Introduction/Business Problem

For this project I use the recommendation which is noted in "Instructions" , in the "Peer-graded Assignment: Capstone Project - The Battle of Neighborhoods (Week 1)" :

"In a city of your choice, if someone is looking to open a restaurant, where would you recommend that they open it?"

My choice is my city where I live, the capital City of Macedonia, Skopje, is home to approximately one third of the country's population .

City Skopje (https://skopje.gov.mk/en_us/ , have some separated municipalities, with different position from center od Skopje, from different position of important infrastructure and historical objects, different number of citizens … etc. All these issues are important if someone is looking to open a restaurant. But most important business questions are:

How many restaurants have on same area and in the neighborhoods?

Which type of restaurants are? Traditional, Italian ... etc.

Does have some other categories as lounge bar, café, gastro bar, fast food, pizza places etc? Theare have high impact of business with restorants.

With visualization and statically information will be presented opportunities about the business plan: opening of restaurant.

Data

1)

The most important data resource is Foursquare.

From Foursquare , will be use only Category:

FOOD category (but only restaurants) is primary interest because is most important for business plan.

FOOD category (all other sub- categories) are point of interest because they have indirect impact for business plan.

All these data will be get from Foursquare, selected by categories and procesed , clustered by municipalities of City Skopje.

2)

Only around the borders and central locations, the source of data is the website of the municipalities and the city of Skopje, but they are very poor and inaccurate, of descriptive type.

All data are summarized in the file MUNICIPALITIES_of_SKOPJE.scv, with content:

municipalitie	lat	ltd	radius
CENTAR	41.99128417375626	21.421387535169046	2000
KARPOS	42.00144989353067	21.39316760691816	2250
AERODROM	41.985345252792165	21.466039944537595	2000
GAZI BABA	42.0078525332411	21.494612506119616	2600
BUTEL	42.02885002354281	21.435746865894515	2600
KISELA VODA	41.969574484880425	21.441664619557955	2000

Data Analysis

- As the first and most important point for the business plan, by selecting and processing the data, to find all restaurants in one municipality, by name, but more importantly the type of restaurant (Chinese, Italian .. etc). For an example, see Figure 1, below.

Figure 1

	name	lat	lng	categories
4	Deja Vu (Capitol Mall)	41.985841	21.466124	Italian Restaurant
11	Сендвичара 7-ца (Аеродром)	41.989378	21.459498	Fast Food Restaurant
16	Equilibrium Restaurant & Coffee Bar	41.986579	21.454279	Modern European Restaurant
28	Ap Ap Lap	41.983679	21.464519	Restaurant
30	Big Fish	41.989719	21.459630	Restaurant
32	De Gama	41.985338	21.465785	Restaurant
33	Гостилница Трокадеро	41.989803	21.459913	Comfort Food Restaurant
40	Restoran Firma	41.983433	21.458360	Restaurant
49	Ресторан Дојрана	41.997811	21.460023	Restaurant
54	Bisera	41.984868	21.458761	Restaurant
62	T'ra за југ	41.991284	21.464252	Restaurant
70	Restoran Berovec	41.989846	21.458975	Eastern European Restaurant
76	Sportska gostilnica Pace	41.978685	21.478221	Restaurant
78	Гостилница XXL	41.984887	21.464915	Restaurant
89	Papaz	41.983777	21.480962	Fast Food Restaurant

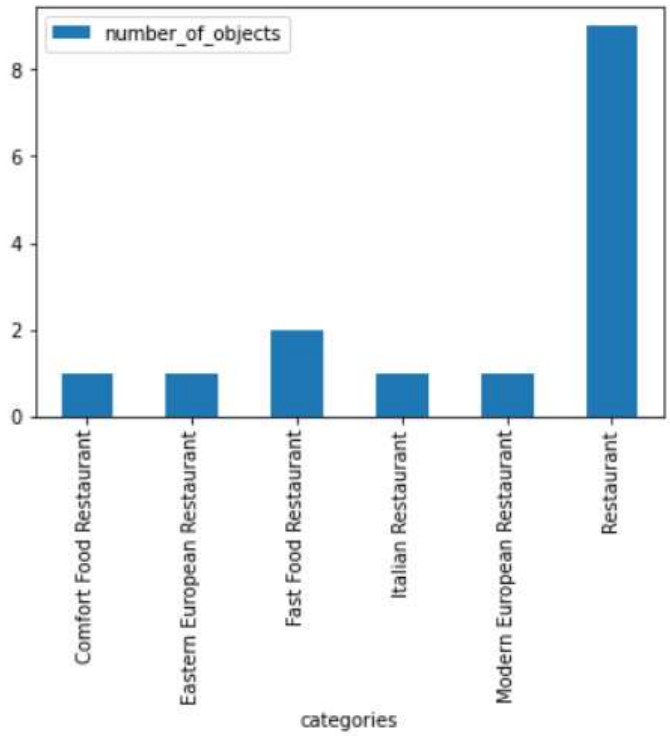
- As the first and most important point for the business plan, by selecting and processing the data, to find all type of restaurants in one municipality, by type, as but more important (Chinese, Italian .. etc). For an example, see Figure 2 and Figure 3, below.

Figure 2

categories	number_of_objects
Comfort Food Restaurant	1
Eastern European Restaurant	1
Fast Food Restaurant	2
Italian Restaurant	1
Modern European Restaurant	1
Restaurant	9

And as shart:

Figure 3



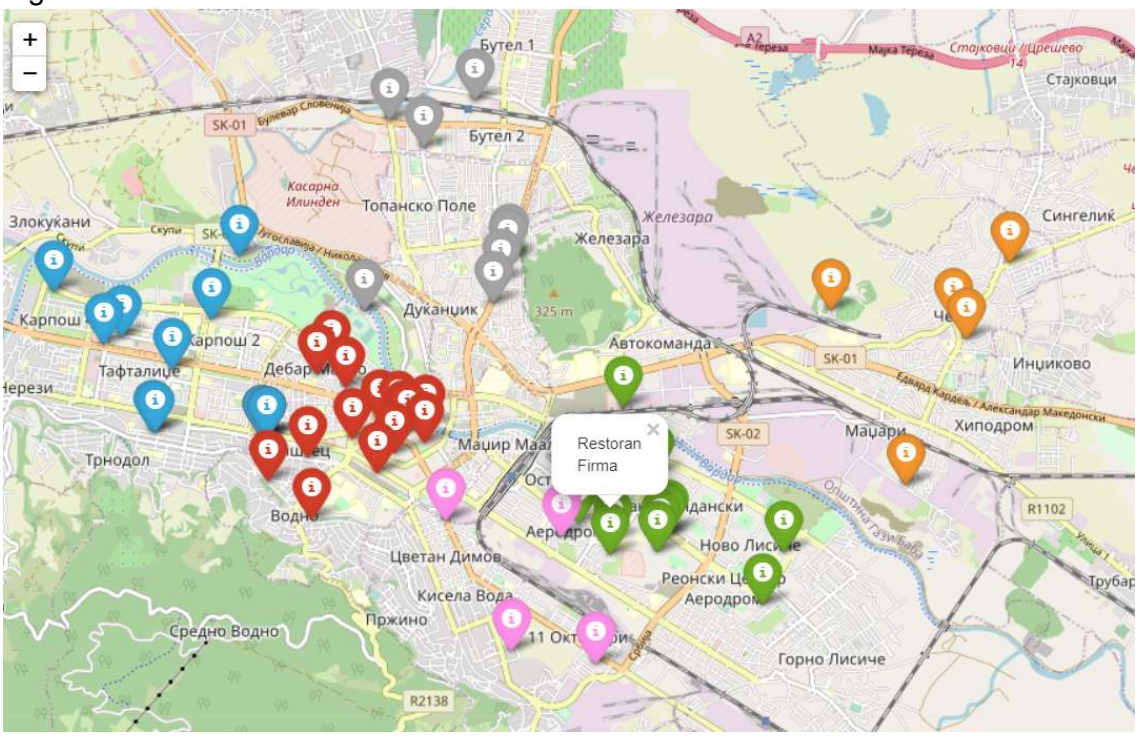
- As a point that indirectly affects the business plan, by selecting and processing the data, to find all other facilities in one municipality, by name but also by type (coffee bar, pizza place .... etc). For an example, see Figure 4, below.

Figure 4

	name	lat	lng	categories
12	Pastrmajlija & Grill House	41.986767	21.465098	BBQ Joint
18	La Strega Espresso Bar	41.988382	21.454634	Coffee Shop
22	Every Day Coffee Shop	41.989492	21.475901	Café
24	Слаткарница „Палма“ (Аеродром)	41.988622	21.453096	Dessert Shop
27	БАР ОН	41.984927	21.465312	Café
34	Domino's Pizza (Аеродром)	41.983635	21.469844	Pizza Place
35	Trend Gastro Bar	41.985969	21.464393	Gastropub
36	Block Cafe	41.987537	21.451182	Lounge
37	Baking Bread	41.981119	21.470760	Bakery
38	Kono Pizza	41.990983	21.464922	Pizza Place
41	Davido	41.985274	21.465150	Café
43	Pizza Land	41.982421	21.472524	Pizza Place
44	Ваташа	41.974344	21.471601	Bakery
45	Get Lounge Bar	41.991892	21.449597	Lounge
47	Leskovacka (Лесковачка)	41.989243	21.463330	BBQ Joint
50	Red Caffe	41.991550	21.450496	Lounge
52	СИФ XXL Бифе	41.985055	21.465116	BBQ Joint
57	Happy	41.988454	21.453208	Café
72	Mlecen Restoran Kismi	41.985243	21.465998	Bakery
77	Маратонец	41.988478	21.453284	BBQ Joint
81	Rimini	42.002977	21.464421	Pizza Place

- Location is most important key parameter , data are selecting and processing to find all the locations of restaurants in one municipality and to display them on a map. Complete view, from the data, to show on a map all the restaurants, marked separately for different municipalities. For an example, see Figure 5

Figure 5



Modeling

This case is descriptive method, analyzing data by type of restaurant, by total number of restaurants in some area etc.

Finally, two criteriums are:

Visualization on the map, as way to predict the best location.

Statistical data by area, as way to select best type of restaurant.