

COURSERA CAPSTONE PROJECT

OPENING A WELLNESS & SPA CHAIN IN KANTON OF ZUG, SWITZERLAND

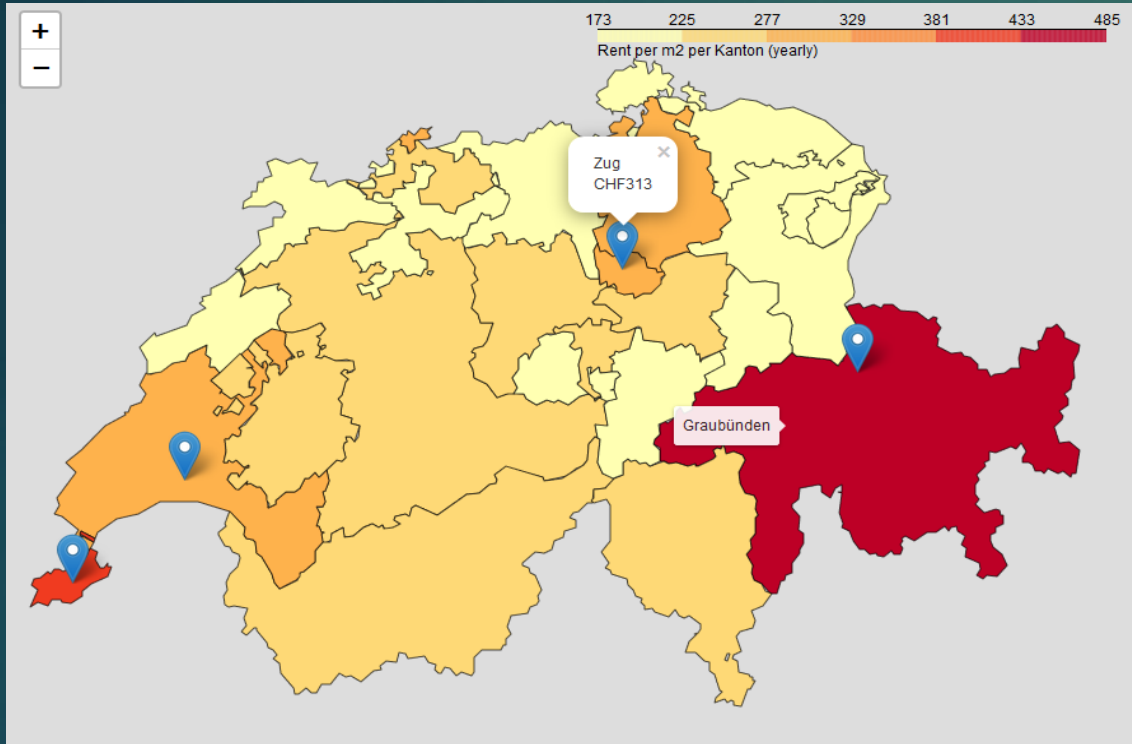
BUSSINESS BACKGROUND

- ▶ A private investor is seeking a perfect location to open a chain of wellness & spa centres around Switzerland.
- ▶ The most expensive (in terms of gross annual rent per m²) kantons are being targeted, and within them the locations with the same feature, and the lowest possible competition.
- ▶ This is motivated by the fact that this type of luxury centres mainly attract busy, mid-/high-class people.
- ▶ Thus, the main objective of the project is to select the best locations where such centres can be put up, aiming at the above demographic, thereby helping the owners to achieve maximum profits.

DATA ACQUISITION & CLEANING

- ▶ The data for specific kanton in Switzerland and gemeinden in the kanton of Zug can be extracted from the webpage: <https://realadvisor.ch/en/property-prices>. The generated excel file was uploaded over to the notebook and read using pandas library for Python.
- ▶ The latitude and longitude of the gemeindens were gathered from: <https://www.mapplus.ch>.
- ▶ From the obtained location data, after Data Frames creation and Geocoding, the venue data is found out by passing in the required parameters to the FourSquare API, and creating another Data Frame to contain all the venue details along with the respective gemeindens.

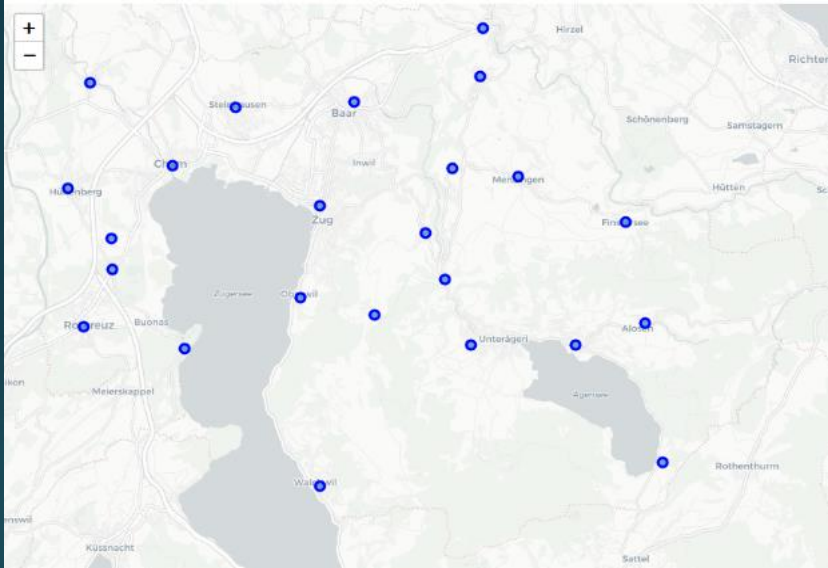
SWITZERLAND KANTONS



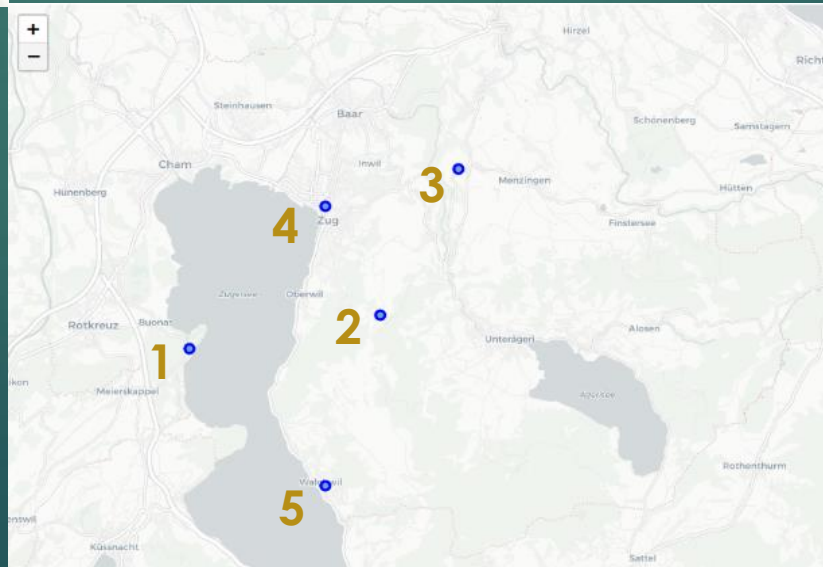
	Annual rent / m ² [CHF]	Kanton
1	485	Grisons
2	390	Geneva
3	313	Zug
4	296	Zurich
5	288	Vaud

- ▶ The distribution of the Gross Annual Rent per m² in Switzerland has been reviewed and plotted on the Folium map (Mapbox Bright), with 5 the most expensive kantons marked (Zurich kanton bordering from the north with kanton Zug)
- ▶ Due to the increasing upper mid-class population and very attractive tax conditions, kanton of Zug was selected over other (sometimes even more expensive), regions.

KANTON ZUG'S GEMEINDENS

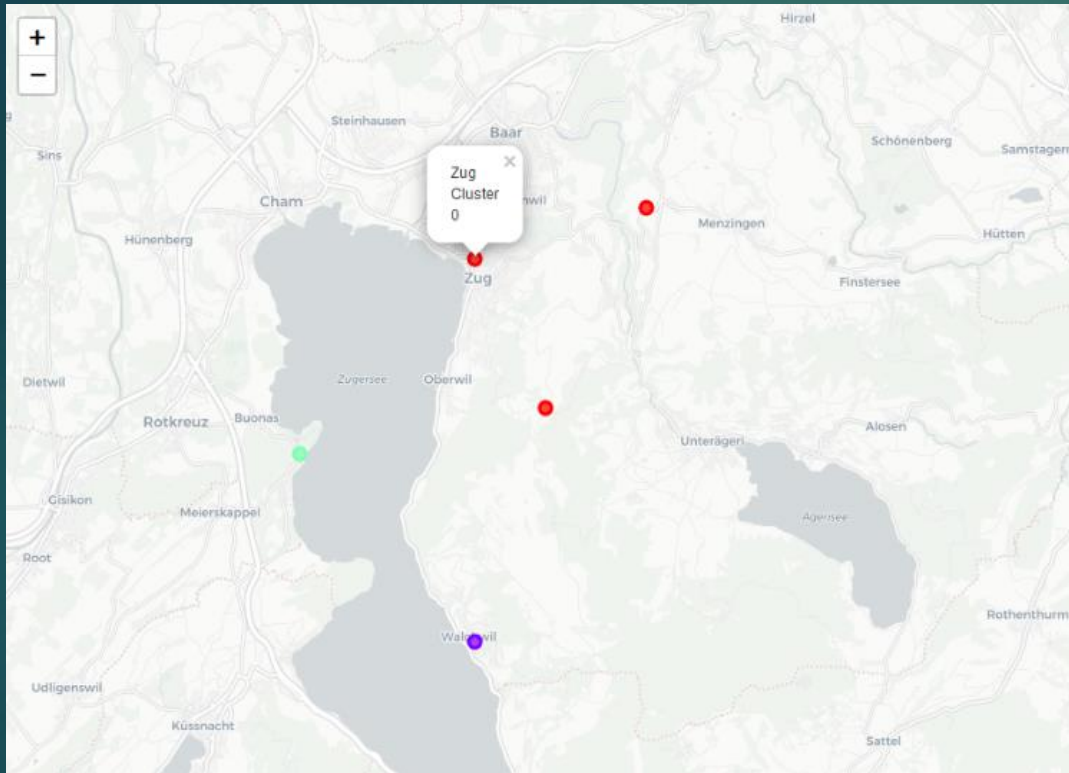


- ▶ Out of 24 different, within the kanton of Zug, the 5 most expensive communes (Gemeindens) were chosen for further evaluation.
- ▶ Both scenarios, total, and after selection, map representation were created using Folium,



	Gemeinden	Annual rent / m ² [CHF]
1	Risch	660
2	Zugerberg	535
3	Edlibach	388
4	Zug	368
5	Walchwil	370

K-MEANS CLUSTERING



- ▶ The results from the k-means clustering show that we can categorize the gemeindens into 3 clusters, based on the most popular venues within them:
 - Cluster 0: Gastronomy
 - Cluster 1: Retail Vending
 - Cluster 2: Leisure

- ▶ The results of the clustering are visualized in the map above with cluster 0 in red colour, cluster 1 in purple colour, and cluster 2 in mint green colour

RESULTS DISCUSSION

	Gemeinden	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Edlibach	Swiss Restaurant	Italian Restaurant	Outdoors & Recreation	Bakery	Moving Target
1	Risch	Lake	Cheese Shop	Hotel	Beach	Restaurant
2	Walchwil	Train Station	Grocery Store	Restaurant	Wine Shop	Cocktail Bar
3	Zug	Swiss Restaurant	Hotel	Restaurant	Supermarket	Italian Restaurant
4	Zugerberg	Swiss Restaurant	Hotel	Trail	Cable Car	Restaurant

- ▶ Review showed that no wellness & spa venues are present in the 5 most expensive gemeindens of the kanton of Zug. This represents a great opportunity and high potential areas to open new centres as there is very little to no competition from existing venues.
- ▶ Most of the leisure locations are concentrated in the area of Risch (also, the most expensive from the kanton – CHF660).
- ▶ Cluster 0, consisting of 3 gemeindens (Zugerberg, Edlibach, Zug) can be classified as Gastronomy zone, since over 50% of venues are restaurants or food-related places. Which suggests, that great number of people tend to be agglomerated around, giving a good potential population of customers.
- ▶ Cluster 1 of Walchwil, present the greatest variety of venues within. Wellness & Spa centres are likely to suffer from the location being quite isolated. From another perspective, the results also show that good public transport is present, which might promote, with good marketing, people travelling to use centre's services.

CONCLUSIONS & FUTURE DIRECTIONS

- ▶ This project recommends investors to capitalize on these findings to open new wellness & spa chain in gemeindens in cluster 0 with little to no competition coming only from hotel venues.
- ▶ Investors with unique selling propositions to stand out from the competition can also open a new centre in gemeindens in cluster 1 with slightly poorer location and not perfectly situated.
- ▶ Finally, investors are advised to avoid gemeindens in cluster 2 which have high concentration of leisure venues, and suffering from indirect competition might occur.
- ▶ Future research could devise a methodology to estimate new data, and to be used in the clustering algorithm to determine the preferred locations considering more details about the localities:
 - Review of the population and income of residents.
 - Investigation on the actual income information of inhabitants of particular region, and comparison against the average cost of living in the area.
 - Investigation on the no. of searches for the wellness & spa from the IP associated with particular region.

REFERENCES

- ▶ Complete Notebook:

https://github.com/MikolajWlazlo/Coursera_Capstone/blob/master/IBM%20Capstone%20Project.ipynb

- ▶ Detailed Report:

https://github.com/MikolajWlazlo/Coursera_Capstone/blob/master/Final%20Report.pdf

THANK YOU