**Coursera Capstone Project Report**

**Introduction where you discuss the business problem and who would be interested in this project.**

As a new local Coffee shop chain company, namely Haci Turkish Coffee, Turkey has been trying to establish new coffee shops in attractive places in Istanbul for the first time. As there will be an investment, there should be research before the investment.

There are different centers(neighborhoods) with high income people used to live in Istanbul. We need to find these places (neighborhoods in different boroughs in Istanbul). We need to understand which places are being visited more often and its venue types in these centers.

If there is no coffee shops visited within 10 venues in the centre, it maybe risky to open a new coffee shop. But if there are some relative popular shops(desert shop, ice cream shop) in the centre, it may be a good opportunity to open another coffee shop for Haci Turkish Coffee.

**Data where you describe the data that will be used to solve the problem and the source of the data.**

(Rich Centers-neighborhoods in Istanbul list) – provided by a table in the box.

(Latitude and Longitude of neighborhoods with zip codes): Maprequest Data sources

(Venue details): Coffee shops will be listed based on Latitude and Longitude of popular neighborhoods with Foursquare API.

**Methodology section which represents the main component of the report where you discuss and describe any exploratory data analysis that you did, any inferential statistical testing that you performed, and what machine learnings were used and why.**

* I got all high income(rich centers) in to a data frame table.
* I found all popular places(venues) in rich centers.
* I found top 10 common/popular venues in each centers(neighborhoods).
* I used K-means clustering with number of clusters is 7.

**Results section where you discuss the results.**

Once I found a neighborhood which does not have Café venue in 10 common venues, it has only one coffee shop. So I differentiate this place is Gokturk. After clustering it with other neighborhoods, I found that Gokturk can be investigated further like renting coffee shop(Café) places, employee availability and as it is far away from other places, commute options. In Gokturk, Desert Shop and Ice Cream Shop seems to be top venue places so there can be a room for a good Café.

**Discussion section where you discuss any observations you noted and any recommendations you can make based on the results.**

For more detailed results, venue ratings, price and user recommendations can be easily used from Foursquare API. (It is not part of this study scope, as venue details provided once in sandbox API usage in a day). Once I try to get venue rating, recommendations, it warned me for quota usage. So Foursquare API is a great capability with money investment.

**Conclusion section where you conclude the report.**

With existing data from Istanbul neighborhoods(high income population center), for Haci Turkish Coffe coffee chain, there is great potential to invest a Café in Gokturk, Eyup Istanbul.

Reasons:

There is no popular café in Gokturk in 10 popular venues based on foursquare. There is only coffee shop in the 7th order.

It is close to new airport.

There will be a new underground(metro) from airport to Gokturk.

Last but not least, people who visit to venues in Gokturk like it very much based on individual venue rating in foursquare(around 8.2 out of 10), it will be very competitive environment for a new café.