OPTIMAL RESTAURANT ALLOCATION IN PARIS

FINAL PRESENTATION FOR IBM DATA SCIENCE COURSE

BUSINESS CASE

- Finding the ideal location of a food-service venue is always a challenge, as it will be a major factor impacting the success or failure of the venture

- **Paris** is known for its premium cuisine and is the target of this business case, as it can be expected to generate high revenue

- **Japanese cuisine** is gaining popularity in the recent decades, which can also target the premium segment in the food industry

- Where would be the ideal location for a **japanese restaurant** in **Paris**?

DATA

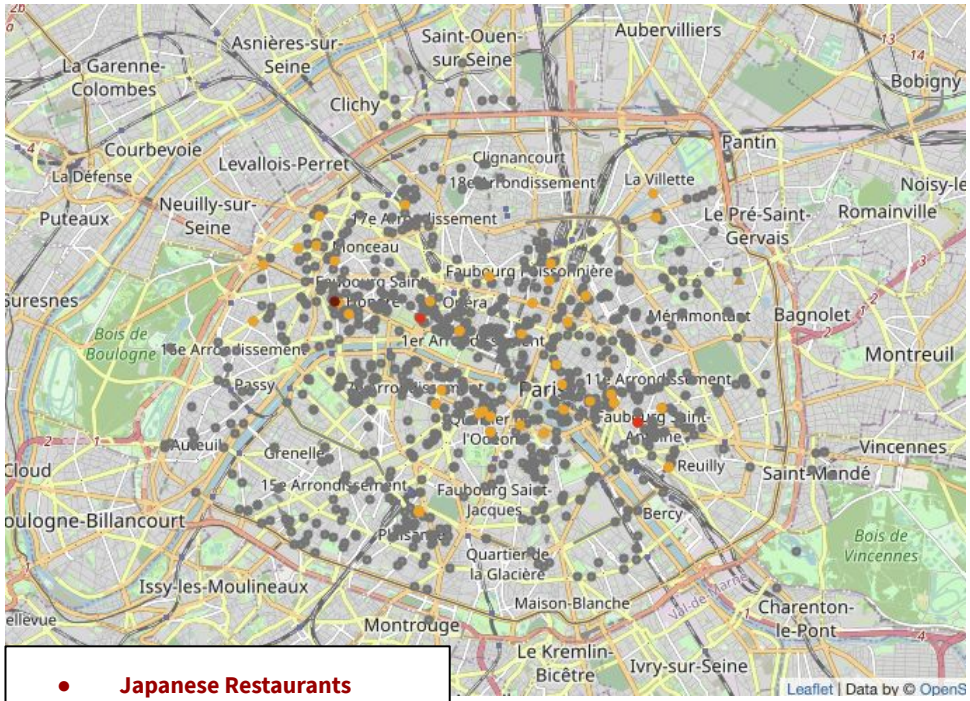
In order to assess the 20 arrondissements (districts) of Paris for possible restaurant locations, we will be using the following data:

- FourSquare Database for the location and food-venue type in each district
  - https://foursquare.com

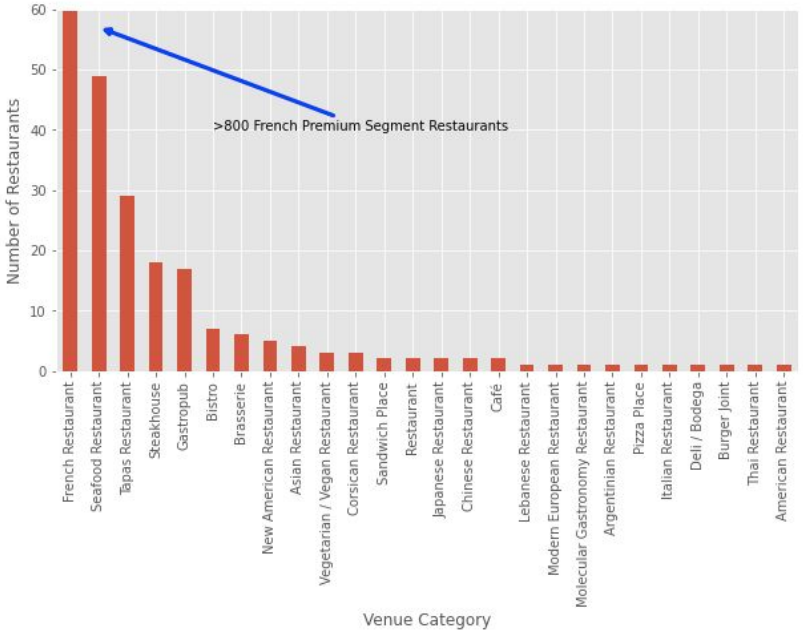
- Wikipedia for informations on population, area-size and names of the districts:
  - https://en.wikipedia.org/wiki/Arrondissements_of_Paris

- Paris Geodata from the France Public Website
  - https://www.data.gouv.fr/en/datasets/r/4765fe48-35fd-4536-b029-4727380ce23c

DATA VISUALIZATION



- **Japanese Restaurants**
- **Asian Restaurants**
- **Seafood Restaurants**
- **Other Restaurants**



Premium Priced-restaurants in Paris grouped by cuisine/restaurant type

METHODOLOGY

With the available data derive a heat-map for the hottest (most competitive) districts of Paris for food-venues to derive recommendations

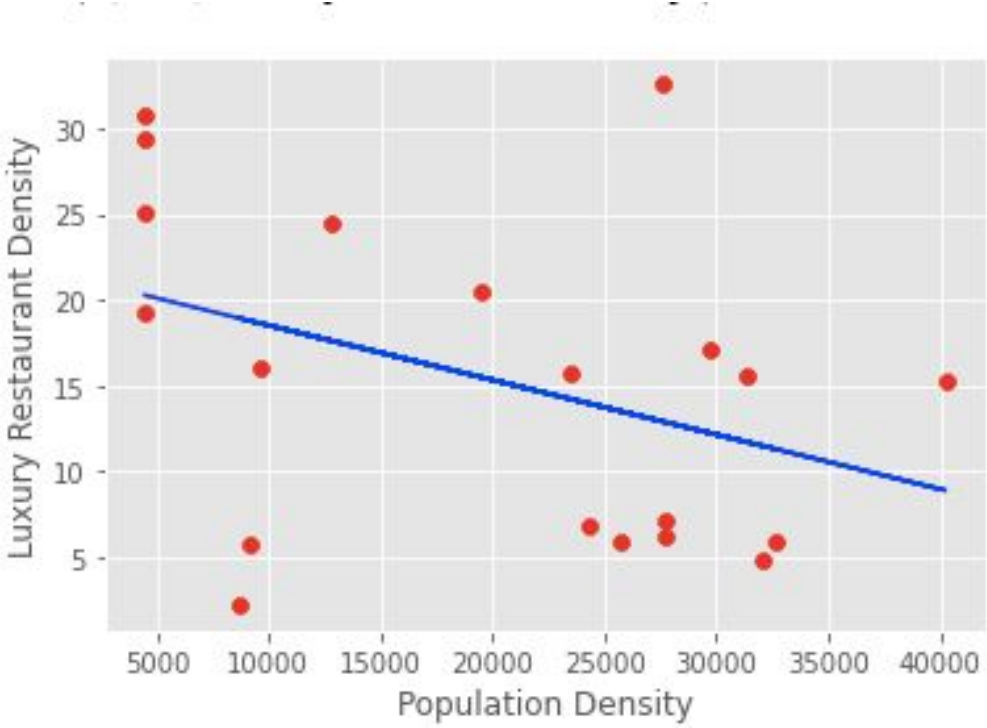
The metric will be the Restaurant density in each district

	District	Name	Area	Population	Density	Restaurant_density	Rel_Restaurant_density
1	5th (Ve) L	Panthéon	2.5410	59631.0	23467.0	15.741834	1.574183
2	6th (VIe) L	Luxembourg	2.1540	41976.0	19487.0	20.427112	2.785515
3	7th (VIIe) L	Palais-Bourbon	4.0880	52193.0	12767.0	24.461840	0.978474
4	8th (VIIIe) R	Élysée	3.8810	37368.0	9628.0	15.975264	1.288328
5	9th (IXe) R	Opéra	2.1790	60071.0	27568.0	32.583754	0.917852
6	10th (Xe) R	Entrepôt	2.8920	90836.0	31409.0	15.560166	1.037344
7	11th (XIe) R	Popincourt	3.6660	147470.0	40226.0	15.275505	0.818331
8	12th (XIIe) R	Reuilly	16.3200	141287.0	8657.0	2.205882	0.183824
9	13th (XIIIe) L	Gobelins	7.1460	183399.0	25664.0	5.877414	0.000000
10	14th (XIVe) L	Observatoire	5.6210	136941.0	24362.0	6.760363	0.355809
11	15th (XVe) L	Vaugirard	8.5020	235178.0	27661.0	7.174782	0.235239
12	16th (XVIe) R	Passy	16.3000	149500.0	9171.0	5.766871	0.245399
13	17th (XVIIe) R	Batignolles-Monceau	5.6690	168737.0	29764.0	17.110602	1.411184
14	18th (XVIIIe) R	Butte-Montmartre	6.0050	196131.0	32661.0	5.828476	0.333056
15	19th (XIXe) R	Buttes-Chaumont	6.7860	188066.0	27713.0	6.189213	0.294724
16	20th (XXe) R	Ménilmontant	5.9840	191800.0	32052.0	4.846257	0.000000
17	Paris Centre 1st (Ier)	Louvre	1.3975	25049.0	4481.0	25.044723	0.000000
18	2nd (IIe)	Bourse	1.3975	25049.0	4481.0	30.769231	1.431127
19	3rd (IIIe)	Temple	1.3975	25049.0	4481.0	19.320215	1.431127
20	4th (IVe) R	Hôtel-de-Ville	1.3975	25049.0	4481.0	29.338104	2.146691

METHODOLOGY (SIDE NOTE)

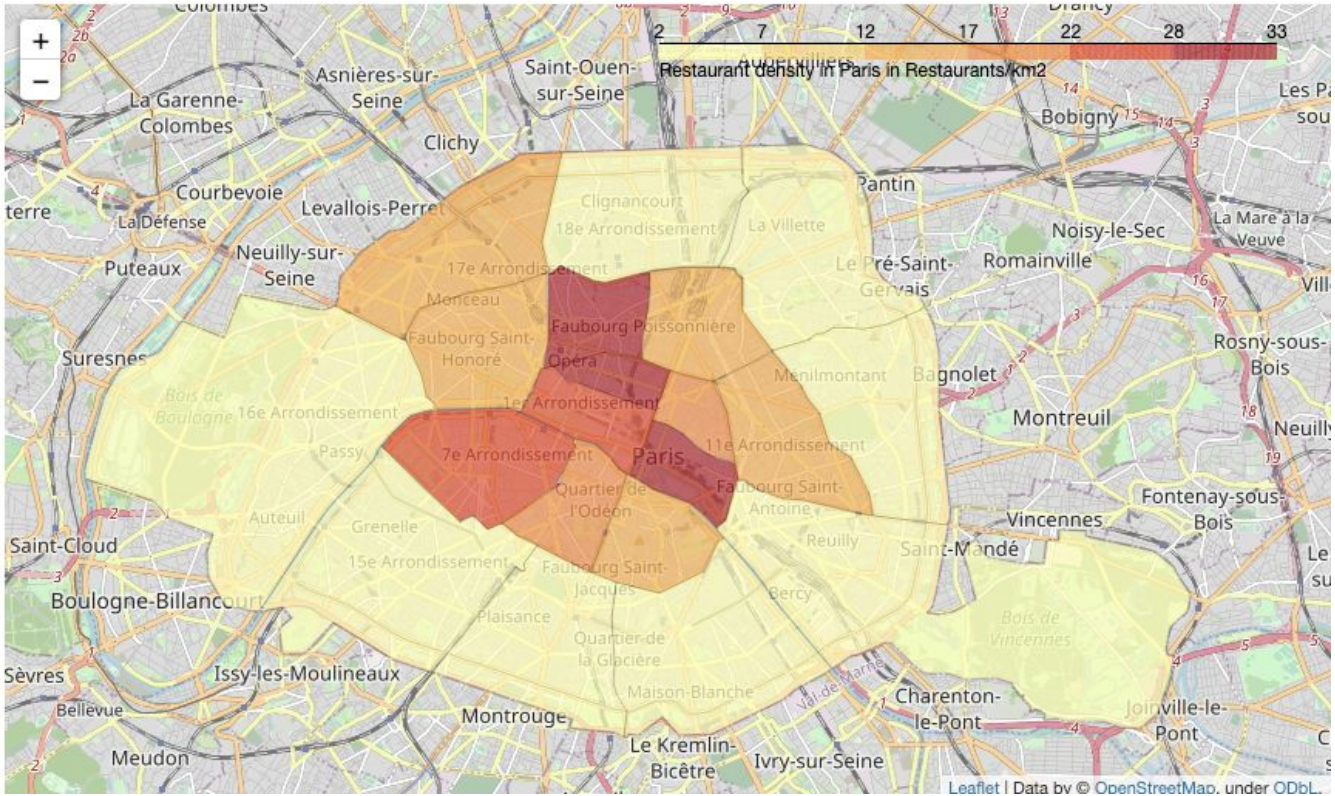
There seems to be no correlation between population density of a district and the density of luxury restaurants

Which could make sense, as the resident population may not be the target for the restaurant but the visiting tourists



RESULTS

The highest restaurant density is at the city centers, especially in the 2 central districts : Hotel-de-ville, Bourse and the center-north district of Opera.



DISCUSSION/CONCLUSION

The result of this approach is plausible, but not sufficient to derive a recommendation for such an important decision. Following data should be further considered to derive a better heat-map:

- Ratings of the restaurants (so we can calculate a "weighted density")
- Data on Tourists in the area, to distinguish locals from customers
- Data on classification in residential- and commercial districts