A. Introduction

A.1. Description & Discussion of the Background

Dubai is a global city where people from more than 200 nationalities live in it. It is considered one of the most visited cities in the world. Dubai welcomed 16.73 million tourists from over 233 countries around the world. It is one of the most attractive destinations in the Middle East region for international visitors who visit it for leisure or business. It is considered a business hub that connects the east with the west. The city is modern with a well-developed infrastructure, facilities and technology and transportation system. All makes it an interesting place for business investment specially in hospitality industry including restaurants and food industry. The problem in this project is help investor to decide on which restaurant cuisine to open and where to open the new restaurant. The investor wants to open in very attractive area which is visited by millions every year- the Dubai Mall and Dancing Fountain/Burj Khalifa (tallest tower in the world) area. However, the problem is to check which restaurant cuisine to open in the area? The appropriate location of the restaurant and if there are already existing competitors offering same cuisine in the area?

A.2 description of the data and how it will be used to solve the problem.

Foursquare API was used to get the data of Turkish restaurants near (or in) the Dubai Mall with distance 800 m. Retrieved Data was used to find how many Turkish restaurants in this attractive area, which is visited by millions every year, and determine the locations (latitude and longitude) on the map which helps the investor to find on the map the alternative locations for the new restaurant.

B. Methodology

A set tools were used in this project. IBM Watson was used to write and run the code. GitHub repository was used as control version system to store and publish, share the project python code. Foursquare API was used to find data about all Turkish restaurants in/nearby the Dubai Mall within 800m radius. Folium library was used also to visualize the geographic location of all identified Turkish restaurants in the targeted area as will be shown in the following section.

Results and Discussion:

The search option in Foursquare API was used to find all venues that include "Turkish" which resulted in data organized in Dataframe in Table 1. However, the result included categories not related to restaurants (e.g. Turkish Airlines) so they were excluded from the data. As a result, only four Turkish restaurants were found near/in the Dubai Mall (shown in table 2) which is interesting results as it shows that there are limited number of competitors so it could be an

interesting opportunity to open a new restaurant (Turkish cuisine) in the area. As shown on map, the location of each restaurant was marked by red circle while the Dubai Mall was marked by blue circle. Interestingly, three out of four restaurants were also located inside the mall where only one was found outside the mall but within the radius range (800 m). This also provides insight that a new restaurant could have better opportunity if it opens outside the mall in Boulevard road or facing fountain/Burj Khalifa. Furthermore, knowing the position of that restaurant (the one that is outside the mall), helps in finding a position that is not close to it as marked by green X on the second map.
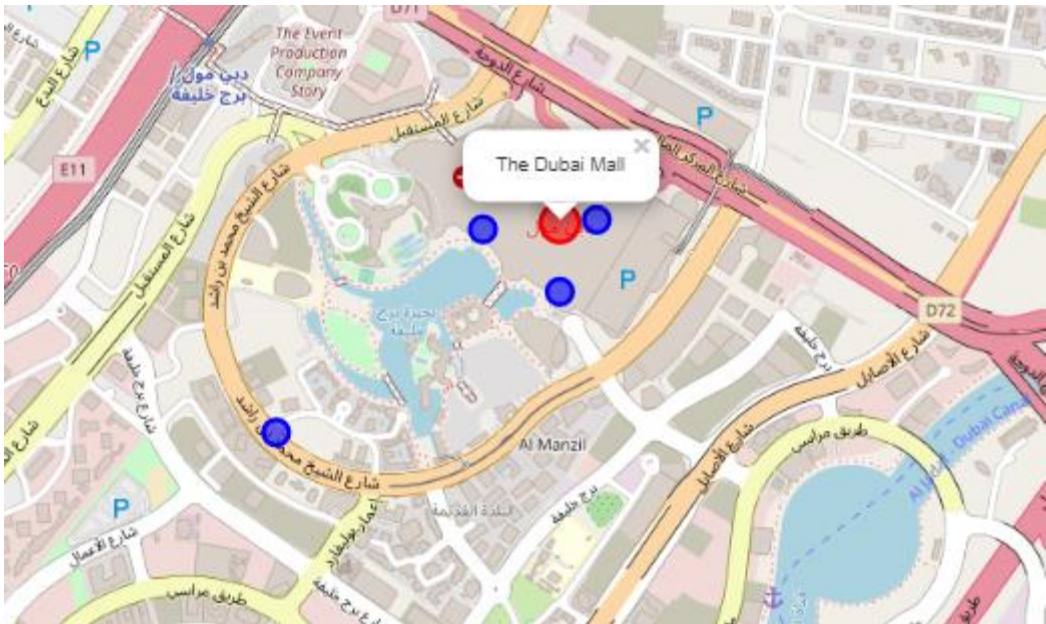
	name	categories	location.distance	location.city	location.postalCode	location.state	location.country	location.lat	location.lng
0	Bosporus Turkish Restaurant	Turkish Restaurant	183	دبي	23546	دبي	الإمارات العربية المتحدة	25.195447	55.279038
1	Zouzou Lebanese Turkish Restaurant	Turkish Restaurant	207	دبي	NaN	دبي	الإمارات العربية المتحدة	25.196956	55.276978
2	Turkish Airlines	General Travel	625	دبي	NaN	دبي	الإمارات العربية المتحدة	25.199495	55.273426
3	Turkish Airlines Office	General Travel	709	دبي	NaN	دبي	الإمارات العربية المتحدة	25.201611	55.274072
4	Mado (مادو)	Turkish Restaurant	101	دبي	NaN	دبي	الإمارات العربية المتحدة	25.197176	55.280041
5	Bosphorus	Turkish Restaurant	950	دبي	NaN	دبي	الإمارات العربية المتحدة	25.191999	55.271462

Out[268]:

	name	categories	location.distance	location.city	location.postalCode	location.state	location.country	location.lat	location.lng
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In [274]: Turkish_Restaurant.shape

Out[274]: (4, 9)

C. Conclusion

The results of this project case can be considered as initial step to help investor (e.g. restaurant chain) to decide wheatear to open a Turkish resultant or not in the most attractive area in Dubai, and what are the alternative locations in that area. In this project, only data from Foursquare was used. For future work, it would be useful if data about customer preferences of Turkish cuisines and orders can be obtained from the identified four restaurants or other independent sources which can be analyzed to identify the most preferred ordered meals or item/sweet by customers, the profiles of customers who dine in Turkish restaurants, the association between order's items, peak times, and many others. In this project (final course), different data science skills were acquired such as fetching location data from Foursquare API, organizing and querying data using dataframe, and visualizing data on maps. The project python code is also published on GitHub.

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