REPORT!

A) **Introduction**

A Spanish family recently moved to Munich, Germany and they would like to start a business in the food industry. They are thinking on opening a tapas bar in the heart of the city (Marienplatz, Munich, Germany) and they will use mainly the Foursquare API to do some research in the area to see if is worth the effort and money to do it. They expect to reach people who speak Spanish (people from Spain, from Latin America and people who learnt it as a second language).

B) **Data and Data Sources**

For the city analysis the family will use the immigration information provided by the State of Bavaria (https://www.muenchen.de/rathaus/) which will tell us about the amount of Spanish and latin people who resides in the city currently.

For example, in the city there is currently living 9,087 Spanish people and approximately 6,170 latin people in Munich. They could be potential customers.

Also, the menus can be written in English and German to attract more people.

They will also use Foursquare API to collect information about the bars with tapas topic and they ratings.

The main goal will be to find a spot in the city close enough to the centre and main attractions, where the neighbours bars don't have great ratings (in order to not compete with them)

A) **Methodology**

C.1) Statistisches Amt München

First, we will have a look at the reports of immigration found in https://www.muenchen.de/rathaus/.

Spanish immigration has been increasing over the last years in Munich and the city expects the same rate of increase in the coming years. Graph 1 shows the population in the city since Graph 1: Spanish population in Munich, Statistisches Amt München
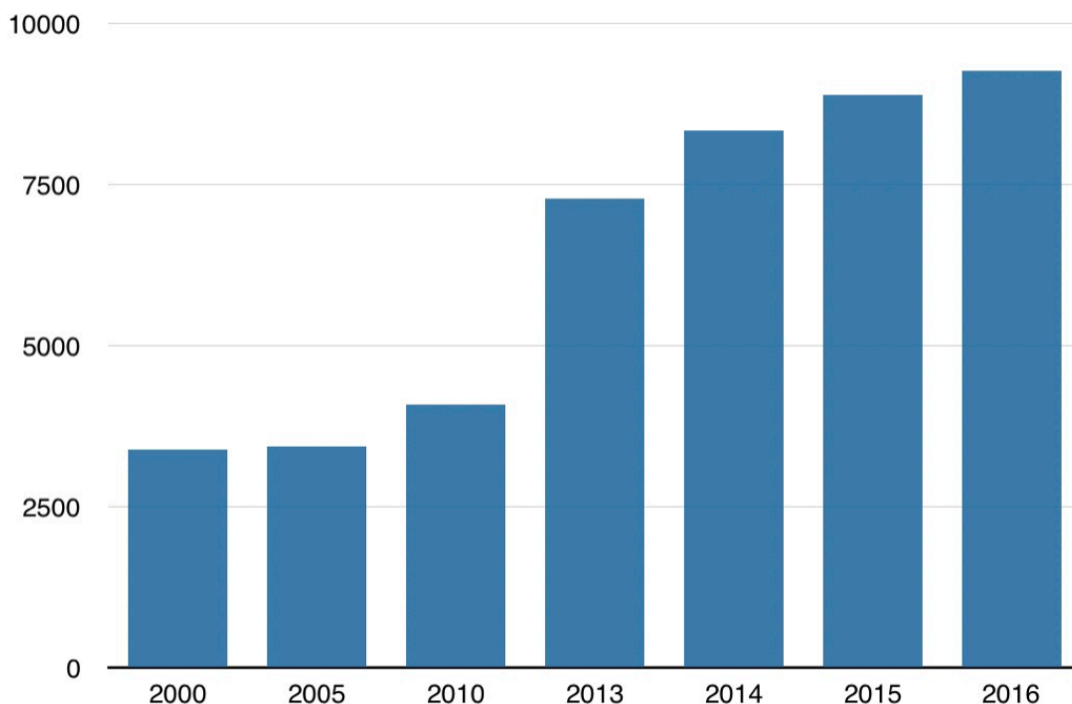
year 2000 up until year 2016. Currently we can also see that the immigration rate has decreased slightly but we can still spect

```
CLIENT_ID = '2Z3UZXIKCNOTBEIKO1HVNWDJ1JT0YA
CLIENT_SECRET = 'AFML0IDZ5Y4J52JD24T2I4RJXI
ACCESS_TOKEN = 'E5KQLGPNGEB0ZVV0IZI2FFAWELF
VERSION = '20180604'
LIMIT = 30
print('Your credentails:')
print('CLIENT_ID: ' + CLIENT_ID)
print('CLIENT_SECRET:' + CLIENT_SECRET)
```
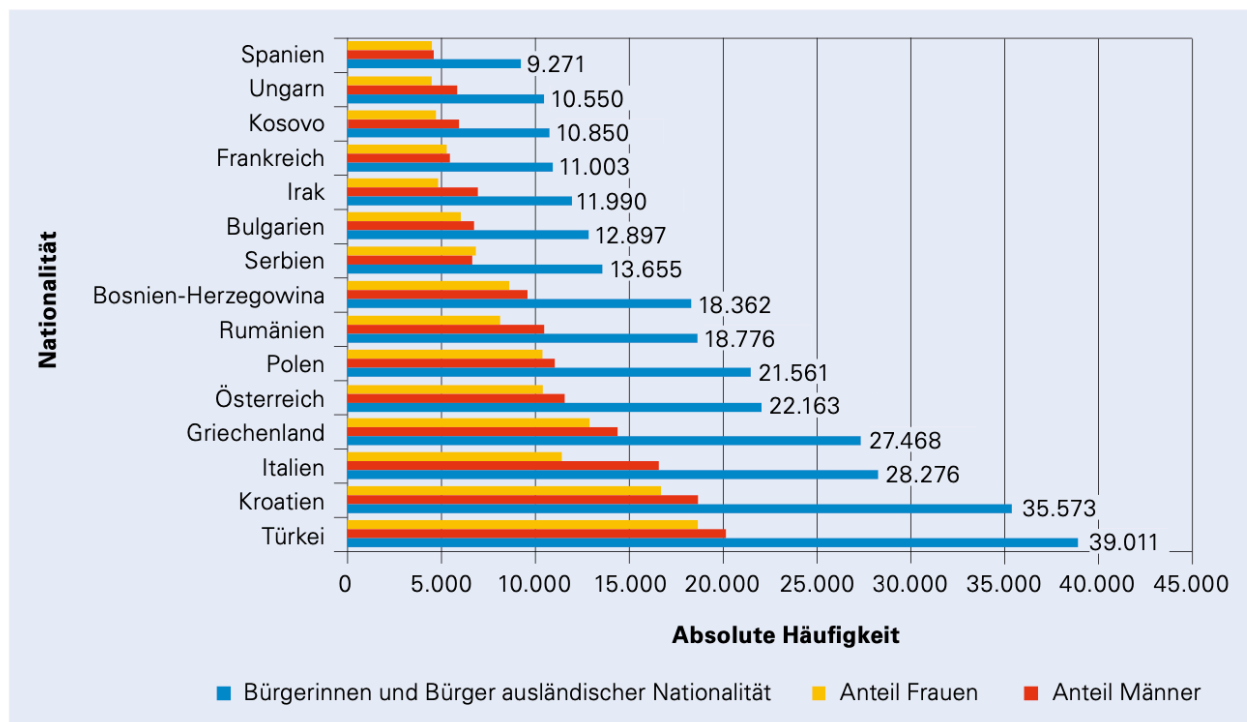

Quelle: LH München, Statistisches Amt.

Spanish people to come over the city and try to start a new life. For the Spanish family who wants to start business here, it is great news.

Graph 2: Global immigration in Munich, Statistisches Amt München

Another important graph provided by Statistisches Amt München (Graph 2) shows that even though Spanish people is not the greatest group, it is definitely a quite big target for customers.

Finally, according to Statistisches Amt München, there are 6,170 latin people living in Munich which considers people from Argentina, Chile, Bolivia, Peru, Colombia, etc.

As we can see, there are people out there who can be potential customers to an eventual Tapas Bar in the heart of Munich. We will be then show how we used Foursquare API to find the best spot in the city to start business.

C.2) Foursquare API

1.- First we import all necessary libraries for analysis:

```python
import requests # library to handle requests
import pandas as pd # library for data analsysis
import numpy as np # library to handle data in a vectorize
import random # library for random number generation


!pip install geopy
from geopy.geocoders import Nominatim # module to convert a

# libraries for displaying images
from IPython.display import Image
from IPython.core.display import HTML

# tranforming json file into a pandas dataframe library
from pandas.io.json import json_normalize


! pip install folium==0.5.0
import folium # plotting library

print('Folium installed')
print('Libraries imported.')
```

2.- We then get the credentials to access to the Foursquare API:

3.- We get now the coordinates of Marienplatz:

Center in Marienplatz, Munich, Germany

```
address = 'Marienplatz,Munich,Germany'

geolocator = Nominatim(user_agent="foursquar
location = geolocator.geocode(address)
latitude = location.latitude
longitude = location.longitude
print(latitude, longitude)
```

48.137031750000006 11.575924590567384

4.- We now proceed to search
venues that have Tapas as a partial name. We will use a radio of 2km around Marienplatz.
As a result we get the following list and the map with the coordinates of each:

dataframe_filtered.name
0   Hickory – Tapas BBQ Smokehouse – Haidhausen
1   Teatro Tapas
2   Tönis Tapas
3   Itxaso Tapas
4   Bar Tapas
5   Tapas Tapas
6   Amistad – tapas y vino
7   bayrische tapasbar
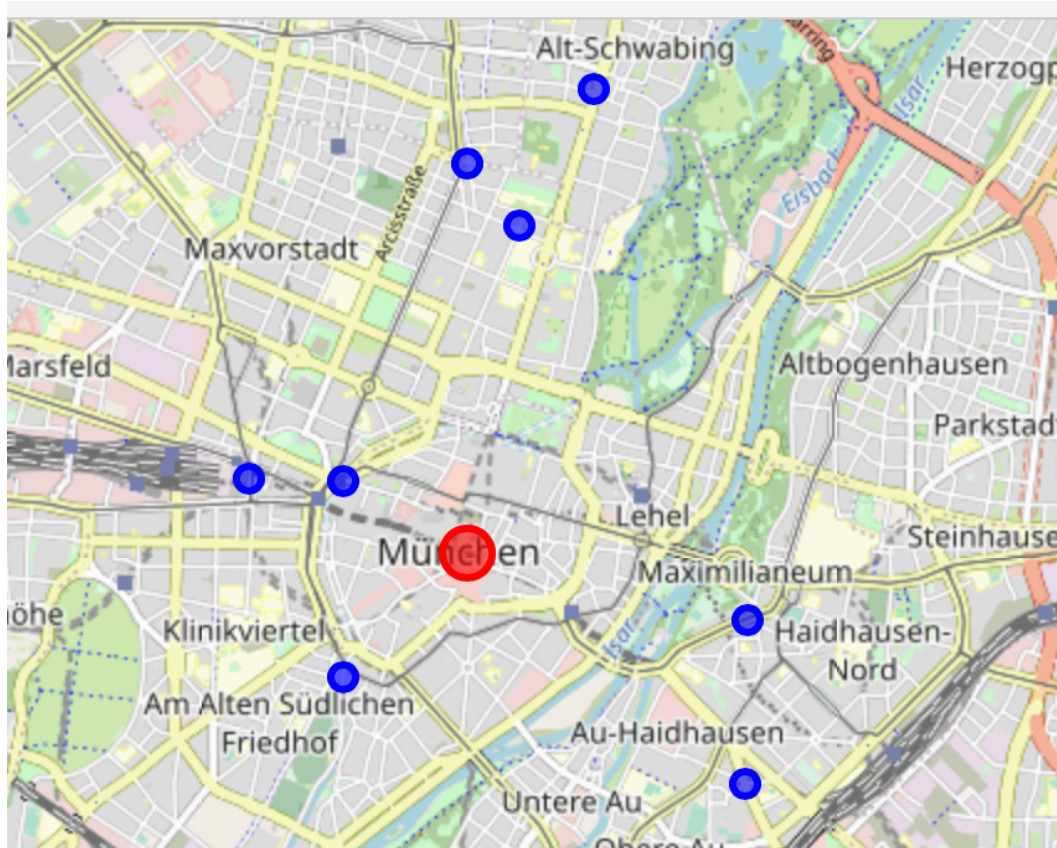
5.- We now will explore scores of the venues:

```python
venue_id = '4f830f4ee4b024a26fbb1eca' # ID of Itxaso Tapas
url = 'https://api.foursquare.com/v2/venues/{}?client_id={}&c

result = requests.get(url).json()
try:
    print(result['response']['venue']['rating'])
except:
    print('This venue has not been rated yet.')
```

7.0

```python
venue_id = '4b8ecb87f964a520923733e3' # ID of Bar Tapas
url = 'https://api.foursquare.com/v2/venues/{}?client_id={}&

result = requests.get(url).json()
try:
    print(result['response']['venue']['rating'])
except:
    print('This venue has not been rated yet.')
```

7.5

Unfortunately only two of them have rating. We also found that Itxaso Tapas only has 29 tips and Bar Tapas has 18 and only Bar Tapas has useful tips.

6.- Considering point 5, we proceed now to explore what is in the area around Bar Tapas to see what kind of business are there and if people really go to that area or not. We found a large list of business related to food:

	name	categories	
0	Geschwister-Scholl-Platz	Plaza	Ges Scho
1	Konditorei Kaffee Schneller	Pastry Shop	Amal
2	Julius Brantner Brothandwerk	Bakery	Adalb
3	The Victorian House Brown's Tea Bar	Tea Room	Türk
4	Lost Weekend	Café	Sche
5	Donuts & Candies	Donut Shop	Georg
6	Königin 43	Café	Köni
7	Sushiya Sansaro	Sushi Restaurant	Amal
8	Morso	Café	Norde
9	Ballabeni	Ice Cream Shop	The
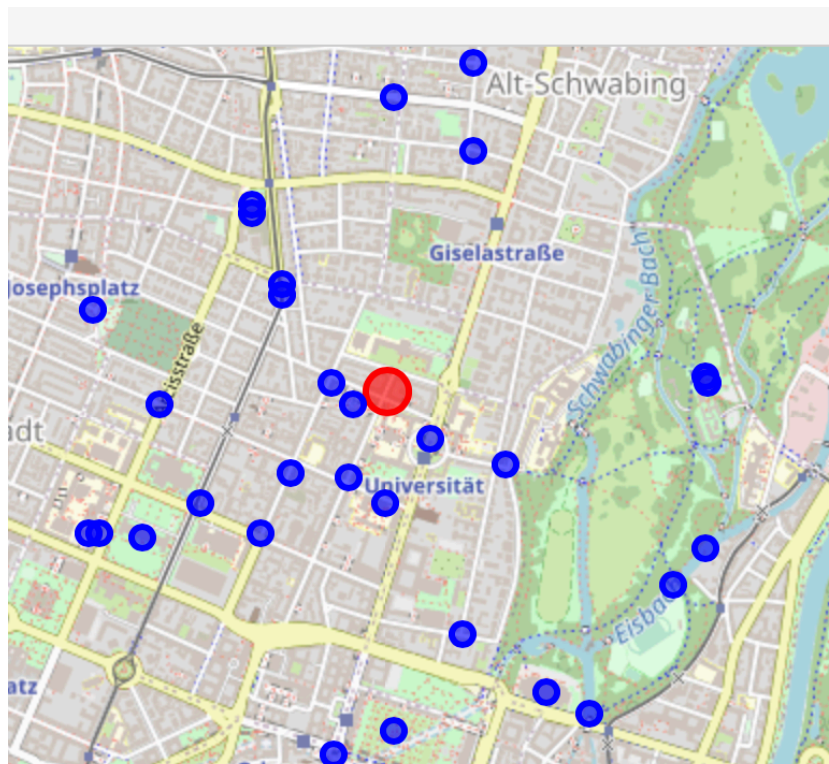
C) Results

Statistisches Amt München shows that through the years, the Spanish immigration has only increased so it is expected to have more Spanish people visiting and staying in Munich in the future years.

Foursquare API showed that there are only seven venues related with Tapas in a 2km radio of Marienplatz. Most of them are not rated and only two are rated but they have not many tips. It also shows that up north of Marienplatz there are much more business related with food.

D) Discussion

The data related with population accessed through the portal *Statistisches Amt München,* shows us that there are potential customers who are coming to Munich to live and gives the Spanish family a good start related with customers.

The data accessed through Foursquare API shows us that there are not many Tapas business so is a good start and also not all of them have ratings. We had to rely on the venues that had some valued information and the data showed us that it is a better idea to think of moving the location of the new Tapas Restaurant to a place near the English Garden. It is a vivid a busy area with just 3 similar business, near U-Bahn stations and near a university area.

E) Conclusion

We would recommend to this family to start their business near the English Garden instead of in Marienplatz.