Restaurant "La ö" goes big !

Market study of Montpellier, France for franchising a high-end sandwicherie

Contents

Abstract/Executive summary

Market study to ensure that "La ö" restaurant could be turned out as franchise business into other Montpellier neighbourhoods.

Introduction/Business problem

Two very good friends of mine, Laura and Denis, are hosting a very good and high-end "fast" food restaurant in Montpellier, France. You can get more detail on the venue and the delicious meals they propose daily (all homemade!) on their facebook account. The restaurant is located in the ArtFx special effects school premises and propose lunch and snacks to students and white-collar people of the surroundings. If you go to this city, feel free to drop yourself there and tell to Laura that you got this address from Elisabeth and Christophe of Zoufftgen. (ask for the Poutine meal...)

https://www.facebook.com/restaurant.la.o/ , https://artfx.school/

In order to pursue their adventure, Laura and Denis would be interesting to see if restaurant "La ö" could be turned out as a franchise restaurant business. Hence, answer to some questions may help them to see if it worth the pain:

- Where do we find neighbourhoods in Montpellier (and other cities in the future) that are similar to the one where the restaurant is currently located "La ö"? (in term of inhabitants, working customer, business offices and venues)
- What are the competitor that they may face in that similar neighbourhood?
- What are the ratings of those competitors compared to the ones of "La ö"?

Methodology

We will use unsupervised Machine Learning (ML) clustering to find Montpellier neighbourhood that are similar to the one of restaurant "la ö". We will display those on a map for a preliminary overview. Then we will focus on the competitors: to identify them, we will do a supervised classifier model. Then we would compare their rating with the ones of "La ö". We will display that with regular graph.

Research method

The following stages will be done in cascade:

- Stage 1: Identify the neighbourhood and their socio-economic data
    - Digest socio-eco data of each neighborhood and sub-neighborhood :
    - Create a choropleth map
- Stage 2: Cluster (ML) the neighbood to find the interesting ones for a restaurant
    - Clustering of neighboorhood with the above data
- Stage 3: Find venues description from public datasources
    - Reach Foursquare to explore the venue of each neighborhood in a range
    - Reach Facebook to explore the venue of each neighborhood in a range
- Stage 4: Identify the competitors
    - Select a subset of neighbourhoods and find the venues that are actually competitors using the venues characteristics with a classifier (ML)
- Stage 5: Compare with competitors
    - Look for the customer ratings of those venues
    - Compare with the one of “La ö”

Data

- Geographic and demographic data of montpellier neighboorhood.
- List of venues in Montpellier including their category and ratings.

Data sources

- facebook graph API: venues and rating data
- FourSquare API : venues and rating data
- OpenData Monpellier (https://data.montpellier3m.fr/): demographic data, geographic data, socioeconomic data of each neighborhood

Unfortunately FourSquare data source does not include restaurant La ö neither a lot of other venues in Montpellier.

Data cleaning and preparation rationale

<TO BE DONE>

Results

Descriptive statistics

For information on the Neighbourhoods of Montpellier

Since 2001, Montpellier has been divided into seven official neighbourhoods, themselves divided into sub-neighbourhoods. They are

Montpellier-centre : historical centre (Écusson), Comédie, Gares, Faubourg Boutonnet, Saint-Charles, Faubourg Saint-Jaume, Peyrou, Les Arceaux, Figuerolles, Faubourg du Courreau, Gambetta, Clémenceau, Méditerranée, boulevard de Strasbourg, Le Triangle, Polygone, Antigone, Nouveau-Monde, Parc à Ballons, Les Aubes, Les Beaux-Arts, Saint-Lazare.

Croix-d'Argent : avenue de Toulouse, Croix d'Argent, Mas Drevon, Tastavin, Lemasson, Garosud, Mas de Bagnères, Mas Nouguier, les Sabines, Lepic, Pas du Loup, Estanove, les Bouisses, Val-de-Crozes, Bagatelle.

Les Cévennes : Les Cévennes, Alco, Le Petit Bard, Pergola, Saint-Clément, Clémentville, Las Rebès, La Chamberte, La Martelle, Montpellier-Village, Les Grisettes, Les Grèzes.

Mosson : La Mosson, Celleneuve, La Paillade, les Hauts-de-Massane, Le Grand-Mail, Les Tritons.

Hôpitaux-Facultés : Malbosc, Saint-Priest, Euromédecine, Zolad, Plan des 4 Seigneurs, Hôpitaux, IUT, Père Soulas, Universités, Vert-Bois, Hauts de Boutonnet, Aiguelongue, Justice, Parc zoologique de Lunaret, Agropolis.

Port-Marianne : La Pompignane, Richter, Millénaire, Jacques Cœur, Consuls de Mer, Grammont, Odysseum, Montaubérou, La Méjanelle, Cambacérès.

Prés d'Arènes : Les Prés d'Arènes, Avenue de Palavas, La Rauze, Tournezy, Saint-Martin, Les Aiguerelles, Pont-Trinquat, Cité Mion.

Graphics

<TO BE DONE>

Testing the hypothesis

<TO BE DONE>

Analysis

<TO BE DONE>

Discussion

<TO BE DONE>

Conclusion

<TO BE DONE>

References

- Géolocalisation details (https://perso.esiee.fr/~courivad/Python1/15-geo.html)

- https://data.montpellier3m.fr/

- https://www.insee.fr

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- https://inhesj.fr/ondrp

- https://www.data.gouv.fr

- https://france-decouverte.geoclip.fr

Acknowledgement

Thanks to my friends Laura and Denis for providing me such a pleasant capstone to do. I hope that it will be helpful for their business !

Thanks to Montpellier for the open data portal. Not all cities in France provide that.

Appendix