



IBM CAPSTONE

Opening a Gym/Fitness
Centre in Ho Chi Minh City,
Viet Nam

By: Cuong H. Nguyen-Dinh



INTRODUCTION

Business problem

Background

Ho Chi Minh (HCM) city (its former name is Sai Gon) is known as the most populous city in Viet Nam (with a population of over 10 million people). Moreover, HCM city is also the financial centre of Viet Nam. In this dynamic city, there are many opportunities for business activities. Therefore, it is good to think of doing business in this southern beautiful city of Viet Nam.

Business problem

“Can we figure out areas in HCM city where a gym/fitness centre can be launched?”

Data

Required

- Data about neighborhoods in HCM city
- Coordinate data of neighborhoods
- Venue data is served clustering method

Sources

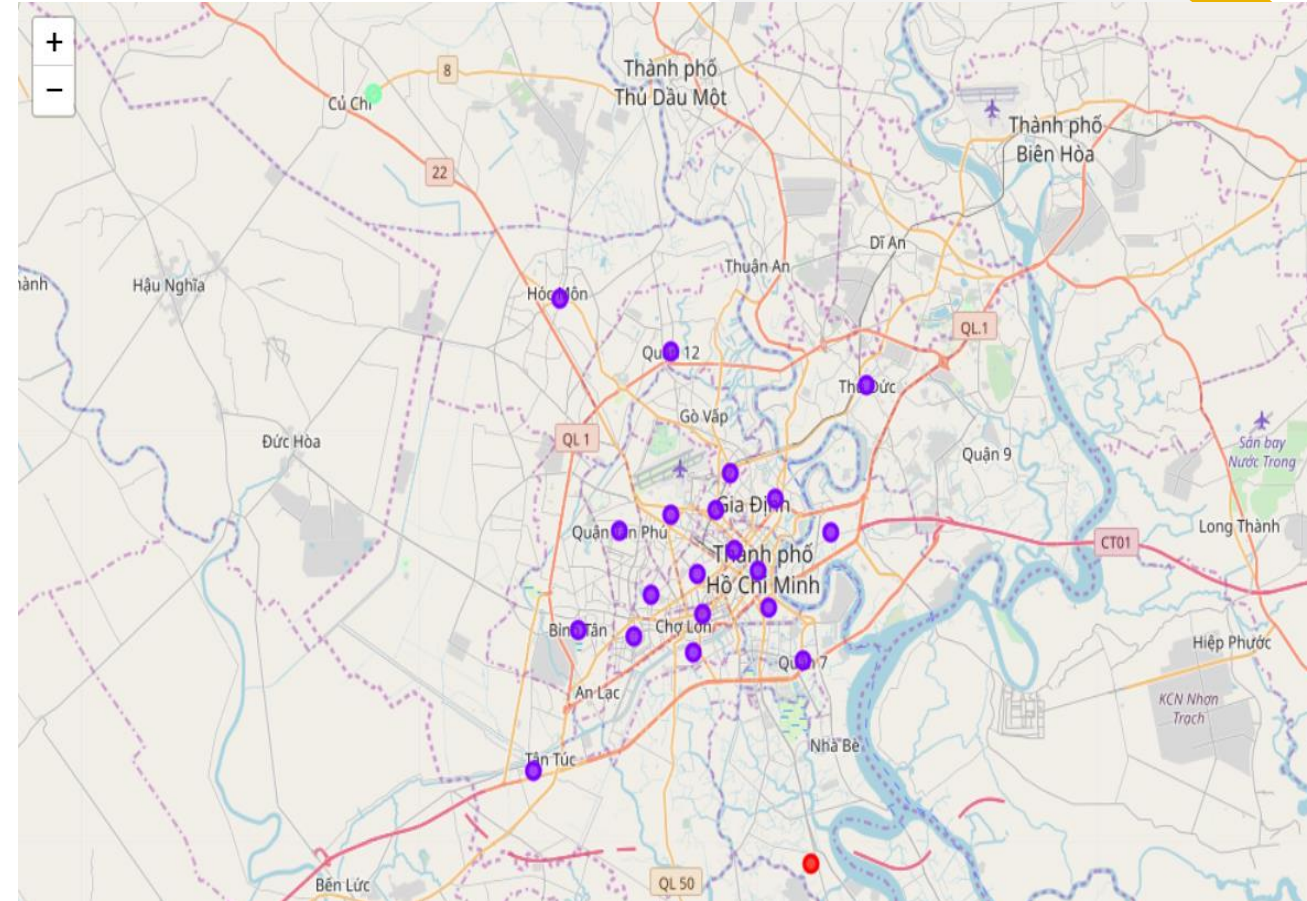
- [Wikipedia page](#)
- [Foursquare service](#)

METHODOLOGY

- Crawl list of neighborhood
- Get neighborhood coordinates
- Get venue near by each neighborhood
- Transform data using one-hot encoding
- Elbow analysis (to find optimum k value for k-means model)
- Build k-means model
- Analyze clustering results.
- Visualize data

Results

- Neighborhoods are divided into 3 distinct clusters.
- Cluster 1: mostly in the city central (urban area)
- Cluster 2: in the north of the city (rural area)
- Cluster 3: in the south of the city (rural area)



Discussion

- According to the observation, gym/fitness centre have not been developed as many as other kinds of business like restaurants or coffee shops in HCM city.
- Hence there are big opportunities for opening a gym/fitness centre in this city in general.
- In particular, we can select the areas of group 2 and/or group 3 to launch our centre.
- Eventually, we can think of launching our centre in many points of group 1, because the number of this kind of centre is small in comparison with other kinds of business.

Conclusion

- The findings of this study can be briefly reported as follows.
 - There is big opportunity for opening gym/fitness center in HCM city because this kind of business has not been developed;
 - The opportunity is high at areas of group 2 & 3; and
 - In the areas of group 1, there is still lot of opportunities because gym/fitness centers are just minority and low rank in the top 10 venue categories of this group



Thank You.



Cuong H. Nguyen-Dinh

