Comparative Analysis of Localities in Bangalore and Chennai, India

1. Introduction

1.1 Problem Statement

Exploring various venues for a new visitor to a city certainly cannot be hassle-free and especially in multilingual and multicultural society like India, the scenario becomes much tougher. However, using an application to obtain necessary details and customize our choices according to preferences can make exploration of various locations in a much easier manner.

Different cities tend to have various demographics and people in their respective cities tend to have different preferences. Cities have various types of locations to explore with various price ranges and ratings, which influences choices. Clustering and Segmentation of these localities helps in analysis of trends in particular cities, which in turn provides a broad picture of these cities, which can be compared and contrasted. Thus, throwing a light on the lifestyle of people and price ranges.

1.2 Background

In this project, the places (especially restaurants and hotels) in Bangalore and Chennai are compared and contrasted to analyze the behavior patterns of cities in terms of price range. These two South Indian cities are separated by a distance of 347 KM, comparing restaurants in both of these urban regions could give us the insights on the cuisine that is preferred and ease of accessibility to that restaurant, the quality of food, service can be assessed through user ratings, the cost per person and number of restaurants that offer the particular cuisine. It provides valuable information which enables the tourists to make informed decisions about the restaurant they prefer and whether it is within the reach of their budget.

The project enables to understand the similarities and differences between these two cities. It can give economic information and behavioral preferences of the population in the respective metropolitans. Hence, this analysis can be used to assert that how two different major urban agglomerations are diverse and their expenditure on restaurants and hotels.

2. Data

2.1 Description of data

This project is intended to analyze venues with special focus on restaurants, cafes and hotels. In order to acquire this data, two Application Program Interfaces are used namely:

2.1.1 Foursquare API

This API is fed the geographical coordinates of Bangalore and Chennai which returns the following variables of location as shown in Table 1. API returns a JSON file consisting of these location and related information, which is converted into a Pandas data frame. The locations were obtained within the radius of 10KM from the geographical coordinates of the city.

1. **Foursquare API**
2. **Zomato API**

Table 1: Variables returned by Foursquare API

VARIABLES	DESCRIPTION
VENUE NAME	Name of the location
CATEGORY	Category of the location as defined by the API (e.g.: restaurant, cafe)
LATITUDE	Latitude of the location
LONGITUDE	Longitude of the location

2.1.2 Zomato API

The name, latitude and longitude values obtained from the Foursquare API is fed to the Zomato API and the following details are retrieved:

Table 2: Variables returned by Zomato API

VARIABLES	DESCRIPTION
VENUE NAME	Name of the location
ADDRESS	Detailed address of the location in the city.
PRICE RANGE	Depending upon the price, the Zomato API ranks them on a scale of 1.0-5.0
PRICE FOR TWO	It provides the mean cost of dining at the restaurant for two people.
RATINGS	The average feedback of the location provided by the user represented by stars ranging from 0.0 to 5.0
LATITUDE	Latitude of the location
LONGITUDE	Longitude of the location

2.2 Utilization of Data to solve the given problem

The data obtained from both the APIs provide the requisite elements to analyze the restaurants in Bangalore and Chennai. However, redundant and non-matching items have to be removed and processed. After merging the results from both the APIs into a data frame, analysis of data can be performed.