Comparing Western Koreatowns to a Korean City

David Larsson

April 08, 2021

Introduction

With the world becoming more and more culturally diverse so do each country. In the larger cities' communities of immigrants' shape parts of town with their own culture. This has led to parts referred to as Chinatown, Koreatown, or Little Italy to name a few.

However even though there is no question about authenticity this project will explore the similarities and difference between the Koreatowns of Los Angeles, New York and Toronto compared to Seoul, the capital of Korea.

Data

The data used in this project will be acquired using the Foursquare API and consists of venues in the different cities Koreatowns as well as venues from Seoul.

To limit the size of the data only venues was limited to the top 100 venues.

Below examples for the Koreatown in Los Angeles and Seoul are shown.

	City	Latitude	Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	LA	34.0618	-118.3006	BCD Tofu House	34.061961	-118.302713	Korean Restaurant
1	LA	34.0618	-118.3006	The LINE Hotel	34.062040	-118.300909	Hotel
2	LA	34.0618	-118.3006	Alfred Coffee Koreatown	34.061756	-118.300938	Café
3	LA	34.0618	-118.3006	Poketo	34.061798	-118.300865	Clothing Store
4	LA	34.0618	-118.3006	Cassell's Hamburgers	34.063417	-118.300411	Burger Joint

	City	Latitude	Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
286	Seoul	37.5665	126.978	무교동북어국집	37.567852	126.979753	Korean Restaurant
287	Seoul	37.5665	126.978	Läderach chocolatier suisse (레더라)	37.568153	126.978265	Chocolate Shop
288	Seoul	37.5665	126.978	철철복집	37.567393	126.981310	Seafood Restaurant
289	Seoul	37.5665	126.978	The Plaza Hotel (더 플라자)	37.564621	126.978060	Hotel
290	Seoul	37.5665	126.978	Seoul Plaza (서울광장)	37.565475	126.977937	Pedestrian Plaza

Methodology

To prepare the data the frequency of each venue category was calculated for each of the cities resulting in the table below.

	City	American Restaurant	Argentinian Restaurant	Art Gallery	Art Museum	Arts & Crafts Store	Asian Restaurant	BBQ Joint	Bagel Shop	Bakery	Bar	Beer Bar	Bike Shop
0	LA	0.000000	0.010989	0.00	0.00	0.000000	0.021978	0.021978	0.00	0.032967	0.021978	0.000000	0.000000
1	NewYork	0.060000	0.000000	0.02	0.00	0.000000	0.000000	0.000000	0.00	0.010000	0.010000	0.010000	0.000000
2	Seoul	0.000000	0.000000	0.01	0.03	0.000000	0.000000	0.010000	0.01	0.000000	0.000000	0.000000	0.000000
3	Toronto	0.010526	0.000000	0.00	0.00	0.010526	0.000000	0.010526	0.00	0.042105	0.031579	0.021053	0.010526

These frequencies were then used to in a clustering algorithm with 2 clusters with K-means.

Separately another analysis was done using with a correlation matrix for the different cities. This correlational matrix was used to investigate similarities between the distribution of venues within cities

Results

These were the top ten venues for each city. Korean restaurant being in the top for all cities. For all Koreatown restaurants and food related spots was in the top but for the city Seoul Hotel was the top venue then followed by food related venues.

	City	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	LA	Korean Restaurant	Ice Cream Shop	Coffee Shop	Japanese Restaurant	Café	Hotel	Bakery	Bubble Tea Shop	Restaurant	Asian Restaurant
1	NewYork	American Restaurant	New American Restaurant	Italian Restaurant	Hotel	Korean Restaurant	Indian Restaurant	Gym / Fitness Center	Dessert Shop	Japanese Restaurant	Pizza Place
2	Seoul	Hotel	Korean Restaurant	Café	Coffee Shop	Historic Site	Sushi Restaurant	History Museum	Japanese Restaurant	Palace	Art Museum
3	Toronto	Korean Restaurant	Grocery Store	Park	Bakery	Coffee Shop	Pizza Place	Ice Cream Shop	Café	Bar	Karaoke Bar

Below shows the correlation matrix. The Koreatown with the highest correlation to Seoul was in Los Angeles. Further the correlation between the Koreatown in Los Angeles and Toronto showed a high correlational value.

	Seoul	NewYork	Toronto	LA
Seoul	1.000000	0.258378	0.275085	0.503148
NewYork	0.258378	1.000000	0.334066	0.333328
Toronto	0.275085	0.334066	1.000000	0.787754
LA	0.503148	0.333328	0.787754	1.000000

Discussion

- First the observation that Hotel is the most common venue in Seoul is noted. This is might be different than from Koreatowns in other cities as the Koreatowns formed from immigration. It is reasonable to believe that hotels are more prevalent and used in the tourism and travel areas. These might not be the main function of a Koreatown in a city as the hotels in that city might be contained in the center of the city. This is beyond the question asked in the similarities but still worth noting.

- Performing a clustering algorithm with only four examples is not a particular insightful method however it did not assign Seoul to one cluster and the Koreatowns in another cluster. Instead it assigned Seoul and New York Koreatown to the same cluster and the two other Koreatown to the second cluster. This is interesting but since there only are four examples it is to be taken very lightly.

- From the correlational matrix between the cities it can be concluded that LA has the most similar frequencies of venues to Seoul. This contradicts the clustering but as concluded the clustering results should be taken with a grain of salt and this result is more reliable.

- The correlation matrix also showed a correlation between the values of Los Angeles and Toronto suggesting that the Koreatown in these cities could look similar which is interesting.

Conclusion

- From these results it can be concluded that although this is correlation and exactly similarity, we can see that all the Koreatowns seems to have some features of Seoul, due to a notable correlational value. Keeping in mind that it is not actually fair to compare venues of an entire city compared to a community or part of a town.

- Future work could explore other areas outside of Koreatown to show if there is a large difference between the correlation of these and the correlation of Koreatowns.