

IBM Applied Data Science Capstone

Opening a new Restaurant in Colombo, Sri Lanka



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Introduction

Colombo is the commercial capital and the largest city in Sri Lanka by population. It is the financial center of the island and a tourist destination.

Majority of the Sri Lankan cooperation's head offices are situated in Colombo, hence the workforce in the country focuses on traveling or staying in Colombo on a daily basis. The Colombo Metropolitan area is the most important industrial, commercial and administrative center in Sri Lanka.

When we talk about Colombo as a tourist destination, it boasts a rich colonial heritage as a mix of different cultures, religions and races. Colombo's multi-ethnic legacy can be observed with churches, mosques and temples congregating on the same streets, and one could also delve into iconic sites including Fort Station, the Red Mosque, and the Khan clock tower. A shopper's paradise, exquisite boutiques feature international brands, and shops offer colorful local art and textured fabrics. Featuring a fascinating heritage and enticing culture, Sri Lanka's capital is one of Asia's favored travel destinations. Offering a vast selection of accommodation options, including rustic beachside shacks to lavish colonial mansions and stunning hotels, tourists can satisfy their every taste and desire.

The rapid development that can be seen in Sri Lanka during the post war era of the country has encouraged investors to set up shop specially around the Colombo region and there has been a sharp increase in the local crowd who explore Colombo and spend their time leisurely or to meet up with people in restaurants and bars. Colombo has become a lively city full of opportunity and growth.

From an Investor's point of view, Sri Lanka is one of the best places to invest or start a business due to the following reasons:

- Government Stability
- Annual Tourism records which continue to improve every year
- Internal Infrastructure
- Upcoming investments, ports and airports being built in the country

Due to the above reasons, investing in opening a new restaurant in Colombo could become a highly profitable venture for both local as well as foreign investors.

Business Problem

Since we have established the fact that Colombo is a suitable area to invest in Sri Lanka, the objective of this project is to analyze and find the best locations to open a new restaurant in Colombo. Data will be obtained through websites such as Wikipedia and also from the Foursquare API for this project and machine learning algorithms such as clustering algorithm will be used to come up with the answers for the questions an investor might have when investing in a new venture.

Target Audience

- Investors who would want to invest or open new restaurant in Colombo
- Any local or foreign individual who would want to know about the existing restaurants and other interesting places around Colombo so that they could get an idea about it.
- Any other Data Analyst or Data Scientist who would find the observations we find through completing this project to be important for their own analysis.

Data required for our analysis

The Data required to understand our problem so as to select the best area to open a new restaurant included:

- The list of cities or neighborhoods which fell under the jurisdiction of the district of Colombo – Web scraping was done using Pandas and the data required for this purpose was obtained through Wikipedia page ‘Postal Codes of Sri Lanka’ under the following link
https://en.wikipedia.org/wiki/Postal_codes_in_Sri_Lanka
- The coordinates of those neighborhoods which were the Longitudes and the Latitudes of those cities – Geocoding, which is the process of converting physical addresses to a location on the Earth’s surface was used to obtain the coordinates of the cities. Geopy and geocoders was installed to extract the required information.
- Data about the different shops and venues in those area, specially data about current restaurants so as to build a model which would best fit our requirements – Foursquare API was used to obtain the relevant Venue data and special emphasis was given to restaurants.
- The data that we obtained from the above methods were transformed and converted to a form which was useable through data cleaning and data wrangling so that only the relevant information was obtained and the best model to predict a place to open a new restaurant could be created.