Coursera Capstone

IBM Applied Data Science Capstone

Opening a New Real Estate Project in Patna, Bihar

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Business Problem

- Location of the project is one of the most important decision that will determine whether the project will be a success or a failure.

- Objective: To analyze and select the best location in the city of Patna, Bihar to open a New Real Estate Project

- This project is timely as the city is currently suffering from oversupply of Buildings and Projects

- Business Question

  - In the city of Patna, Bihar, if a property developer is looking to open a New Real Estate Project, where would you recommend that they open it ?

Data

- Data Required
  - List of neighborhoods in Patna.
  - Latitude and Longitude of the neighborhoods.
  - Venue Data, particularly data related to project.

- Sources of Data
  - Wikipedia.
  - Geocoder package for Latitude and Longitude Coordinates.
  - Foursquare API for Venue Data.

Methodology

- Web Scraping Wikipedia page for neighborhoods list.

- Getting Latitude and Longitude Coordinates using Geocoder

- Use Foursquare API to get venue data

- Group data according to the neighborhoods and taking the mean of the frequency of occurrence of each venue category

- Filter venue category by Amenities required accordingly

- Performing clustering of data by using K-Means Clustering

- Visualizing the clusters in a map using Folium Liabrary

Discussion

- Most of the Shopping Malls are concentrated in the central area of the city

- There are lack of premium amenities in the outer area of the town

- Population density is less in outer area as compared to the central area of the city

- Connectivity routes have been developed keeping in mind the outer parts of the city

- The competition is comparatively low in outer but the facilities are way lesser when compared to the central area of the city

Conclusion

Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decision to open a New Real Estate Project in the city Patna.