OPENING A NEW HOTEL IN HA NOI, VIET NAM

Coursera Capstone – Week 5 – Report

PROBLEM

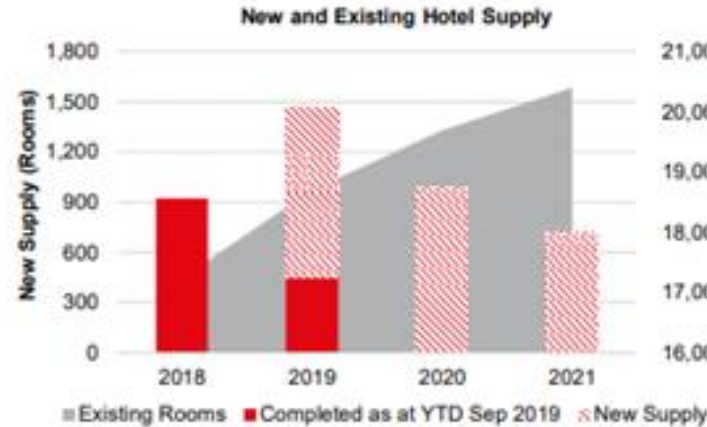In Ha Noi, if a property developer is looking to open a new hotel, where would you recommend that they open it?

This project is particularly useful to property developers and investors looking to open or invest in hotels in Ha Noi. This project is timely as the city is currently suffering from oversupply of hotels.

- During the first two months of 2019, Hanoi reported double-digit increases in ADR (+10.1% to VND 2,856,659.12) and RevPAR (+14.0% to VND 2,200,763.03).

- There are 224 hotels accounting for 17,615 rooms in Hanoi. The market continues to remain full of smaller hotels, with almost 75% of all hotels at 100 rooms or fewer and 60% of all hotels with fewer than 50 rooms.
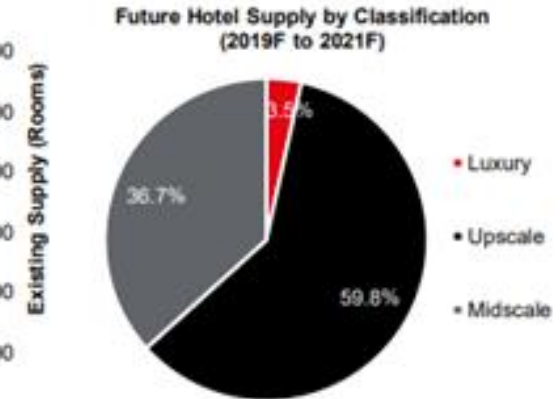
PROBLEM

456 Rooms

New Openings
YTD Sep 2019

A total of 1,008 rooms will be added to Ha Noi's hotel landscape in Q4 2019, increasing total supply to 18,699 rooms, with approximately 97% of the new supply in the midscale and upscale segments. By the end of 2021, Ha Noi will have more than 20,400 rooms with approximately 59.8% belonging to upscale segments.

New and Existing Hotel Supply

- Existing Rooms
- Completed as at YTD Sep 2019
- New Supply

Source: JLL

Future Hotel Supply by Classification (2019F to 2021F)

- Luxury 3.5%
- Upscale 59.8%
- Midscale 36.7%

Source: JLL

Hotel Trading Performance
As at YTD August 2019 (y-o-y change)

116 USD	2.9% ↑	81.2 %	5.3 pp ↑	94 USD	8.4% ↑
ADR*		**Occupancy**		**RevPAR**	

Outlook

With continuous tourism advertising initiatives, new target markets (e.g. North America and Australia) and moderate growth in hotel room supply, Ha Noi is expecting continuously strong visitor arrivals and healthy hotel trading performance over the next three years.

*Increase over YTD Aug 2018

*ADR : Average Daily Rate
*RevPAR : Revenue per Available Room

*YTD: year-to-date

DATA

List of neighbourhoods in Ha Noi. This defines the scope of this project which is confined to the city of Ha Noi.

Latitude and longitude coordinates of those neighbourhoods. This is required in order to plot the map and also to get the venue data.

Venue data, particularly data related to hotels. We will use this data to perform clustering on the neighbourhoods.

METHODOLOGY

We will do web scraping using Python requests and beautifulsoup packages to extract the list of neighbourhoods data. We need to get the geographical coordinates in the form of latitude and longitude in order to be able to use Foursquare API. After gathering the data, we will populate the data into a pandas DataFrame and then visualize the neighbourhoods in a map using Folium package.

We will use Foursquare API to get the top 1.000 venues that are within a radius of 10.000 meters. With the data, we can check how many venues were returned for each neighbourhood and examine how many unique categories can be curated from all the returned venues.

We will perform clustering on the data by using k-means clustering. K-means clustering algorithm identifies k number of centroids, and then allocates every data point to the nearest cluster

RESULTS

- Cluster 2: Neighbourhoods with **low** number of hotel (blue)

- Cluster 0: Neighbourhoods with **low** number of hotel (red)

- Cluster 1: Neighbourhoods with **medium** number of hotel (purple)

- Cluster 4: Neighbourhoods with **medium** number of hotel (green)

- Cluster 3: Neighbourhoods with **high** number of hotel (light blue)

- Cluster 5: Neighbourhoods with **high** number of hotel (orange)
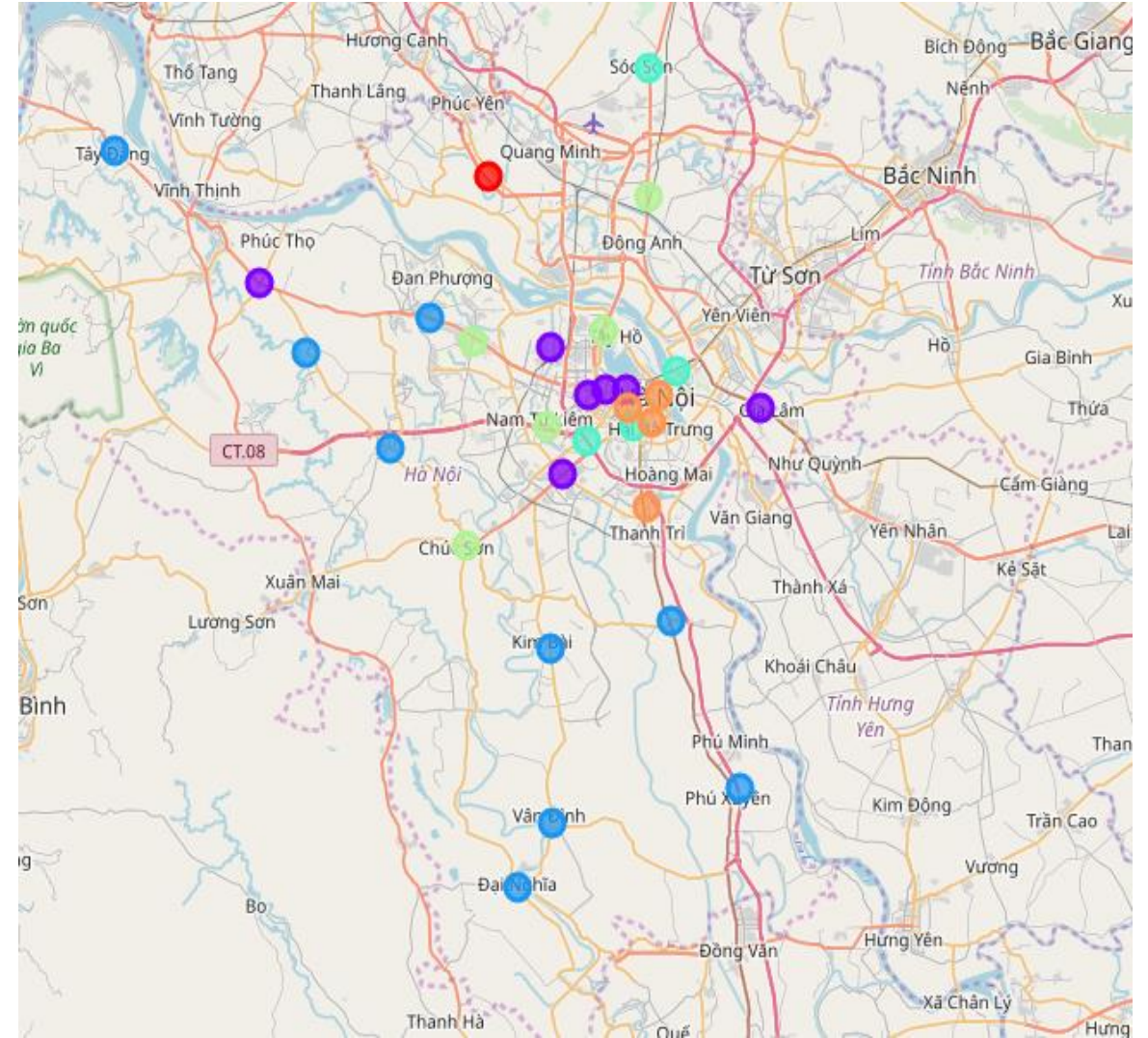
DISCUSSION

As observations noted from the map in the Results section, most of the hotels are concentrated in the central area of Ha Noi, with the highest number in cluster 3&5 and moderate number in cluster 1&4. On the other hand, cluster 0&2 has very low number to no hotel in the neighbourhoods. This represents a great opportunity and high potential areas to open a new hotel as there is very little to no competition from existing malls. Meanwhile, hotels in cluster 3&5 are likely suffering from intense competition due to oversupply and high concentration of hotels. From another perspective, the results also show that the oversupply of hotels mostly happened in the central area of the city, with the suburb area still have very few hotels. Therefore, this project recommends property developers to capitalize on these findings to open a new hotel in neighbourhoods in cluster 1&4 with little to no competition (avoid neighbourhoods in cluster 3&5 and too far from center area in cluster 0&2).

CONCLUSION

In this project, we have gone through the process of identifying the business problem, specifying the data required, extracting and preparing the data, performing machine learning by clustering the data into 6 clusters based on their similarities, and lastly providing recommendations to the relevant stakeholders i.e. property developers and investors regarding the best locations to open a new hotel. To answer the business question that was raised in the introduction section, the answer proposed by this project is: The neighbourhoods in cluster 1&4 are the most preferred locations to open a new hotel. The findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decisions to open a hotel.