CAPSTONE PROJECT – The Battle of Neighborhoods

To open a Vietnamese restaurant in Osaka, Japan

By Le Mai Minh Phong

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Introduction

Osaka is the third largest city in Japan, with a population of over 2.5 million people in its greater metropolitan area. It is the central metropolitan city of the Kansai region and the largest of the Osaka-Kobe-Kyoto trio. Osaka is also known as the "Nation's Kitchen," and is well known for delicious foods. You can also find a variety of cuisines in Osaka street, from Western to South East Asia. In recent years, the number of foreign people especially Asian in Osaka keep raising every year that I not event mention the number of foreigners come to Osaka for travelling. In December 2019, they recorded over 150 thousand foreigners who are working and living in Osaka. With the trend of exchange cultures, the majority of Japanese people nowadays, beside their neutralism flavor foods, are searching for more deep flavor in South East Asian cuisine.

Business Problem

The ultimate goal of this capstone project is to analyze and to provide the best locations in Osaka in order to open a new Vietnamese restaurant. In the scope of this capstonse project, I don't want to mention about a particular high-end, exclusive restaurant like the image of a Italian or France restaurant, but I'm talking about a small family restaurant in general. In Japan, when looking for a place to open this kind of business, the first thing and also the most important thing you have to put in consideration is the accessibility. Most of people in Japan transport by public transportations, such as train, subway, bus. Other aspect should be considered is the target customers. From the perpective of sharing the similarities in cuisine, I think the main customer will be South East Asian.

By applying what I have learned through out this course like data science methodology and machine learning techniques, I will provide a solution to answer the business question: if someone is looking to open a new Vietnamese restaurant in Osaka area, where should they consider to open it?

Data

We will need data from reliable sources for analysis. To understand our problem and quantify result we will use the following data.

- ➢ List of wards/boroughs in Osaka.

- ➢ Latitude and longitude coordinates of those wards.

- ➢ Venue data, particularly data related to restaurant.

- ➢ Foreign population, particularly Vietnamese in Osaka.

For the list of wards in Osaka, we can find them in this Wikipedia page https://en.wikipedia.org/wiki/Osaka that contains a list of wards in Osaka, with a total of 24 wards. In order to pull the data out of the html page, we will use Beautiful Soup that is a Python library provides a beautiful web scraping technique. Then we will get the geographical coordinates of the wards using Python Geocoder package.

For the venue data, we will apply to a Foursquare Developer Account at https://foursquare.com/ that allows us to get the venue data for those wards via Foursquare API. The Foursquare API will provide many categories of the venue data, especially the restaurant category in general and the Vietnamese restaurant category in particular.

For the foreign population, it's amazing that the Osaka office provides us the information in real detail at their official website below.

https://www.city.osaka.lg.jp/shimin/cmsfiles/contents/0000006/6893/(0109)07_kubetu_kokusekibetu_gaikokujin.xls

We can find an Excel file with data for number of foreign people in each ward of Osaka in separate nationalities.

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