

# Setting up a Craft Beer Brewery

Capstone Project : Battle of Neighborhood

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# Craft Beer - Introduction

**Craft beer** or Freshly brewed beer or organic beer is getting popularity very quickly in India. Freshly brewed beer are chemical free, preservative free, essence free and glycerin free.

Besides being fresh a Craft beer also gives a chance to people to taste new flavors, new kinds of beer and most importantly get a beer with local ingredients e.g. Ragi (locally grown Finger Millet)beer, local fruit flavored etc...

With the increasing demand a number of breweries are mushrooming in major cities like Mumbai, Bangalore, Delhi, Pune and Chandigarh. A study revealed that in 2018 there were around 60 micro breweries in India and the growth rate of such breweries is 100% year on year since 2016.

# Business Need

There are many **new** vendors who are interested to setup breweries to cater to rocketing demands in India.

Existing vendors, based on the past growth numbers, would also like to extend the craft beer experience from micro-breweries **dine-in** to freshly brewed craft beer in bars of hotel, restaurants and pubs.

This requires breweries to be located at strategic locations to supply freshly crafted beer to the customers at hotels, restaurants and pubs.

- Craft beer does not have preservatives so it should replenished quickly and regularly
- Hence, the breweries should be near hotels, restaurants and pubs to reduce the cost of transportation as well as reduce operating margins

# Target Audience

- Business clients who are already running a beer business or clients who are trying to start a Craft beer business and do not know where to expand or setup their breweries in Bangalore.

# Scope

I scoped the problem to Bangalore city as this is the IT city of India and is growing very fast. Bangalore's major part of population is Software Engineers who are loving (based on study) a healthier substitute of canned beer

I would consider only the major localities of Bangalore where a Craft beer business can get substantial volumes

# Data Sources

- Localities :
  - To get the major localities of Bangalore we will scrape Wikipedia and extract the major localities of the city.
    - [https://en.wikipedia.org/wiki/List\\_of\\_neighbourhoods\\_in\\_Bangalore](https://en.wikipedia.org/wiki/List_of_neighbourhoods_in_Bangalore)
- Coordinates for each locality:
  - We will use geopy.geocoder Nominatim to get the location coordinates each locality
- Venues in and around those localities :
  - We will use Foursquare apis to get the venues

# Data preparation : Part1

1. Localities of Bangalore from Wikipedia will be scrapped and converted into DataFrame.
  - a) The localities of Bangalore are described tables based on the regions like Northern, North-Eastern, Southern, South-Eastern, Eastern, Western and Central
  - b) Take the names (1<sup>st</sup> Column) of the from every regional table
  - c) Consolidate into one DataFrame having just one column called “Localities”
2. Names of localities will be used to get location coordinates
  - a) Just to avoid clashes append the locality name with Bangalore
  - b) Pass it Nominatim, iterate and append the coordinates to respective localities



# Data preparation : Part2

## 3. Extracting the venues near the localities using Foursquare APIs.

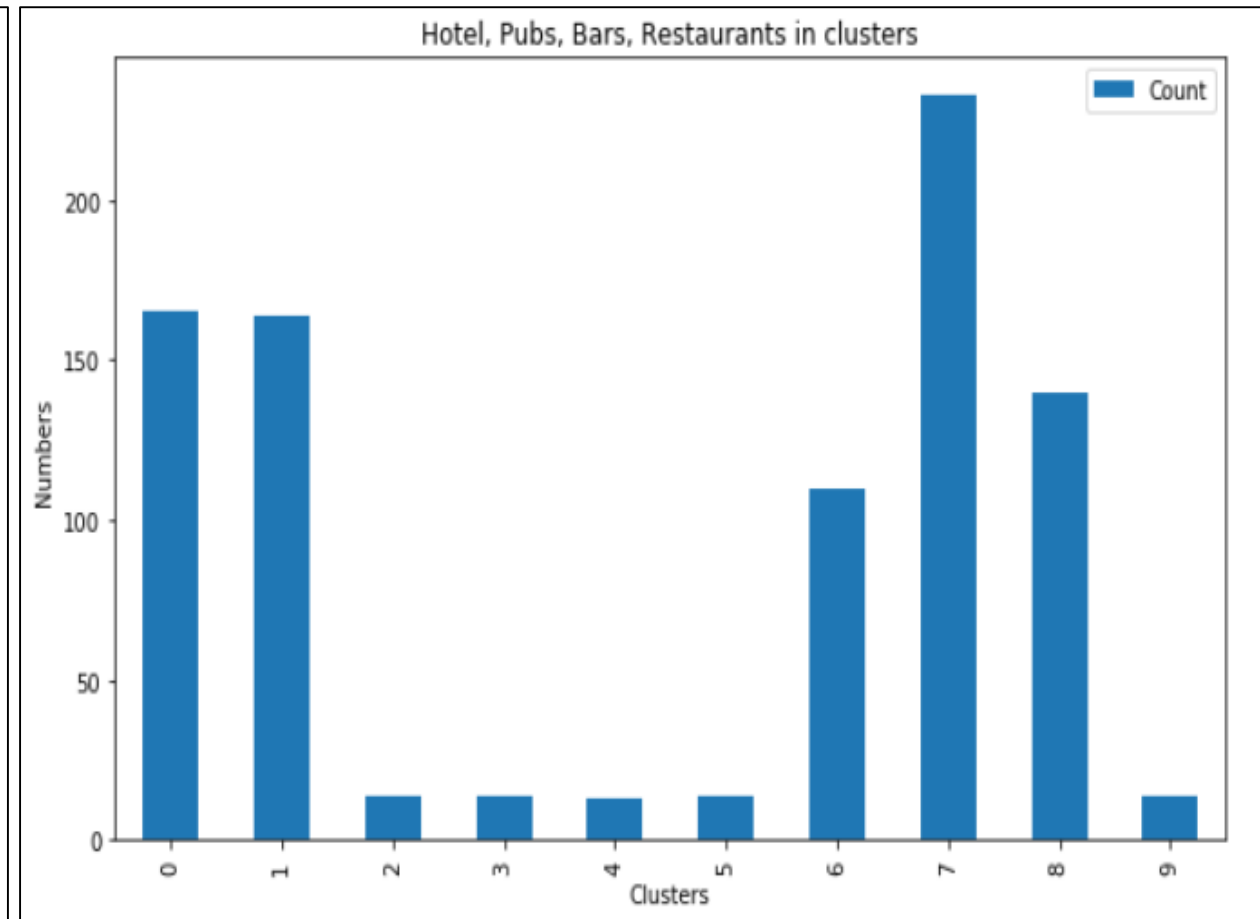
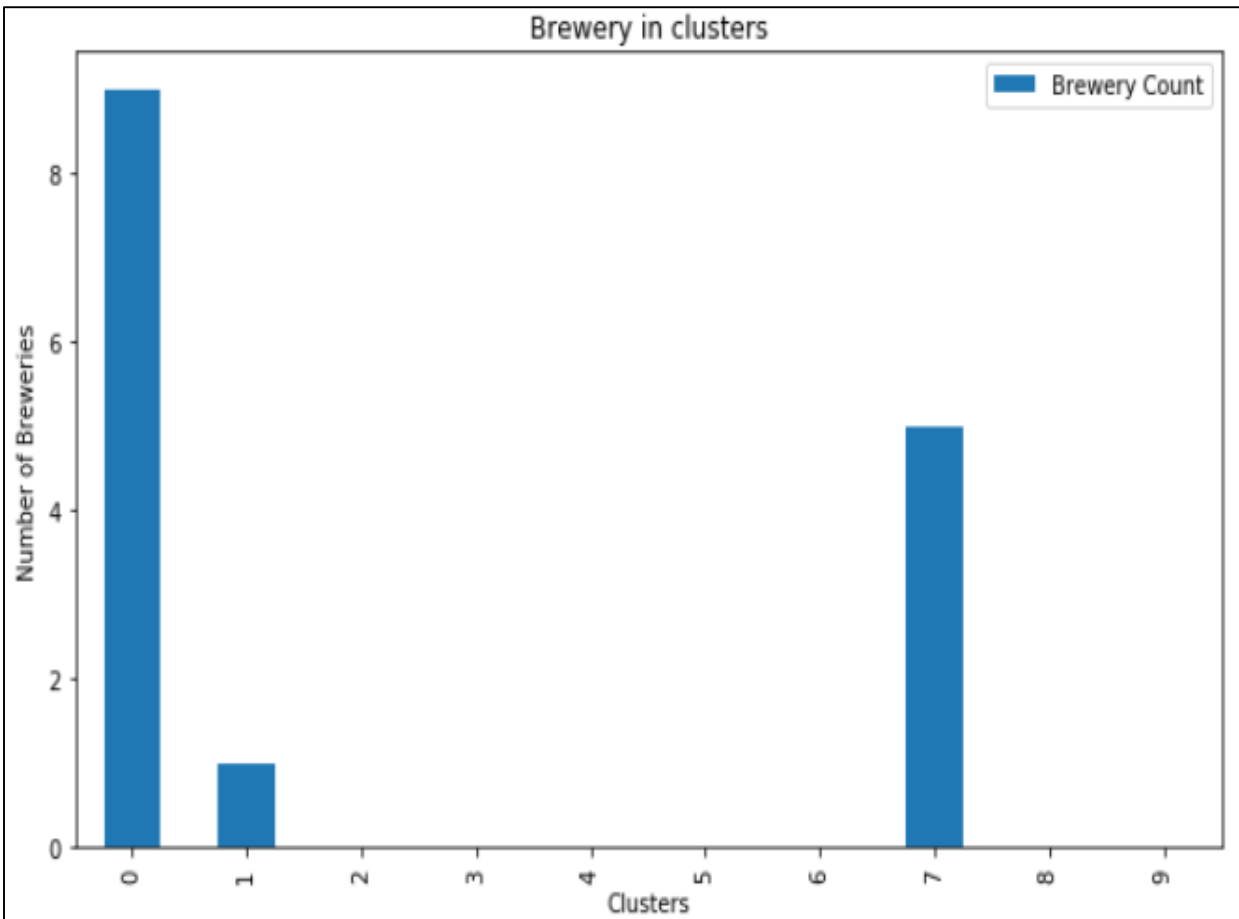
- a) Get the list of venues around the coordinates with suitable radius and limit =100
- b) List of venues then can be grouped on basis Localities
- c) Find the most popular venues
- d) Use kmeans to get the top most popular venue categories
- e) Mark the clusters on the map
- f) Analysis the clusters for best possible localities

# Analysis

## Factors of analysis

- Numbers
- Proximity

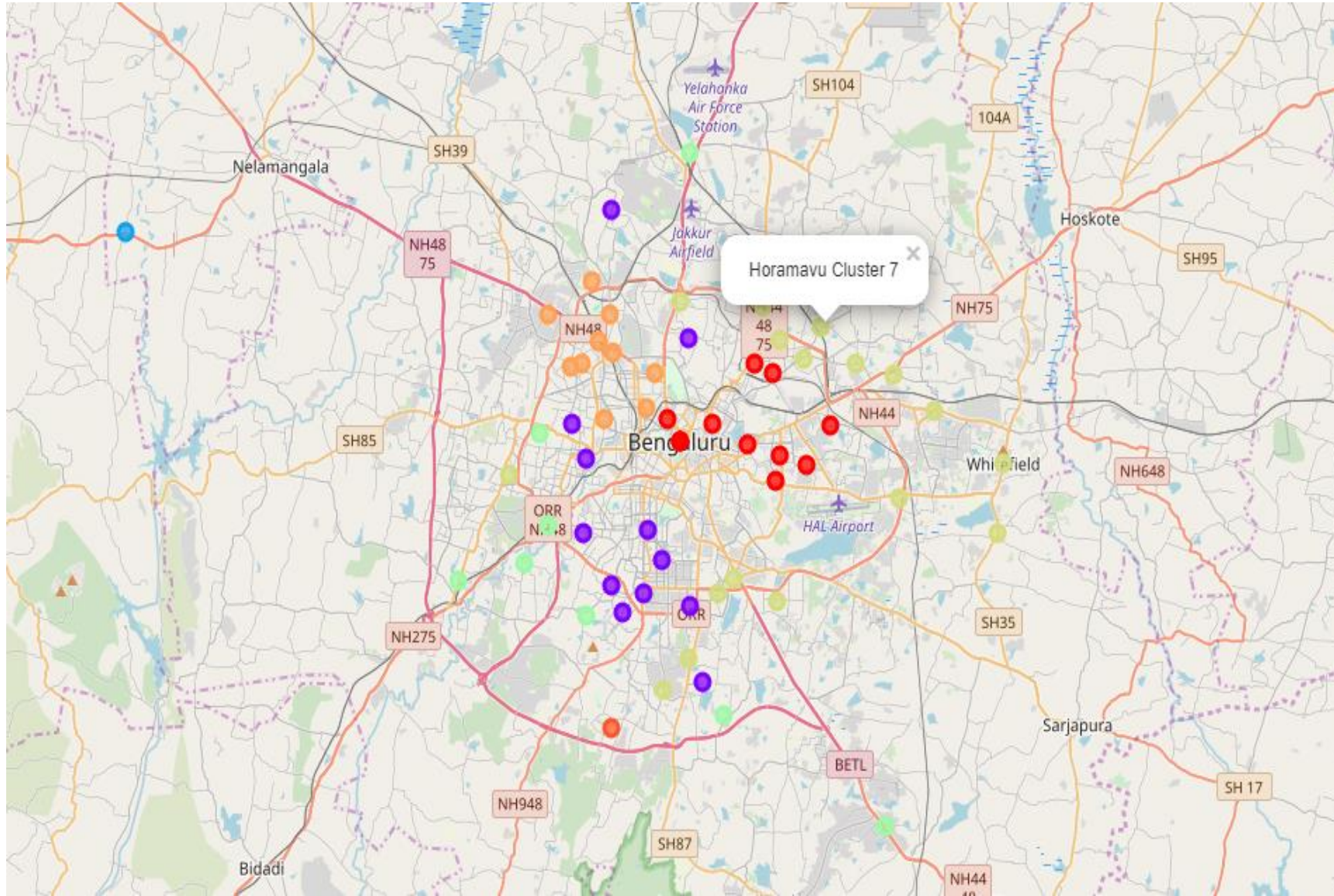
# Clustering : Analyze by Number of Venues



# Clustering : Combined Number Analysis



# Map : Analysis



# Results

- Cluster 1 is suitable for existing breweries to start Distribution and not recommended to setup new Brewery as there are already many Breweries available
- Cluster 7 is suitable for Dine In Only but at the localities near city center (as seen in map) to get enough footfall.
- Cluster 8 is suitable for Dine In and Distribution only at localities away from the cluttered part of cluster (i.e. avoid localities very near to each other as seen in map)
- Cluster 2,5,9 are suitable for Dine In purpose as there no Breweries in these clusters, but there are not much distribution options as number of liquor serving venues are not much
- Rest of the clusters are not recommended for setting up breweries.

# Conclusion & Further

Bangalore is a big city with more than 12million people residing in the city. It is estimated that more that around 3million IT and IT related professionals are there in Bangalore and growing. Finding a right place to setup up such a brewery could be tricky when the high spending population (by local standards) is scattered across the city.

Foursquare provided a considerable amount of information about venue and their categories to find the potential clusters.

Further to the analysis we could also extend this study with other factors like finding the licensed (liquor) point of sale venues, grading of the point of sales of liquor and proximity to the offices and residential areas.