Up-and-coming venues in Makati City, Philippines

I. Introduction

a. Executive Summary

Makati City in the Philippines presents both opportunities and challenges to new entrants in the restaurant, café, or bar markets. While the consumers there have much disposable income to compete for, much competition already exists. However, the competition tends to cluster in certain established zones; this analysis aims to find the places where the competition has only begun to enter.

Using cleaned Foursquare data and analysis of the resulting map, three prospective locations were found, representing different levels of trade-off between risk and cost for the aspiring entrepreneur. Depending on the risk appetite and available capital of the business case, one may explore:

- Jupiter St, away from Epifanio Delos Santos Ave (EDSA)
- The gas station along EDSA, outside Dasmarinas Village
- The largely residential zone north of Kalayaan Ave

b. Background

Makati City, Philippines is one of the most densely populated cities in the world; with a population density of approximately 24,000 people per km^2, it out-crowds New York City (at about 11,000 per km^2) and Toronto (at about 4,500 per km^2). Aside from all its inhabitants, it is also the address of the country's Central Business District, making it a very popular place to open establishments of all categories and price points.

The market behavior of Makati tends to follow trends: as one establishment – say, a bar – in one neighborhood begins to gain popularity, adjacent complementary establishments – coffee shops, restaurants, and other bars, for example – also enjoy an increase in patronage. This buyer behavior is partly driven by the difficulty of parking in the city; once patrons have found a spot for their vehicles, the consumer preference leans heavily toward carrying out all their plans – eating, having a coffee, some drinks – in establishments that are walking distance from each other.

c. Objectives

With this mindset of this ripple effect bounded by walking distance, the objective of this analysis is to find prospective locations for a new bar, restaurant, or coffee shop, based on currently popular establishments in those three categories. Any intersections of walking distance radii would be ranked higher, because they would have higher chances of benefiting from the higher number of adjacent 'popular' establishments.

The business application of the analysis would be an objective assessment of locations that could be considered 'up-and-coming': not popular yet, i.e. no top-ranked establishments have an address there, but hold promise for becoming popular in the next 18-36 months due to proximity to other popular destinations.

With Fig. 1 to demonstrate, locations with star icons – intersections of two proximity circles generated from a popular venue at the center – would be the ideal output. These could become starting points for entrepreneurs exploring the area for possible investments.

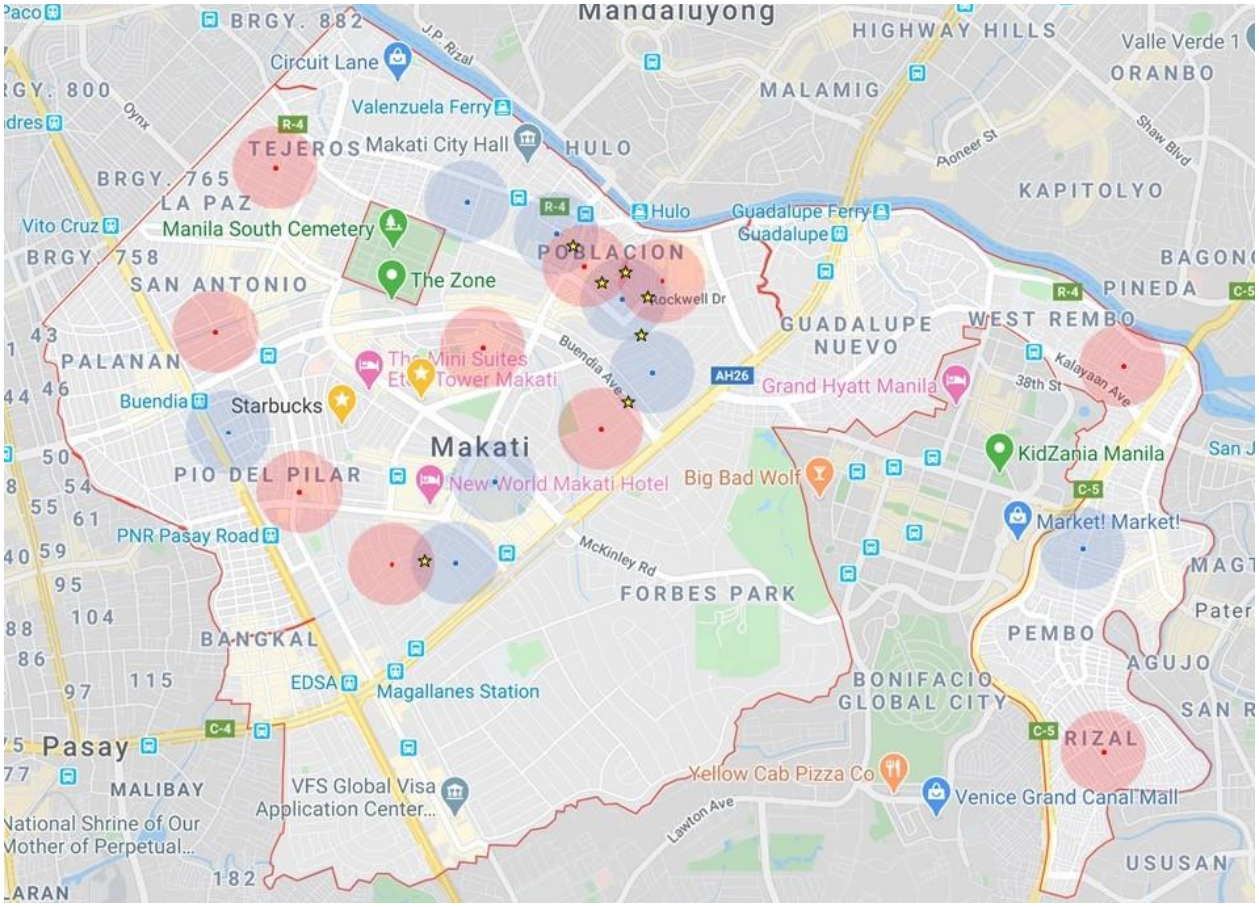

Figure 1: Conceptual output of the analysis

II. Analysis of Data Requirements

a. Reference points

Key reference points associated with fixed elements on the map were sourced from Google Maps (standard user product). Clicking on any arbitrary point in the standard user interface will bring up the point's latitude and longitude to 6 decimal places. This is demonstrated in Fig. 2.

Because the Google Maps coordinates for the search term *Makati City, Philippines* gave a location very near to the adjacent Pasay City, the geometric central point (center of smallest circle circumscribing all points of the city) was used (refer to Fig. 3). Using this method, the center was found to be (14.55219, 121.034402). This would be an acceptable method for determining the 'center' of a city, as there is no single definition of a city's 'center'.

These reference points will be used to set the following:

- Parameters for FourSquare query, to maximize the probabilities that elements in response set are indeed within Makati City (area of interest)
- Parameters for folium, to streamline the map generation (i.e. starting view of generated map is centered to maximize visibility of Area of Interest)

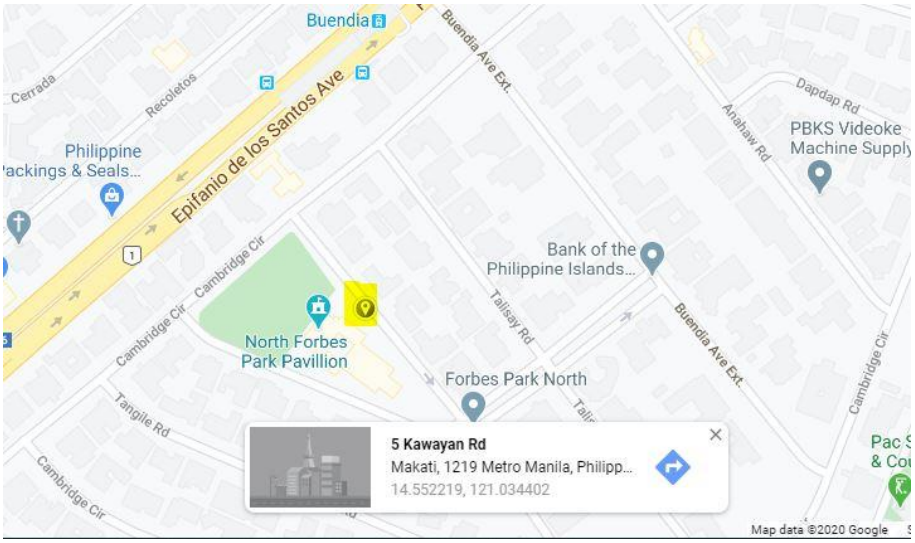

Figure 2: Google Maps interface, showing latitude & longitude of arbitrary point (in this case, the geometric center of Makati City)

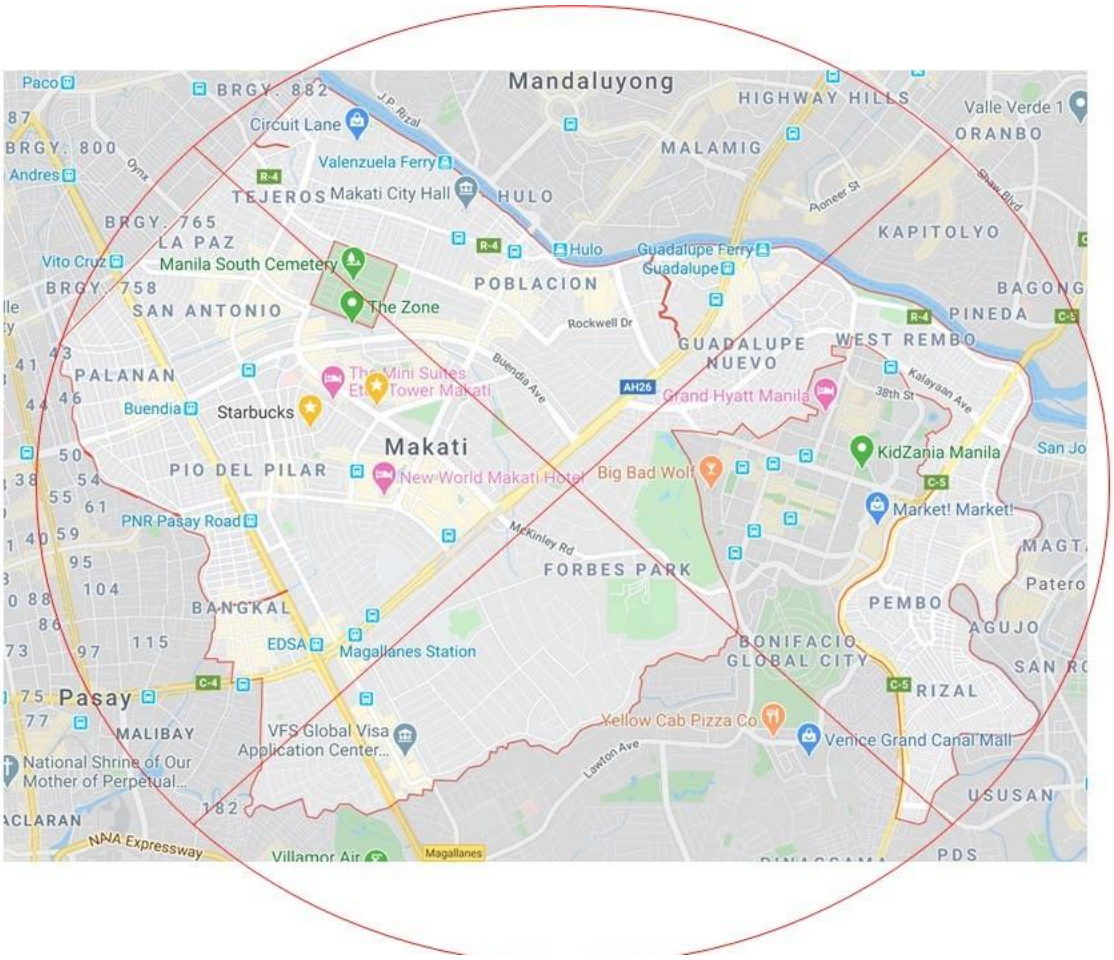

Figure 3: Using smallest circle method to approximate a geometric center for Makati City

b. *List of venues with respective location (latitude & longitude)*

The data of interest were sourced from the Foursquare dataset, accessed through their Sandbox API. The distinction of using Sandbox API is important, because some recommendations will rely on changing the constraints of the Sandbox tier.

The ***explore*** endpoint was selected because its response set includes venues that are popular, which can then be sorted by distance from the latitude & longitude of the starting search point.

In contrast, the ***search*** endpoint prioritizes proximity first, and then sorts by popularity once a result set is generated.

The ***trending*** endpoint was also considered. However, the option was discarded in favor of ***explore***, as ***trending*** relies on current check-ins, per Foursquare documentation. This would mean that results would vary based on time-of-day when checking was done, and thus is not aligned with the objectives of this analysis.

III. Methodology

a. *Conceptual flowchart*

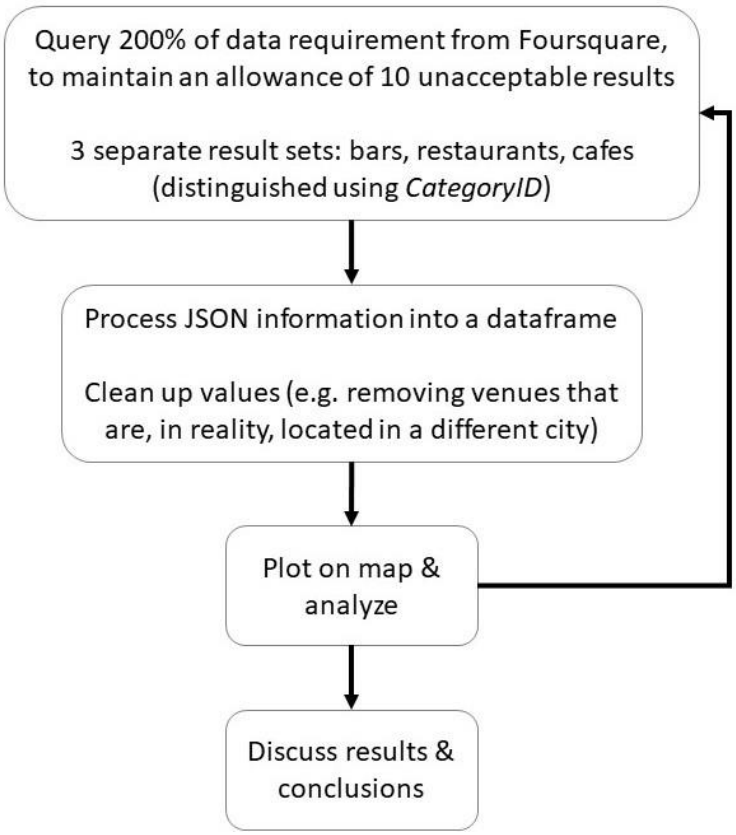

Figure 4: Conceptual flowchart of key methodology steps

b. *Methodology detail*

Once a geometric center for the area of interest was defined, the Foursquare API was queried for the following categories:

Category of Interest	***Foursquare CategoryID***	
Restaurants	4d4b7105d754a06374d81259	
Bars	4d4b7105d754a06376d81259 ('Nightlife')	
Coffee Shops	4bf58dd8d48988d1e0931735	Analyzed as a single group
Cafes	4bf58dd8d48988d16d941735	

Table 1: Categories of interest, and corresponding Foursquare CategoryID used

Initial queries (sent using ***requests*** library, with specification suffix for JSON data) requested for 20 entries per category, so that enough points would be left over for mapping, even if some of the results came back invalid or unusable. Coffee Shops and Cafes, which are two separate branches in the Foursquare category tree, were joint parameters in the same series to conserve API query quota.

Venue name, location details (city, latitude, longitude, address), and venue Foursquare ID were then parsed into ***pandas*** dataframes per category (i.e. 3 resulting dataframes).

The following data cleaning steps were then applied to each dataframe:

1. Removal of venues that were not in Makati City. In this case, all these invalid venues showed up in the results with NaN as value for their city attribute, hence filtering was done along that criteria.
2. Removal of venues that were not publicly accessible (e.g. company cafeterias), using domain knowledge.
3. Removal of venues that did not belong to the category (e.g. shopping mall rest areas), using domain knowledge.
4. Dropping any values beyond the tenth remaining row of each dataframe.
5. Resetting of integer index for remaining 10-item dataframe.

Once the 10-item dataframes per category for mapping were defined, they were then plotted on a ***folium*** map centered on the defined geometric center of the area of interest. Each point was labeled with the name of the venue, and had a fill color for each category of interest (blue for restaurants, yellow for cafes, orange for bars).

Analysis was done visually, based on the following questions:

1. Where do overlaps exist? Can they be found in areas that are not yet densely populated by establishments (i.e. off the beaten path)?
2. Where are the outliers (i.e. popular right now, but far from apparent clusters)?

As the analysis progressed, the need emerged to exclude results that were located inside Glorietta Mall, Makati (see IV.a for narrative). This exclusion was done by setting the the dataframe to drop any venues whose latitude and longitude values were within the intervals corresponding to the Glorietta Mall block. The latitude and longitude values were found using Google Maps, and are in Table 2.

Border point & address	Latitude	Longitude
Northernmost point Makati Ave cor. Ayala Ave	14.554477	121.024440
Southernmost point Palm Dr cor. East St	14.549851	121.025819
Easternmost point Ayala Ave cor. East St	14.551689	121.027825
Westernmost point Makati Ave cor. Palm Dr	14.551756	121.022917

Table 2: Coordinates bounding the block of excluded results (inside Glorietta Mall, Makati)

IV. Results

a. *First iteration*

Upon mapping the first iteration (full plotted map in Figure 5), it was noted that a majority of the venues mapped under the Restaurants and Cafes categories occurred in a single shopping mall in the city (named Glorietta Mall). Because this does not give much insight toward the objective, the Restaurants and Cafes categories were re-queried with a larger result set, and then were set to discard results with coordinate values occurring within the latitude/longitude ranges corresponding to Glorietta Mall.

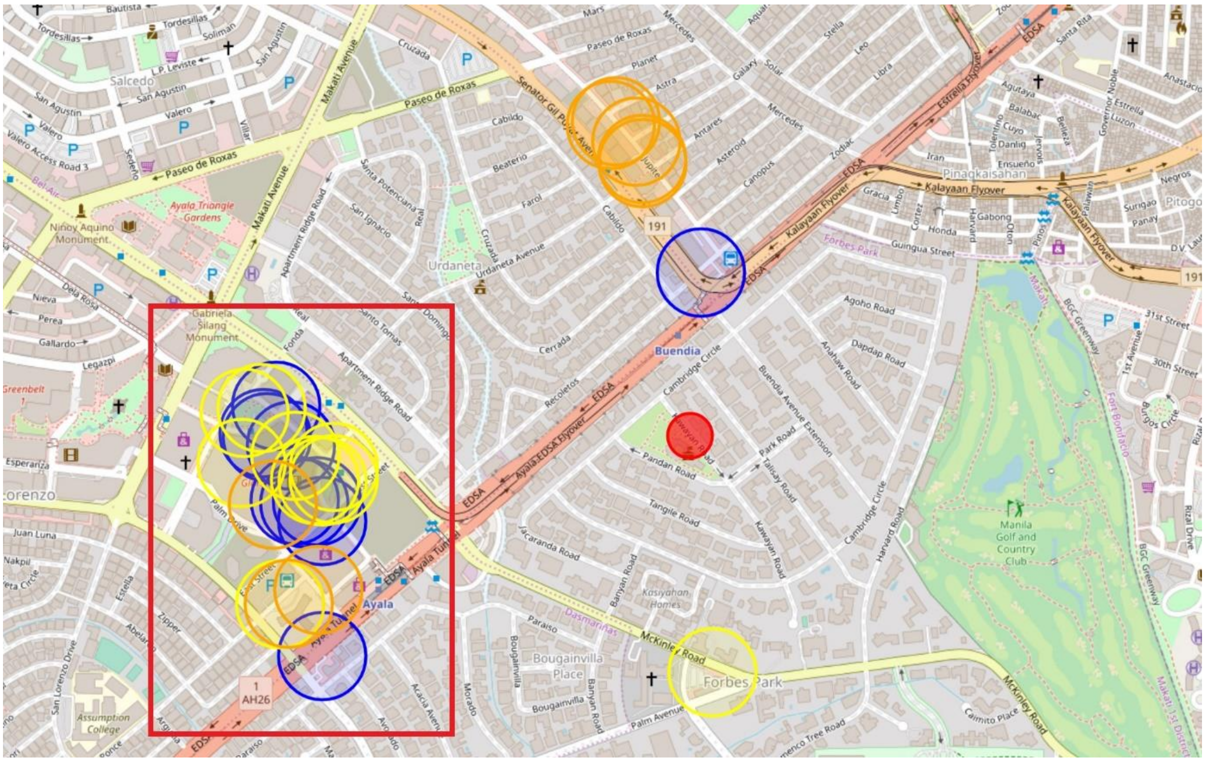

Figure 5: Output map of first iteration, with concentration of results occurring in Glorietta Mall, boxed in red

b. Second iteration

With Glorietta Mall now excluded, the resulting map promised more novel insights.

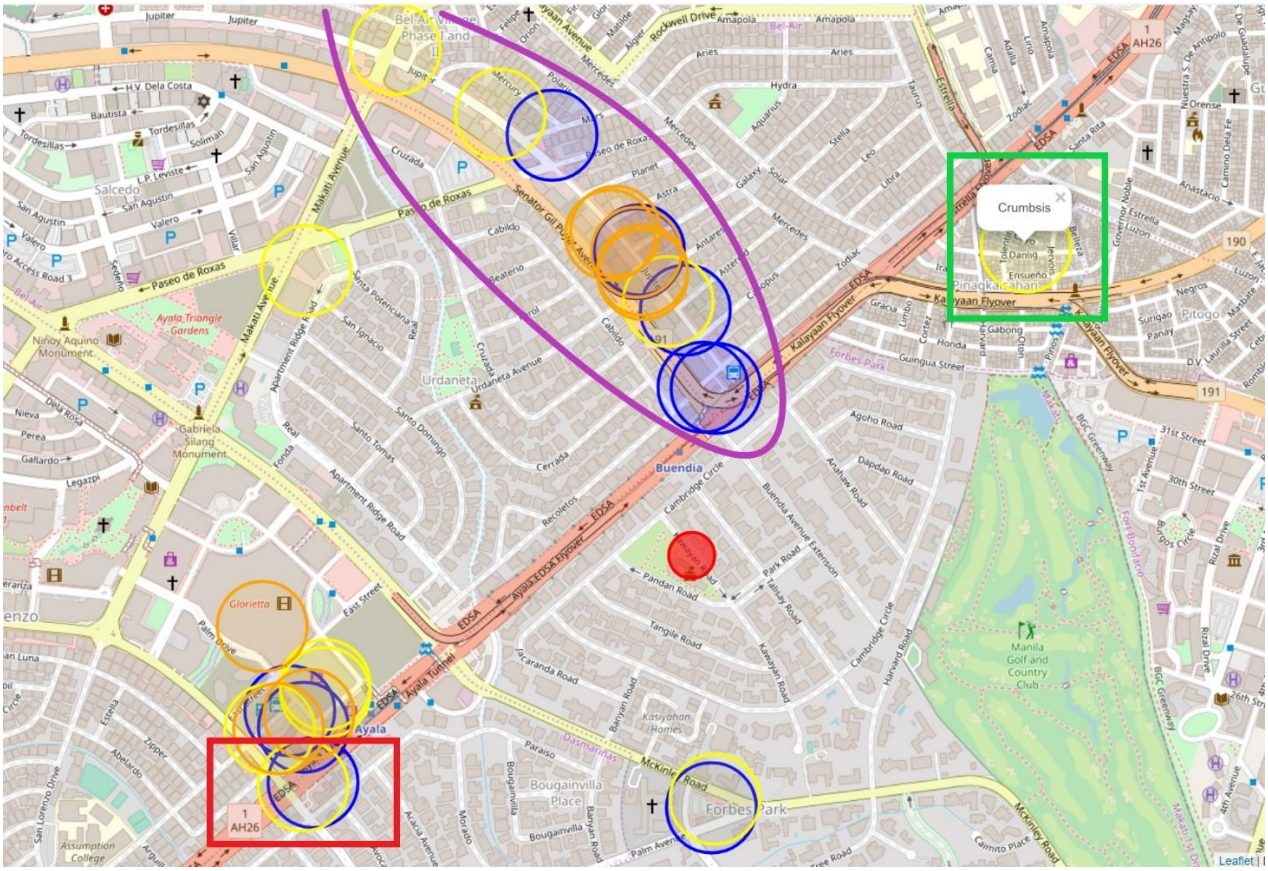

Figure 6: Output map of second iteration, with emphases added

The first insight is that the area of Jupiter St (area marked violet in Fig 6) is a popular spot for venues of all categories. A concentration of venues can be observed as Jupiter St approaches EDSA (shorthand for Epifanio Delos Santos Ave); if one were to explore potential new venues, the portions of Jupiter St farther away from EDSA may hold potential.

A more interesting insight is the one marked in the red box, on the lower left-hand side of Fig 6. This corresponds to two top-rated venues which, strangely enough, are co-located with a gas station along the main road. Upon closer inspection (via Google Maps Street View), the location has space for parking – addressing one of the key consumer needs in the Introduction – as well as space for commercial tenants.

It can also be observed that the gas station location has one each of a restaurant and a café – identified complementary establishments in the Introduction. If a bar – the only missing category in this location – were looking for a new address, this region may hold promise.

The most interesting insight is the outlier point, boxed in green. Based on Foursquare data, there appears to be a popular café (Crumbsis) well outside of the central area where all other found venues exist. An entrepreneur seeking a low-priced starting point in the city may want to consider this as a starting location for investigation.

V. Discussion

Clear patterns can be observed – even visually, without the aid of clustering algorithms or machine learning techniques – in the location of popular venues in Makati City. Apart from the easily understandable concentration in shopping malls (which needed to be excluded from this analysis, to gain new insight), the biggest clusters in this analysis were found adjacent to a shopping mall, and along Jupiter St – long a well-known pub location.

More novel are the insights gained from the red and green highlight boxes in Fig. 6. In terms of conventional marketing, a gas station is not typical for venues where an owner would want high dwell times, or medium to high price points; these kinds of locations are more commonly associated with low-priced stop-and-go types of goods and services. However, the proximity to an established pub area, as well as to an exclusive, high-income residential area (Dasmarinas Village, Makati) may factor into establishing this particular gas station as an exception to conventional knowledge.

Drawing from domain- / location-specific knowledge, the green highlight box lies between two pub areas: Makati City (investigated here), and Bonifacio Global City in adjacent Taguig. Crumbsis – and, perhaps, other venues undocumented on Foursquare – lies in a corridor between two high-income areas. Perhaps this is the key to its success. Perhaps it would prove to be the key for the success of other similar businesses.

The analysis, however, is limited by its blindness to price point – a dimension of study that would require premium access to Foursquare API to comprehensively examine. Targeting an inappropriate price point for its products and services would threaten the viability of any business, no matter how well-chosen and well-studied its location.

VI. Conclusion & Recommendations

An aspiring entrepreneur may want to begin their investigation for prospective investments in these three areas, if they were to use the analysis as-is.

Jupiter St (away from EDSA) is likely to represent the lowest-risk but highest-cost option. With all of the high-traffic establishments already located here, a new business would not fall short of potential customers. However, studying this area may require further analysis on market gaps in this particular location, which was outside the scope of this study.

The gas station just outside of Dasmarinas Village (marked red in Fig. 6) would be a middle ground for both cost and risk. Being some distance away from the pub streets themselves, rent and other overhead costs in this location may be more reasonable, while maintaining a justifiable volume of foot traffic. The key question here would be the appropriate price point; a balance must be struck between the type of location (gas station-based establishments are normally on the lower end of the price scale), and its proximity to higher income areas with more specific consumer preferences.

The café on Danlig St (boxed green in Fig. 6) presents an interesting proposition to a prospective entrepreneur. While it is adjacent to the corridor that runs between two high-income areas, customers must actively seek out the establishment if one is located here. The location may prove more affordable than in the rest of the city, but may also pose challenges in terms of promotion and building an initial client base.