

# Battle of Neighborhoods-Houston

## 1. PROBLEM & BACKGROUND

The city of Houston is the fourth populous city in the United States, the most populous city in the state of Texas ([www.houstontx.gov](http://www.houstontx.gov), 2020). The Houston-The Woodlands-Sugar Land Metropolitan Statistical Area covers 9,444 square miles, and area larger than five states, including New Hampshire, New Jersey, Connecticut, Delaware, and Rhode Island ([www.houston.org](http://www.houston.org)). Houston has one of the most fast-growing and most diverse populations anywhere in the world (<https://www.houston.org/why-houston>, 2020). Houston is a hub for foreign trade and a great target for foreign investment. The Houston region offers a dynamic infrastructure to support fast growing industries including manufacturing, life sciences, aerospace, and energy. Houston is home to the largest medical complex in the world. Twenty-two Fortune 500 companies are headquartered in the Houston region. Houston is known as the Energy Capital of the World with more than 500 Oil and Gas Exploration and Production companies. Houston has been resilient to several global economic shocks thanks to its diversified and strong economy. The Houston region offers a diverse and highly skilled labor force of more than three million workers. Houston is a top 10 city for attracting millennials and about one-third of Houstonians 25 years or older is a college graduate ([www.houston.org](http://www.houston.org)).

Houston is considered one of the most attractive cities for investment according to the “City attractiveness for investment” criteria described in (Snieska & Zykiene, 2015). Houston’s fast population growth, accompanied by urban expansion, create new business opportunities in order to meet the fast-growing demand for services, products, new jobs, and infrastructure. However, there are some factors that needs to be considered about the business environment such as the business type, location, competition, target market, education and skills (<http://www.bisworld.info>). The information and data science tools used in this report can be used by Investors who are looking for an overview about the city’s market environment, the tools can be adjusted to accommodate different business types and objectives.

## 2. DATA DESCRIPTION

### 1. Neighborhoods Demographics

The city of Houston has 147 neighborhoods. The demographic data of those neighborhoods including population, median income, median age, education, unemployment are collected from (<https://www.houstoniamag.com>) that originally comes from the 2010 U.S. Census and the 2015 American Community Survey. This data is used for statistical analysis and to study the trends in the neighborhood demographics data.

### 2. Neighborhoods Geographic Coordinates

The neighborhoods geographic coordinates were obtained using “Bing maps” geocoding. The (Latitude, Longitude) information was used to visualize the neighborhood population distribution in Houston.

### 3. Top 100 Neighborhood Venues

The social networking service “Foursquare” API was used to search for the top 100 venues in each neighborhood. The information collected includes the venues’ name, latitude, longitude, and venue category. Each neighborhood is clustered based on the most common venue categories present in it. This information can give investors an overview about the neighborhoods business types and the geographic concentration of a venue category.