**Capstone Project – The Battle of Neighborhoods**

**Jane’s Beachfront Artisan Coffee Shop**

**Introduction**

A friend of mine, Jane, has just moved to the Hermosa Beach neighborhood in California and is looking to open up a coffee shop. After settling in, she’s noticed there aren’t that many places to grab a cup of coffee around town. To her surprise, there are only 1-2 Starbucks/Peet’s stores and maybe one other mom and pop place to get a cup of coffee within a mile of town. With over 20,000 residents and many tourists passing through each day to enjoy the beach, she wonders where everyone gets their daily caffeine fix.

Given the great foot traffic near the Hermosa Beach pier combined with the increase in trend towards quality coffee purveyors, she sees this as a great business opportunity to open up her own coffee shop in Hermosa Beach.

She’s asked me to help her confirm her insight regarding the number of coffee shops in the area and to also help her find the best available retail space to open up her business.

**Data**

Jane was in luck because I had just learned how to leverage the location data from the Foursquare platform. Since she asked me to confirm the number of coffee shops in the area, we’ll primarily be exploring venue data that we can retrieve using a Foursquare developer account. Jane will be interested in coffee-related venues and also what are some of the top venues that are currently in her neighborhood. Since she also asked for help to find her retail space, we’ll also be pulling real estate lease data from loopnet.com.

**Methodology**

To determine whether or not the coffee market is saturated in Hermosa Beach, using the Foursquare API, we pulled all the venues within a one mile radius of the Hermosa Beach Pier. From there, we’ll be able to see what the most common venues in the area are.

Second, I searched specifically for coffee shops nearby, but also broadened the criteria slightly to include cafes since those could be places where one could go to satisfy their caffeine needs. After scrubbing and analyzing the data set to include all the appropriate venues, I put them all on a map so that she can determine whether the area is truly under-served in the coffee space.

For the real estate lease data, we pulled all the available spaces using the search engine on loopnet.com We loaded the data into a data frame which included: address, latitude, longitude, square footage, and monthly lease amount. We filtered and scrubbed the data since not all the available spaces are zoned for retail and/or will be too small or big for her business needs.

Finally, we added the retail data along with the existing coffee venues to the map to help her visualize how far her potential business would be relative to the Hermosa Beach Pier and to other competitors.

**Results**

After pulling the venue data from Foursquare, the most popular categories were restaurants (Mexican, Seafood, and American), beaches, and gyms and fitness centers. Coffee shops came in tied for 11th most common.

Next, we dove deeper into the data and searched specifically for coffee shops and found that were only 6 in the area with 4 of them being a chain like Starbucks or Peet’s coffee. Broadening our search slightly, we included cafés in our search to gain a better picture of venues that serve coffee whether it’s on-the-go like a Starbucks or a more sit-down breakfast spot like a café.

After examining the records, we cleaned the data to exclude venues that didn’t quite fit our criteria such as “The Lighthouse Café” which is a music venue and Pacific Rim Café which is primarily a Korean restaurant. This resulted in a total of 17 venues consisting 6 cafés, 4 food venues, and 1 breakfast spot in addition to the 6 coffee shops included in the initial search.

Next we used the folium library to generate a map to visualize the location of our 17 venues. We represented the 6 coffee shops on the map with blue markers and the remaining 11 other coffee-related venues with orange markers.

The second part of the data request is to find retail space for lease in the Hermosa Beach area. We loaded the lease data downloaded from loopnet.com into our dataframe. However, not all available spaces are ideal for a coffee business because they’re either zoned for retail or the square footage is too large and would be expensive. Therefore, we only kept the records that were retail spaces and were smaller than 2,000 square feet. Only 4 retail leases remained that fit all the criteria.

Last, we finally added the retail space on our map with purple markers. Jane can now easily see where are the coffee shops, coffee-related venues, and available retail space in one place.

**Discussion**

The analysis of the Foursquare data confirmed that there aren’t that many coffee-related venues in Hermosa Beach and even fewer on-the-go and/or artistan coffee shops. Mostly cafes are situated closer to the Pier with the Starbucks type of stores further away on the main road and strip malls. With only 4 retail leases available that are further away than Jane would have liked, she’ll have to make a decision on whether those could still be very good locations for her store.

The initial venue analysis was a great start, but my recommendation to Jane is that we could do other studies such as trend analysis with the Foursquare data to see what’s popular at certain times of the day. Since you specify which version of Fourquare to pull data from, virtually a timestamp, we could see how many shops have opened and closed over a certain time period in the area. We could also look at neighboring beach cities like Manhattan and Redondo Beach to see how their coffee shops are trending. Adding these to the scope would all be more data points to inform her ultimate decision on whether or not to open a shop and whether proximity to the Pier even matters.

**Conclusion**

Jane’s idea to open a coffee shop in Hermosa Beach based on her initial observation that there seemed to be very few in the area, especially an artisan coffee shop was confirmed in our analysis above.

Coffee shops were only the 11th most common in the area and even after broadening the search to include coffee-related venues like cafes and breakfast spots, a trendy artisan coffee shop would definitely stand out in the area.

In terms of finding retail space to open her business, the 4 options that were available were far from her initial vision of wanting to open it near all the foot traffic near the pier. She’ll have to decide whether to include more analysis in the scope of the study, wait for a closer space to open up, go with the available options, or loosen her critieria on square footage for more options.

After giving it more thought and using the analysis to support her decision, she decided that opening a coffee shop would be an excellent idea, but will wait for more retail spaces to open up that would be slightly closer to other trending businesses.