

The Battle of Neighbourhood: Vishakhapatnam

1. Introduction:

Problem statement:

How to choose a right place to start a new restaurant? What type of restaurant will work good?

Background:

One who wants to start a business in a city with high density population and good climatic conditions my project will help to find which type of business will work. Possibilities of starting a new business will be traced out clearly. Restaurants are the good to start in a city like Vishakhapatnam. Beach cities will have good night life for food.

Target Audience:

First focus is on middle class public who choose to have different varieties of food with high quality at reasonable cost.

Stakeholders:

Who are willing to start a restaurant or food business in Vishakhapatnam or nearby areas?

2. Data where you describe the data that will be used to solve the problem and the source of the data.

Data being used to solve the problem:

1. All neighbouring coordinates of Vishakhapatnam.
2. Decode the json file.
3. List of venues (restaurants/ food courts..etc) will be collected and segregated as clusters.
4. Source of the data : <https://finkode.com/ap/visakhapatnam.html>
5. And all the coordinates are collected from Google search engine and made a Excel .csv file.

3. Methodology:

List of postal codes are collected from <https://finkode.com/ap/visakhapatnam.html>

All the coordinates using postal codes in and around Vishakhapatnam are identified.

Using Foursquare credentials json file was decoded for respective coordinates.

All the venues are extracted from the json structure.

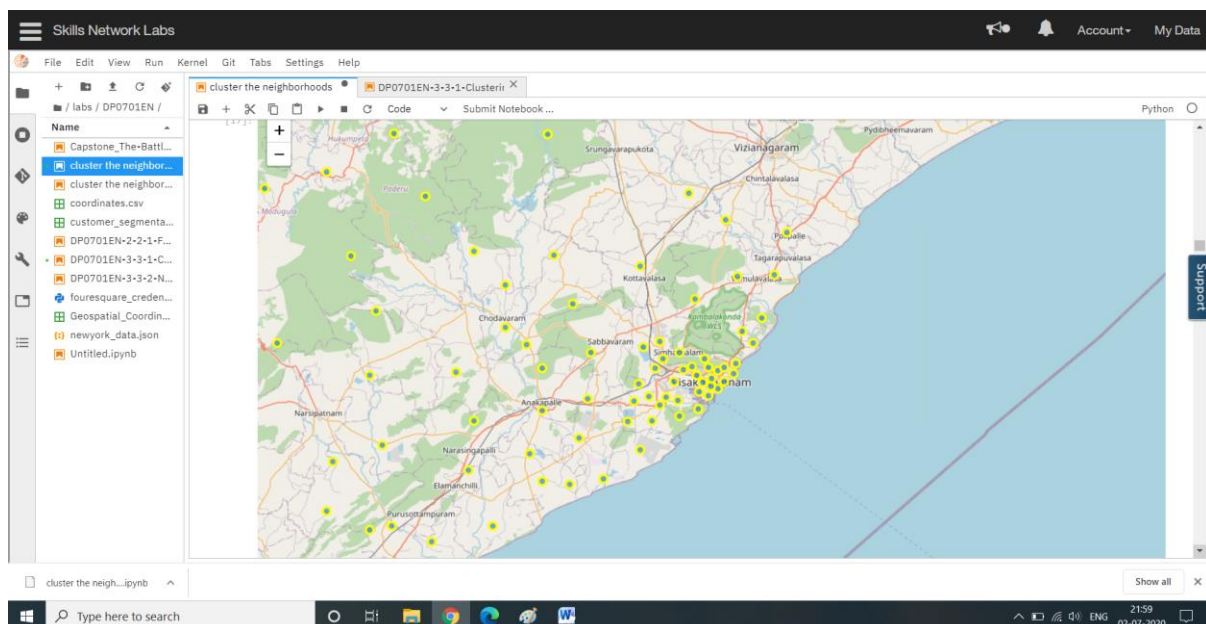
Venues with same postal codes are merged together into a data frame.

These merged data is divided into 5 clusters and analysed which was the most visited venue.

Looking at the cluster regions data, the following observations are made.

- Number of restaurants available.
- Food interests of people in and around the region.
- Density of restaurants.
- Type of restaurants missing in a specific region to find the right one.

4. Results:



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cluster the neighborhoods DP0701EN-3-3-1-Clusterir

Python

```
[54]: #Examine Clusters
#Cluster 1

manhattan_merged.loc[manhattan_merged['Cluster_Labels'] == 0, manhattan_merged.columns[[1,2] + list(range(5, manhattan_merged.shape[1]))]]
```

	Latitude	Longitude	Cluster_Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
6	17.7344	83.2747	0.0	Pharmacy	Indie Movie Theater	Boat or Ferry	Vegetarian / Vegan Restaurant	Food Court	Fishing Spot	Fast Food Restaurant	Farmers Market	Electronics Store	Donut Shop
15	17.7439	83.2519	0.0	ATM	Pharmacy	Harbor / Marina	Grocery Store	Food Court	Fishing Spot	Fast Food Restaurant	Farmers Market	Electronics Store	Donut Shop
24	17.6566	83.1542	0.0	Grocery Store	Farmers Market	Department Store	Park	Pharmacy	Gym	Food Court	Fishing Spot	Fast Food Restaurant	Electronics Store
33	17.8296	83.3896	0.0	Pharmacy	Vegetarian / Vegan Restaurant	Harbor / Marina	Grocery Store	Food Court	Fishing Spot	Fast Food Restaurant	Farmers Market	Electronics Store	Donut Shop

```
[67]: #Cluster 2
manhattan_merged.loc[manhattan_merged['Cluster_Labels'] == 1, manhattan_merged.columns[[1,2] + list(range(5, manhattan_merged.shape[1]))]]
```

cluster the neigh...ipynb

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Python

```
[55]: #Cluster 3
manhattan_merged.loc[manhattan_merged['Cluster_Labels'] == 2, manhattan_merged.columns[[1,2] + list(range(5, manhattan_merged.shape[1]))]]
```

	Latitude	Longitude	Cluster_Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
1	17.7121	83.3121	2.0	Restaurant	Hotel	Indian Restaurant	Multiplex	Asian Restaurant	Steakhouse	Ice Cream Shop	Food Court	Optical Shop	Vegetarian / Vegan Restaurant
2	17.7243	83.3228	2.0	Gym	Brewery	Sandwich Place	Candy Store	Grocery Store	Food Court	Fishing Spot	Fast Food Restaurant	Farmers Market	Electronics Store
3	17.7230	83.2854	2.0	Platform	Train Station	Arts & Crafts Store	Asian Restaurant	Grocery Store	Food Court	Fishing Spot	Fast Food Restaurant	Farmers Market	Electronics Store
5	17.7489	83.2667	2.0	Track Stadium	Tennis Court	Bakery	Donut Shop	Department Store	Vegetarian / Vegan Restaurant	Candy Store	Food Court	Fishing Spot	Fast Food Restaurant
8	17.6921	83.2426	2.0	Arts & Crafts Store	Smoke Shop	Bar	Indian Restaurant	Vegetarian / Vegan Restaurant	Chinese Restaurant	Food Court	Fishing Spot	Fast Food Restaurant	Farmers Market
9	17.6992	83.1917	2.0	Business Service	Vegetarian / Vegan Restaurant	Candy Store	Grocery Store	Food Court	Fishing Spot	Fast Food Restaurant	Farmers Market	Electronics Store	Donut Shop
10	17.7416	83.3121	2.0	Ice Cream Shop	Indian Restaurant	Seafood Restaurant	Playground	Chinese Restaurant	Vegetarian / Vegan Restaurant	Candy Store	Fishing Spot	Fast Food Restaurant	Farmers Market

cluster the neigh...ipynb

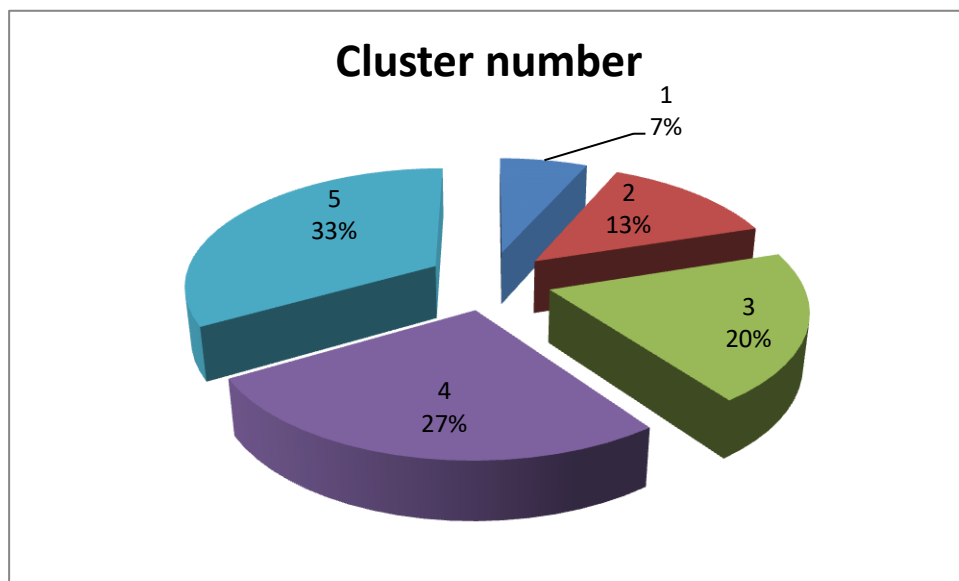
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5. Observations:

Cluster number	No. of postal codes Covered	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue
1	4	Pharmacy	Theatre	Ferry
2	1	Sculpture garden	Veg. Restaurant(1)	Candy store

3	14	Bakery -2 Restaurant - 2 Ice cream shop - 1	Restaurants - 5 Hotel -2	Restaurants- 4 Food courts- 2 Hotels - 1
4	1	Fishing spot	Veg restaurant	Candy store
5	1	Harbour	Veg restaurant	Candy store



6. Conclusion:

The above observation table clearly states that cluster-3 is having more number of coordinates. Food business is also going fine there. 27% of postal codes are covered in this region and more number of food courts established here. So, we can suggest stakeholders to go with any of those 14 coordinates and start a new variety of food business.