

Exploring and clustering Restaurants in the city of Monterrey, Mexico.

Capstone Project Report

*This is an advance of the final report and only contains the sections: **Introduction/Business Problem and Data.***

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09-29-2019

Introduction/Business Problem

Monterrey Metropolitan Area (MMA) is the biggest city in the northern of Mexico (It is the third largest City in Mexico with more than 4 million people and second more productive City of Mexico. It is a multicultural city that in the last decades have been also an important touristic destination in Mexico.

With more than 1000 restaurants (listed in Tripadvisor) MMA is also getting a destination for Foodies. But sadly, since some years ago MMA is perceived as an insecure City by people living in that city but also by foreign visitors. But the truth is that not all municipalities of MMA are insecure, in fact there are some municipalities that are ranked among the most secure in Mexico.

The Problem.

In this project regional restaurants in MMA will be analyzed and, with data obtained from Mexican government, Regional Restaurants will be clustered according to the perceived insecurity by the national inquire about public urban security (ENSU) for helping people who wish to go out for breakfast, lunch or dinner to be aware about the level of insecurity of the chosen restaurant and find similar options in less insecure places.

This problem is current because in recent years MMA have been perceived as an insecure city, as is shown in <http://nl.semaforo.com.mx/> (a site showing statistics about crime in Mexican states), also in site https://www.inegi.org.mx/programas/ensu/default.html#Datos_abiertos, which is the official site holding Mexican statistics.

Who will be the target people.

Target people will be visitor or people living in MMA that want to go out for have a meal, and are concerned about the insecurity in that city.

About the data.

For implementing the proposed analysis following data is needed:

- MMA municipalities longitude and latitude (this data will be downloading from the national site of Mexican Postal Service).
- MMA data about regional Restaurants grouped by municipalities (this data will be obtained with the help of foursquare API).
- MMA municipalities perceived insecurity in the last 10 years for calculating the mean perceived insecurity (this data will be obtained from the site of national inquire about public urban security (ENSU))

What is next?

In the next section (2nd week) we will cover the methodology for solving the problem and also the implementation of a python notebook that implements the methodology for making it reproducible and reused for analyzing similar problems.