

The Battle of Neighborhoods

Finding the best location to open a sports shop in Madrid, Spain

IBM COURSERA DATA SCIENCE CAPSTONE

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1.Introduction - Business Problem

1.1. Problem Background

With more than six million of population, Madrid is city with a friendly and lively atmosphere. The capital of Spain stands out for its leisure and sightseeing offers and also for offering business and personal development opportunities. For that reason, Madrid is a city in constant growth.

Nevertheless, as a well-developed city, Madrid has one of the highest cost of business of the country, so that any investment might be very thoughtful and studied.

1.2. Problem Description

MADSport, a recently created company, wants to set up its first business in Madrid, and are planning to opening a large surface dedicated to the sale of sport equipment of all kinds. As a startup company they need the choose very carefully the starting location in order to attract possible customers and obtain benefits as much as possible for recover the investment done.

1.3. Location requirements

With the purpose of having an early succes, the company is looking for an area to establish its shop close to a large amount of sports facilities and if it's possible with a majority of young and adult population. Other characteristics of the desired area is the proximity to shopping places and popular places.

2. Data description

In order to carry out the proposed study, data has been collected from different databases. Hereunder, the features of the data and its source of origin will be described.

2.1. Madrid districts and neighbourhoods

This dataset called “Divisiones administrativas: distritos, barrios y divisiones históricas” is provided by the Madrid city government. It contains a list of the city’s districts and neighborhoods and also its geographical coordinates.

This dataset is available in the following URL:

<https://datos.madrid.es/egob/catalogo/200078-10-distritos-barrios.zip>

2.2. Madrid census populations

This dataset called “Características de la población” is provided by the Madrid city government. It contains a list of the city’s population by district, neighborhoods and ages.

Through it you can determine the neighborhoods that concentrate the most potential buyers.

This dataset is available in the following URL:

<http://www-2.munimadrid.es/CSE6/control/seleccionDatos?numSerie=3010102262>

2.3. Madrid sports facilities

This dataset called “Instalaciones básicas deportivas municipales” is also provided by the Madrid city government and it contains a list of all the city sports facilities; both sports centres and outdoor basic facilities, and its geographical coordinates.

This dataset is available in the following URL:

<https://datos.madrid.es/egob/catalogo/200215-0-instalaciones-deportivas.json>

2.4. Foursquare API data

The Foursquare API will be used for providing a list of shopping centres and other and other places of interest within a specific location, based on the latitude and longitude coordinates and a radius. Acquiring the location of different places, it will be possible to associate each place its nearest neighborhood.

In the following link the Foursquare API from Madrid is available:

<https://es.foursquare.com/v/madrid/4d683074d4c288bf50da7065>