

Coursera

IBM Data Science Professional Certificate

Applied Capstone Project

# **Identify candidate location in Singapore for operating F&B business**

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# **1. Introduction**

Singapore is reputed as a global city with a vibrant Food and Beverage (F&B) industry. Arguably, it is celebrated as the culinary capital of Asia with cuisines from all parts of the world including the Mediterranean, Italian, Thai, Indian, Malaysian, Moroccan, Mexican and African, all finding their space here. The sector has crossed over \$ 8.3 billion in annual receipts with over 6,500 establishments and touching one percent contribution in the country's GDP.

With eating out being a national passion, more and more Singaporeans putting in longer work hours, and ever-growing tourism sector, the F&B sector is set to grow even further.

# **2. Problem Statement**

As much that a F&B business in Singapore can be potentially rewarding, the industry is highly competitive with a congested space and a market with fast changing taste, not to mention high rental and overhead costs among the challenges.

This project aspires to provide data based insights to help addressing the “where”, “what” and “who” questions for starting a F&B business:

- i) “Where” – This relates to the location of the business
- ii) “What” – The type of food to sell
- iii) “Who” – This deals with the targeted consumers, which determines the price level and business model.

# **3. Target Readers**

While the concrete business owner to whom we are addressing this report, but actually this restaurant owner can be treated as a persona and thus this analysis could be useful for a group of market players (restaurant owners).

# **4. Data**

To perform this analysis, we will need the following data:

- i) List of districts in Singapore. The location information of Singapore districts such as postal codes.
- ii) Venue data particularly those F&B related such as restaurants, drink kioks, cafe etc. Clustering will be performed using the data.

### **Sources of data and methods to extract them**

This url [https://www.ura.gov.sg/realEstateIIWeb/resources/misc/list\\_of\\_postal\\_districts.htm](https://www.ura.gov.sg/realEstateIIWeb/resources/misc/list_of_postal_districts.htm) contains a list of Singapore districts and postal codes. We will use web scraping techniques to extract the data with the help of Python requests and beautifulsoup packages. Then we will get the geographical coordinates of the neighbourhoods using Python Geocoder package which will give us the latitude and longitude coordinates of the neighbourhoods.

After that, we will use Foursquare API to get the venue data for those neighbourhoods. Foursquare API will provide many categories of the venue data, we are particularly interested in the food and drink category.