

The Battle of the Neighborhoods - Week 2

Introduction and definition of the scope of the problem

Our target audience and stakeholders are companies and individuals who wish to open new restaurant premises on the city of Houston's popular Energy Corridor. However that is not a straightforward process, for reasons I will next explain. The pitfalls are mainly competition, cost of operating a business, cultural differences that exist in some areas, and the demographic makeup of some localities. Thus the clients require an analysis of the local neighborhoods to understand the scope of the issues. Some types of restaurants are better suited to particular areas.

The population of the City of Houston, Texas is an estimated 2,099,451. Houston is a cosmopolitan city with a broad mixture of Americans and immigrants from other countries. The demographic makeup of the people in the city are of mainly White, African Americans, Hispanic or Latino, and Native Americans. Naturally there is much choice of restaurants, serving both Domestic and foreign foods, and even the popular indigenous Tex-Mex varieties which are found only in Texas.

Houston Demographics

- White: 50.5% (25.6% non-Hispanic)
- Black or **African American**: 23.7%
- **American Indian**: 0.7%
- **Asian**: 6%
- **Pacific Islander**: 0.1%
- Other **race**: 15.2% (0.2% non-Hispanic)
- Two or more races: 3.3%
- **Hispanic** of any **race**: 43.8%

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Since Houston is such a multicultural and eclectic hub, with a large workforce available, the city offers many business opportunities which groups of investors can exploit. The downside is, that since there are many restaurants there already, hence the competition for customers is considerable. Property in the Energy Corridor area is also expensive and suffers from being heavily taxed. The cost of trading in Houston, therefore requires to be thoroughly analyzed and considered before any new company can be opened. In this analysis we will attempt to find the best location for the new business, by examining what already exists in the chosen area. In particular we will be looking at the Energy Corridor area of the city.

Data Description

The data that will be used to solve the problem:

We will be using Foursquare and geopy data to map top the top venues within the location of Houston's Energy Corridor to indicate what venues already exist in this popular area. We will create a map of the area covering about 5000m.

Methodology

The methodology we have used was to utilize Foursquare to analyse the chosen neighborhood and create a breakdown of businesses types and numbers in the chosen area. The idea behind this, is that if we know the numbers and types of restaurants and franchises already present there, it will allow us to decide on which type of new restaurant would be the most welcome with the least amount of competition in that type of food.

Discussion

It was found that some types of restaurant and franchise where far more common than others.

In particular:

Starbucks	4
Smashburger	2
Chick-fil-A	2
SUBWAY	2

Others were less clear, since there are several Mexican or Tex-Mex restaurants in the area which the data makes harder to count. In the main however, business showed a good spread of uniqueness, and where mostly one of a kind in that area.

Conclusion

A lot of useful information about the area was derived from the data. It was found that by applying Data Science techniques the area was found suitable for opening an up-market restaurant, main competition (in the form of other dining establishments) comes from the Mexican restaurants and Fast Food.

Sample Data:

	name	categories	lat	lng
0	Topgolf	Golf Driving Range	29.786743	-95.650050
1	Brother's Pizzeria	Pizza Place	29.786889	-95.645525
2	Watson's House of Ale's	Pub	29.782844	-95.643579
3	Lupe Tortilla Mexican Restaurant	Mexican Restaurant	29.782903	-95.643100
4	North China Restaurant	Chinese Restaurant	29.783944	-95.642419
5	Salata	Salad Place	29.783908	-95.641992
6	Christian's Tailgate Bar & Grill	Sports Bar	29.786865	-95.644110
7	SpringHill Suites by Marriott	Hotel	29.787306	-95.658506
8	Annam Indian Cuisine	Indian Restaurant	29.786948	-95.645506
9	Fairfield Inn & Suites Houston I-10 West/Energ...	Hotel	29.783947	-95.650437
10	Freddy's Cafe	Café	29.786057	-95.675380
11	Umami Sushi	Sushi Restaurant	29.787573	-95.645339
12	Dairy Queen	Fast Food Restaurant	29.776409	-95.643871
13	Terry Hershey Park	Park	29.779138	-95.623096
14	Terry Hershey Bike Trail	Athletics & Sports	29.780618	-95.624487
15	Bill Archer Dog Park	Dog Run	29.817540	-95.647513
16	Tony's Mexican Restaurant	Mexican Restaurant	29.786049	-95.684353
17	Starbucks	Coffee Shop	29.775286	-95.643470
18	Kolache Factory - Park Row	Bakery	29.789360	-95.658007
19	LaQuinta Inns & Suites	Hotel	29.783666	-95.651461

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In [95]: SGnearby_venues['categories'].value_counts()
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Out[95]: Hotel 9
Mexican Restaurant 6
Sandwich Place 5
Burger Joint 4
Coffee Shop 4
Cajun / Creole Restaurant 3
Fast Food Restaurant 3
Park 3
Vietnamese Restaurant 3
Bakery 3
Gym 2
Gym / Fitness Center 2
Mediterranean Restaurant 2
Café 2
Fried Chicken Joint 2
Pharmacy 2
Sushi Restaurant 2
Chinese Restaurant 2
Pub 2
French Restaurant 2
Spa 2
Dog Run 1
Furniture / Home Store 1
Rental Car Location 1
Trail 1
Golf Driving Range 1
Health & Beauty Service 1
Sports Bar 1
Athletics & Sports 1
Tex-Mex Restaurant 1
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Starbucks	4
Smashburger	2
Chick-fil-A	2
SUBWAY	2
Carmelo's Restaurant	1
Ninfas	1
Hyatt House Houston/Energy Corridor	1
Pho & Crab Restaurant	1
Smallcakes	1
Chipotle Mexican Grill	1
Freddy's Frozen Custard & Steakburgers	1
ConocoPhillips Gym	1
Bear Creek Community Center	1
Cafe Benedicte	1
Cracker Barrel Old Country Store	1
Church's Chicken	1
Walgreens	1
SpringHill Suites by Marriott	1
Burger Tex Grill	1
Dairy Queen	1
La Quinta Inn & Suites Houston Energy Corridor	1
Naam Khao Thai Restaurant & Bar	1
BB's Tex-Orleans Cooking!	1
Petit Cafe	1
El Rancho Mexican Restaurant	1
Pine Forest Country Club	1
Foody's Gourmet	1
Freddy's Cafe	1
Clay's Restaurant	1
West Houston Indoor Soccer	1
LA Fisherman	1
Josephine's Day Spa and Salon (Energy Corridor)	1
Kroger	1