



# Applied Data Science

IBM



## ***Opening a New Franchise***

***Julio E. Lopez, Data Scientist***



# ***Table of Contents***

Applied Data Science  
IBM

## ❖ **Introduction**

- Business Problem
- Pros and Cons

## ❖ **Data**

- Sources of the data used

## ❖ **Analysis**

- Mapping the location
- Identifying the surroundings
- Forecast sales based on annuals expenses behavior and sociodemographic data

## ❖ **Insights and Findings**

- Which Pros were right
- Which Cos were right

## ❖ **Conclusion**

- Would another Little Caesars franchise be open in Zapopan?

## ~~ Business Problem ~~

We were contacted by an group of investors, who wants to open a new Little Caesars franchise in Zapopan, Jalisco, Mexico. They think it would be profitable, but they are uncertain due to the location.

The location, where they want to establish it, is surround by low-medium social class neighborhoods. However, the volume of the population is huge, and the closest Little Caesars franchise is 10km away. That would be a 20 minutes car ride or 40 minutes bus ride.

We will look at the Pros and Cons stated by this group of investors, to find out if they are real or are just mere guesses. We will use the data obtained through the Foursquare API and the sociodemographic data retrieved from INEGI<sup>1</sup> and IIEG<sup>2</sup>.

1. *INEGI stands for Statistic and Geographic National Institute (Instituto Nacional de Estadística y Geografía)*
2. *IIEG stands for Statistic and Geographic Information Institute of Jalisco (Instituto de Información Estadística y Geográfica de Jalisco)*

## ~~ Pros and Cons ~~

### 1. Pros

- People would have to travel less to get the pizza.
- It seems there is not presence of the main competitors in the area.
- Pizza price is low, so it would be affordable for all nearby neighbors.

### 2. Cons

- People in this area spends more money in groceries than in fast food restaurants.
- The exact location would not be centered, so most of the neighborhoods would still think it is far away.
- The majority of houses nearby has not even the basic services.

## ~~ Source of the data ~~

- Characteristics of the neighborhoods in Mexico, data from 2014:  
[https://www.inegi.org.mx/contenidos/programas/cleu/2014/tabulados/tab\\_localidad\\_2014.xls](https://www.inegi.org.mx/contenidos/programas/cleu/2014/tabulados/tab_localidad_2014.xls)
- Sociodemographic indeces by district in Jalisco, data from 2010:  
<https://www.ieg.gob.mx/contenido/PoblacionVivienda/IEGIterVivLoc.xls>
- Sociodemographic indeces by neighborhood in Jalisco, data from 2010:  
<https://datos.jalisco.gob.mx/sites/default/files/recursos/archivos/colsociodemo2010amg.xls>
- Expenses indeces in Mexico, data from 2013:  
[https://www.inegi.org.mx/contenidos/programas/engasto/2013/tabulados/engasto2013\\_tabulados.xls](https://www.inegi.org.mx/contenidos/programas/engasto/2013/tabulados/engasto2013_tabulados.xls)
- Foursquare API, data from March 2019

धन्यवाद

Hindi

多謝

Traditional Chinese

ขอบคุน

Thai

Спасибо

Russian

Gracias

Spanish

شكراً

Arabic

**Thank You**

Obrigado

Portuguese

Grazie

Italian

Danke

German

Merci

French

Multumesc

Romanian

多谢

Simplified Chinese

감사합니다

Korean

ありがとうございました

Japanese