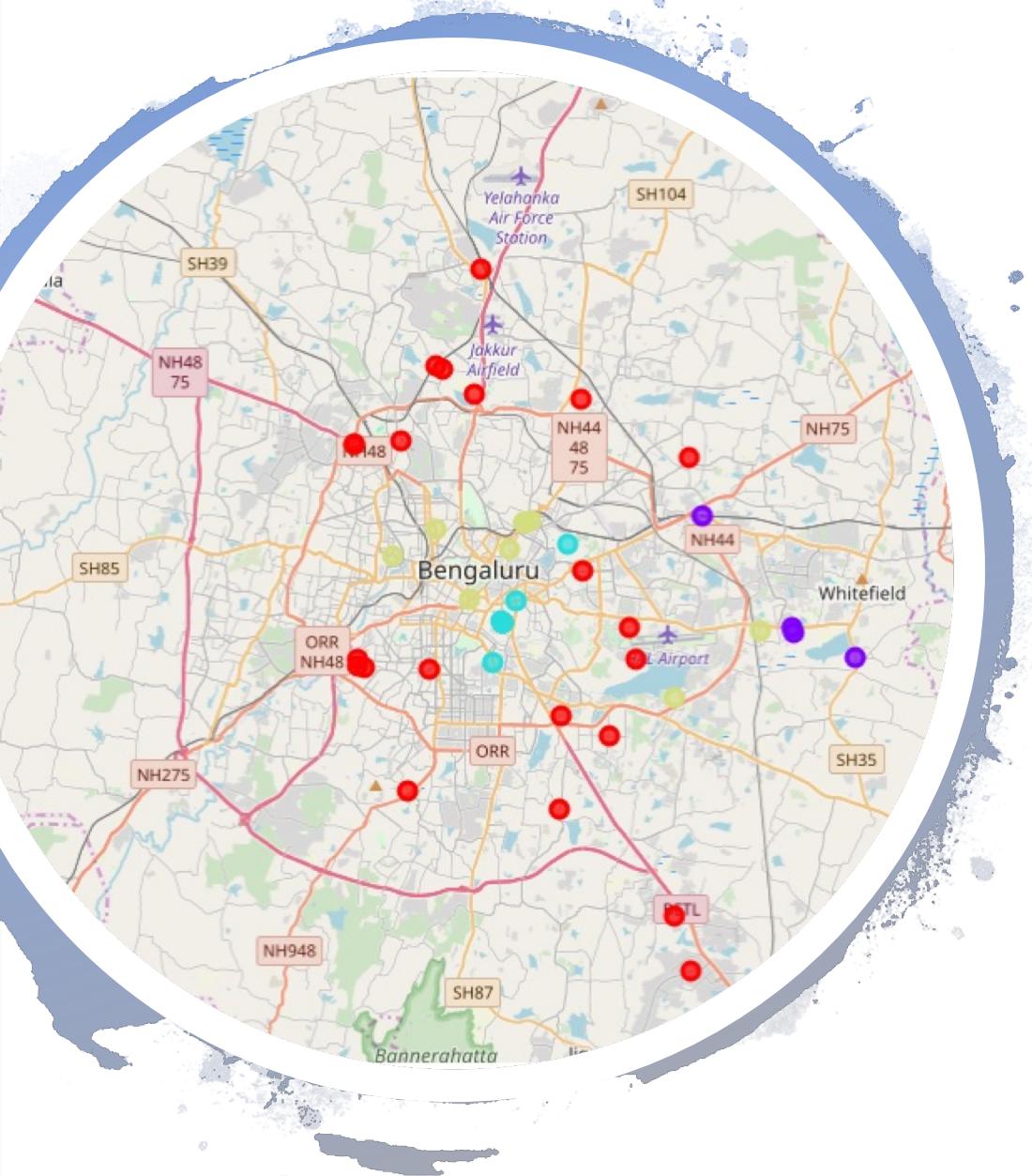
- Data required
 - Venue data, particularly data related to malls
 - List of neighbourhoods in the city of India
 - Latitude and longitude coordinates of the neighbourhoods
- Sources of data
 - Wikipedia page for neighbourhoods (https://commons.wikimedia.org/wiki/Category:Suburbs_of_Bangalore)
 - Geocoder package for latitude and longitude coordinates
 - Foursquare API for venue data



Methodology

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

Results



- Categorized the neighbourhoods into 4 clusters :
 - **Cluster 0:** Neighbourhoods with low number to no existence of shopping malls
 - **Cluster 1:** Neighbourhoods with high concentration of shopping malls
 - **Cluster 2:** Neighbourhoods with equal concentration shopping malls
 - **Cluster 3:** Neighbourhoods with moderate shopping malls

Discussion

- Main focusing shopping Mall around the Bangalore city
- Highest number in cluster 1 and moderate number in cluster 3
- Cluster 2 has equal focusing area where the all area is good for opening.
- Cluster 0 has very low number to no shopping mall in the neighbourhoods
- Oversupply of shopping malls mostly happened in the central area of the city, with the suburb area still have very few shopping malls
- Property developers are advised to avoid neighborhoods in cluster 2 which already have high concentration of shopping malls and suffering from intense competition.

Recommendations



Open new shopping malls in neighbourhoods in cluster 0 with little to no competition



Can also open in neighbourhoods in cluster 3 with moderate competition if have unique selling propositions to stand out from the competition



Avoid neighbourhoods in cluster 1, already high concentration of shopping malls and intense competition



In cluster 2 is also a good area where the investors invest and start the business but one thing keep in mind that in this area sell the different things .

Conclusion

- Answer to business question: The neighbourhoods in cluster 0 are the most preferred locations to open a new mall
- 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 mall.
- Moreover, the start a new complex or mall stakeholders should be checks and find the accurate area once again and then invest.