Expatriate Restaurants in Bangkok Neighborhoods

Out of Bangkok's fifty districts, where can you find a taste of home when you need a break from the spicy, sour Thai cuisine

Agenda

- Introduction
- Data
- Methodology
- Results
- Discussion
- Conclusion

Introduction

I'm a Canadian who spent about four years in Bangkok, and it took quite a while to get used to the food. Thai food is considered one of the best in the word, but if you are an expat who is used to a less spicy taste, then you will need a break occasionally. At least that is what I found.

Bangkok has over eight million people and over fifty regions or districts, from the near-rural outskirts like Thawi Watthana to the upscale downtown districts like Bang Rak.   Nowadays most tourists travel by sky train, and it is convenient to know an area where one could get off at a stop and find a variety of international food of a particular region.
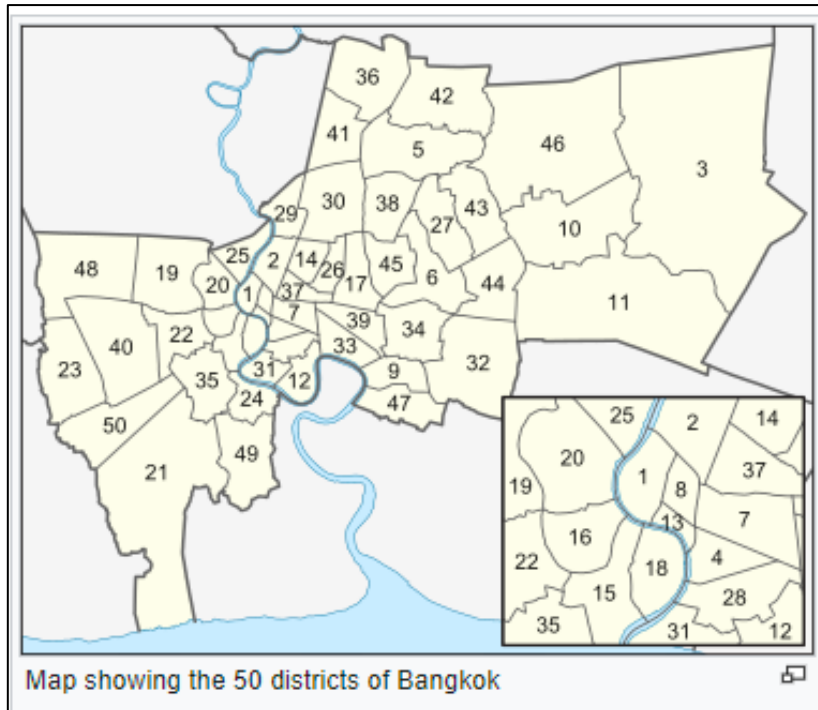
In this project, the focus is on non-Thai restaurants; what types are the most popular, and how clustering the food venues in each neighborhood can show the locations where one is most likely to find the type of international food of interest.

Data

https://en.wikipedia.org/wiki/List_of_districts_of_Bangkok

- Bangkok's districts and location data were taken from Wikipedia
- Cleaning to show Districts and Location only

Bangkok's Districts

Map showing the 50 districts of Bangkok

Bangkok's Districts

District (Khet)	Map Nr	Post-code	Thai	Popu-lation	No. of Subdis-tricts Khwaeng	Latitude	Longitude
Bang Bon	50	10150	บางบอน	105,161	4	13.6592	100.3991
Bang Kapi	6	10240	บางกะปิ	148,465	2	13.765833	100.647778
Bang Khae	40	10160	บางแค	191,781	4	13.696111	100.409444
Bang Khen	5	10220	บางเขน	189,539	2	13.873889	100.596389
Bang Kho Laem	31	10120	บางคอแหลม	94,956	3	13.693333	100.5025
Bang Khun Thian	21	10150	บางขุนเทียน	165,491	2	13.660833	100.435833
Bang Na	47	10260	บางนา	95,912	2	13.680081	100.5918
Bang Phlat	25	10700	บางพลัด	99,273	4	13.793889	100.505
Bang Rak	4	10500	บางรัก	45,875	5	13.730833	100.524167
Bang Sue	29	10800	บางซื่อ	132,234	2	13.809722	100.537222
Bangkok Noi	20	10700	บางกอกน้อย	117,793	5	13.770867	100.467933
Bangkok Yai	16	10600	บางกอกใหญ่	72,321	2	13.722778	100.476389
Bueng Kum	27	10240	บึงกุ่ม	145,830	3	13.785278	100.669167
Chatuchak	30	10900	จตุจักร	160,908	5	13.828611	100.559722
Chom Thong	35	10150	จอมทอง	158,005	4	13.677222	100.484722
Din Daeng	26	10400	ดินแดง	130,220	2	13.769722	100.552778
Don Mueang	36	10210	ดอนเมือง	166,261	3	13.913611	100.589722
Dusit	2	10300	ดุสิต	107,655	5	13.776944	100.520556
Huai Khwang	17	10310	ห้วยขวาง	78,175	3	13.776667	100.579444
Khan Na Yao	43	10230	คันนายาว	88,678	2	13.8271	100.6743
Khlong Sam Wa	46	10510	คลองสามวา	169,489	5	13.859722	100.704167
Khlong San	18	10600	คลองสาน	76,446	4	13.730278	100.509722
Khlong Toei	33	10110	คลองเตย	109,041	3	13.708056	100.583889
Lak Si	41	10210	หลักสี่	109,770	2	13.8875	100.578889
Lat Krabang	11	10520	ลาดกระบัง	163,175	6	13.722317	100.759669
Lat Phrao	38	10230	ลาดพร้าว	122,182	2	13.803611	100.6075
Min Buri	10	10510	มีนบุรี	137,261	2	13.813889	100.748056
Nong Chok	3	10530	หนองจอก	157,138	8	13.855556	100.8625
Nong Khaem	23	10160	หนองแขม	150,218	2	13.704722	100.348889
Pathum Wan	7	10330	ปทุมวัน	53,263	4	13.744942	100.5222
Phasi Charoen	22	10160	ภาษีเจริญ	129,827	7	13.714722	100.437222
Phaya Thai	14	10400	พญาไท	72,952	2	13.78	100.542778
Phra Khanong	9	10260	พระโขนง	93,482	2	13.702222	100.601667
Phra Nakhon	1	10200	พระนคร	57,876	12	13.764444	100.499167
Pom Prap Sattru Phai	8	10100	ป้อมปราบศัตรูพ่าย	51,008	5	13.758056	100.513056
Prawet	32	10250	ประเวศ	160,871	3	13.716944	100.694444
Rat Burana	24	10140	ราษฎร์บูรณะ	86,695	2	13.682222	100.505556
Ratchathewi	37	10400	ราชเทวี	73,035	4	13.758889	100.534444
Sai Mai	42	10220	สายไหม	188,123	3	13.919167	100.645833
Samphanthawong	13	10100	สัมพันธวงศ์	27,452	3	13.731389	100.514167
Saphan Sung	44	10240	สะพานสูง	89,825	3	13.77	100.684722
Sathon	28	10120	สาทร	84,916	3	13.708056	100.526389
Suan Luang	34	10250	สวนหลวง	115,658	3	13.730278	100.651389
Taling Chan	19	10170	ตลิ่งชัน	106,604	6	13.776944	100.456667
Thawi Watthana	48	10170	ทวีวัฒนา	76,351	2	13.7878	100.3638
Thon Buri	15	10600	ธนบุรี	119,708	7	13.725	100.485833
Thung Khru	49	10140	ทุ่งครุ	116,473	2	13.6472	100.4958
Wang Thonglang	45	10310	วังทองหลาง	114,768	4	13.7864	100.6087
Watthana	39	10110	วัฒนา	81,623	3	13.742222	100.585833
Yan Nawa	12	10120	ยานนาวา	81,521	2	13.696944	100.543056

Methodology

- Load and clean the Bangkok district and latitude, longitude data
- Use Numpy, Pandas, Forge, Foresquare, matplotlib, Folium
- Use Folium to generate a map of the 50 districts
- Use Foresquare to identify venues
- Explore the neighborhoods
- Modify the data to focus on non-Thai restaurants
- K-means clustering using 7 clusters to sort the neigborhoods
- Map the clusters
- Examine the clusters
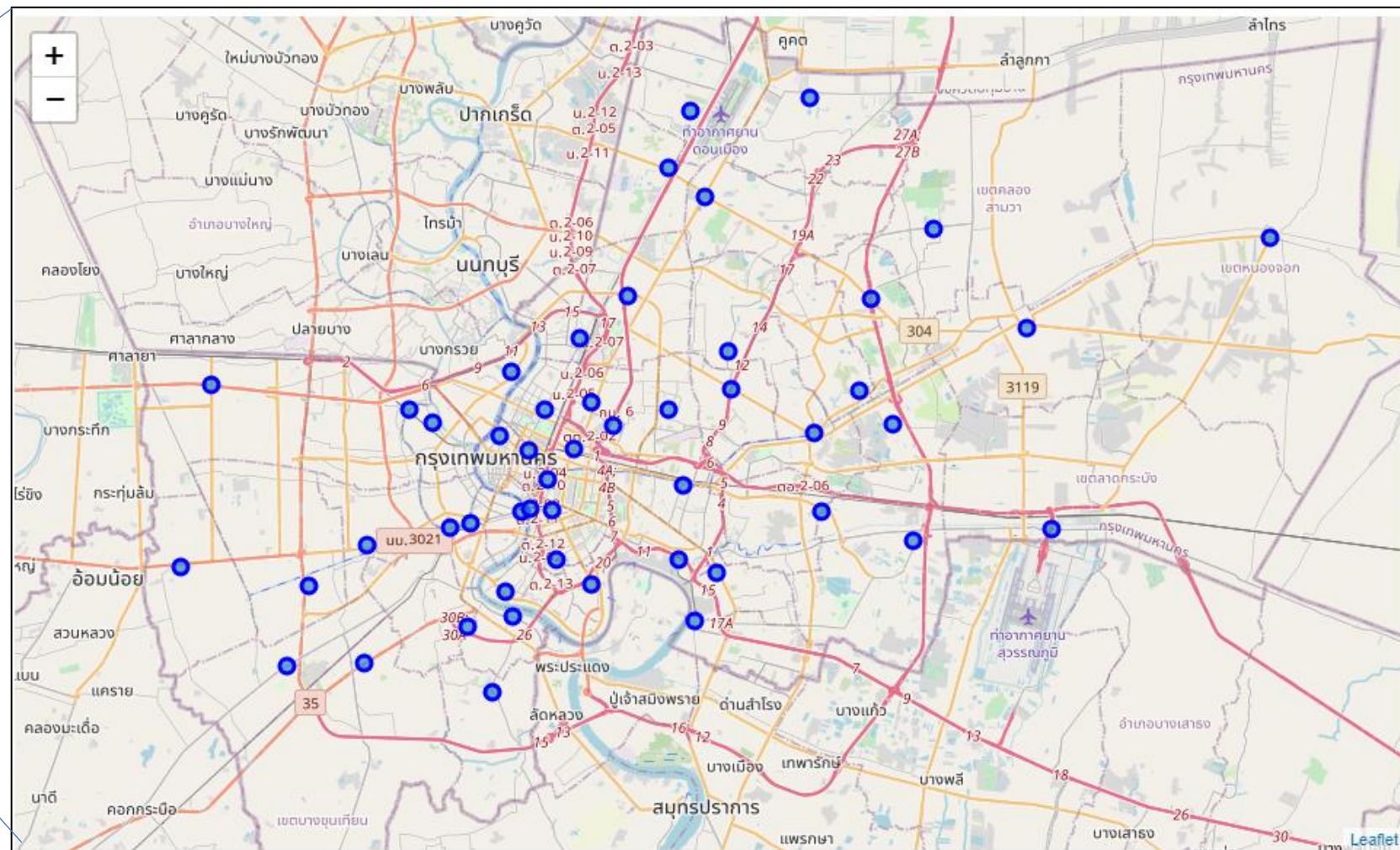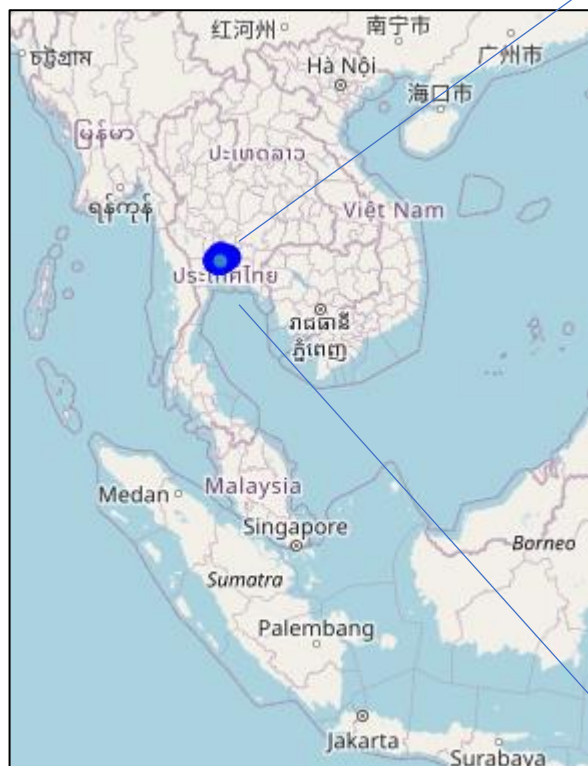
Data Import and Cleaning

Header and first rows of the Wikipedia page

	District(Khet)	MapNr	Post-code	Thai	Popu-lation	No. ofSubdis-trictsKhwaeng	Latitude	Longitude
0	Bang Bon	50	10150	บางบอน	105161	4	13.659200	100.399100
1	Bang Kapi	6	10240	บางกะปิ	148465	2	13.765833	100.647778
2	Bang Khae	40	10160	บางแค	191781	4	13.696111	100.409444
3	Bang Khen	5	10220	บางเขน	189539	2	13.873889	100.596389
4	Bang Kho Laem	31	10120	บางคอแหลม	94956	3	13.693333	100.502500

Data Type

```
District(Khet)                 object
MapNr                           int64
Post-code                       int64
Thai                           object
Popu-lation                     int64
No. ofSubdis-trictsKhwaeng      int64
Latitude                      float64
Longitude                     float64
dtype: object
```

Map of Bangkok's districts

Exploring the 1ˢᵗ district: Bang Bong

	name	categories	lat	lng
0	ขาหมูบางหว้า	Thai Restaurant	13.657136	100.395230
1	Irashaimase Japanese Restaurant	Japanese Restaurant	13.658358	100.401403
2	ส.สุขโภชนา	Chinese Restaurant	13.660358	100.404866
3	Lotus Express (โลตัส เอ็กซ์เพรส)	Convenience Store	13.657839	100.397243
4	Bussabar Steak House	Bar	13.656856	100.404690
5	ลาบร้อยเอ็ด เสื้อเคหะ	Som Tum Restaurant	13.656436	100.404455
6	7-Eleven (เซเว่น อีเลฟเว่น)	Convenience Store	13.656440	100.394178
7	ก๋วยเตี๋ยวปลา แม่ช้อนทอง	Noodle House	13.657938	100.396723
8	ต้าเกอ ก๋วยเตี๋ยวไก่	Asian Restaurant	13.661457	100.405019
9	Café Amazon (คาเฟ่ อเมซอน)	Coffee Shop	13.660836	100.405246

Frequency of all restaurants in Bangkok

Note: Thai and Asian are obviously the most common and will be removed from the analysis since the objective is to find international options

Curious to see what the "fast Food" category is comprised of

```
Venue
A&W (เอ แอนด์ ดับบลิว)                        1
A&W (เอแอนด์ดับบลิว)                          3
Burger King                                   1
Burger King (เบอร์เกอร์ คิ้ง)                 12
Burger King (เบอร์เกอร์คิ้ง)                   3
Chester's (เชสเตอร์)                           2
Chester's Grill (เชสเตอร์ กริลล์)             1
Chester's Grill (เชสเตอร์กริลล์)              1
KFC                                           3
KFC (เคเอฟซี)                                 22
KFC drive thru                                1
McDonald's                                    1
McDonald's & McCafé (แมคโดนัลด์ & แมคคาเฟ่)   11
McDonald's (แมคโดนัลด์)                        4
McDonald's (แม็คโดนัลด์)                       3
เคเอฟซี                                        1
Name: Venue, dtype: int64
```

... Typical USA Fast Food Chains

```
All Restaurants in Bangkok
Thai Restaurant                 394
Asian Restaurant                136
Japanese Restaurant             123
Som Tum Restaurant              112
Seafood Restaurant               98
Hotpot Restaurant                88
Chinese Restaurant               82
Fast Food Restaurant             70
Restaurant                       65
Vietnamese Restaurant            38
Sushi Restaurant                 31
Italian Restaurant               29
Shabu-Shabu Restaurant           28
Ramen Restaurant                 21
Halal Restaurant                 18
Korean Restaurant                17
Dim Sum Restaurant               15
Cantonese Restaurant             10
Vegetarian / Vegan Restaurant     9
French Restaurant                 6
```

```
Japanese Curry Restaurant         6
Tonkatsu Restaurant               6
Indian Restaurant                 6
American Restaurant               3
Dumpling Restaurant               3
Satay Restaurant                  3
Donburi Restaurant                2
German Restaurant                 2
Eastern European Restaurant       2
Cajun / Creole Restaurant         2
Molecular Gastronomy Restaurant   2
Yoshoku Restaurant                2
Australian Restaurant             1
Udon Restaurant                   1
Hainan Restaurant                 1
Modern European Restaurant        1
Soba Restaurant                   1
Swiss Restaurant                  1
Mexican Restaurant                1
Greek Restaurant                  1
Kaiseki Restaurant                1
Name: Venue Category, dtype: int64
```
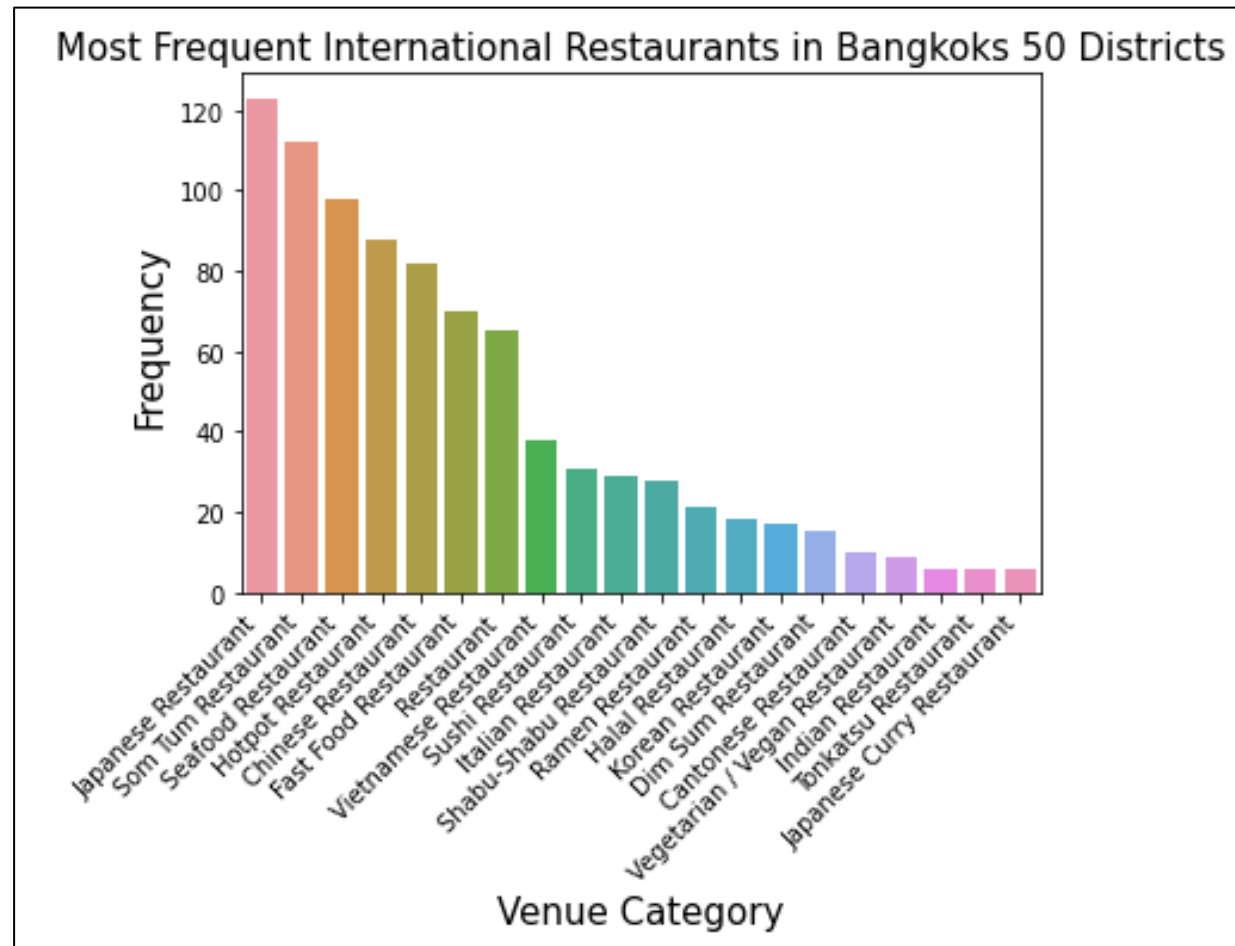
Restaurant frequency,
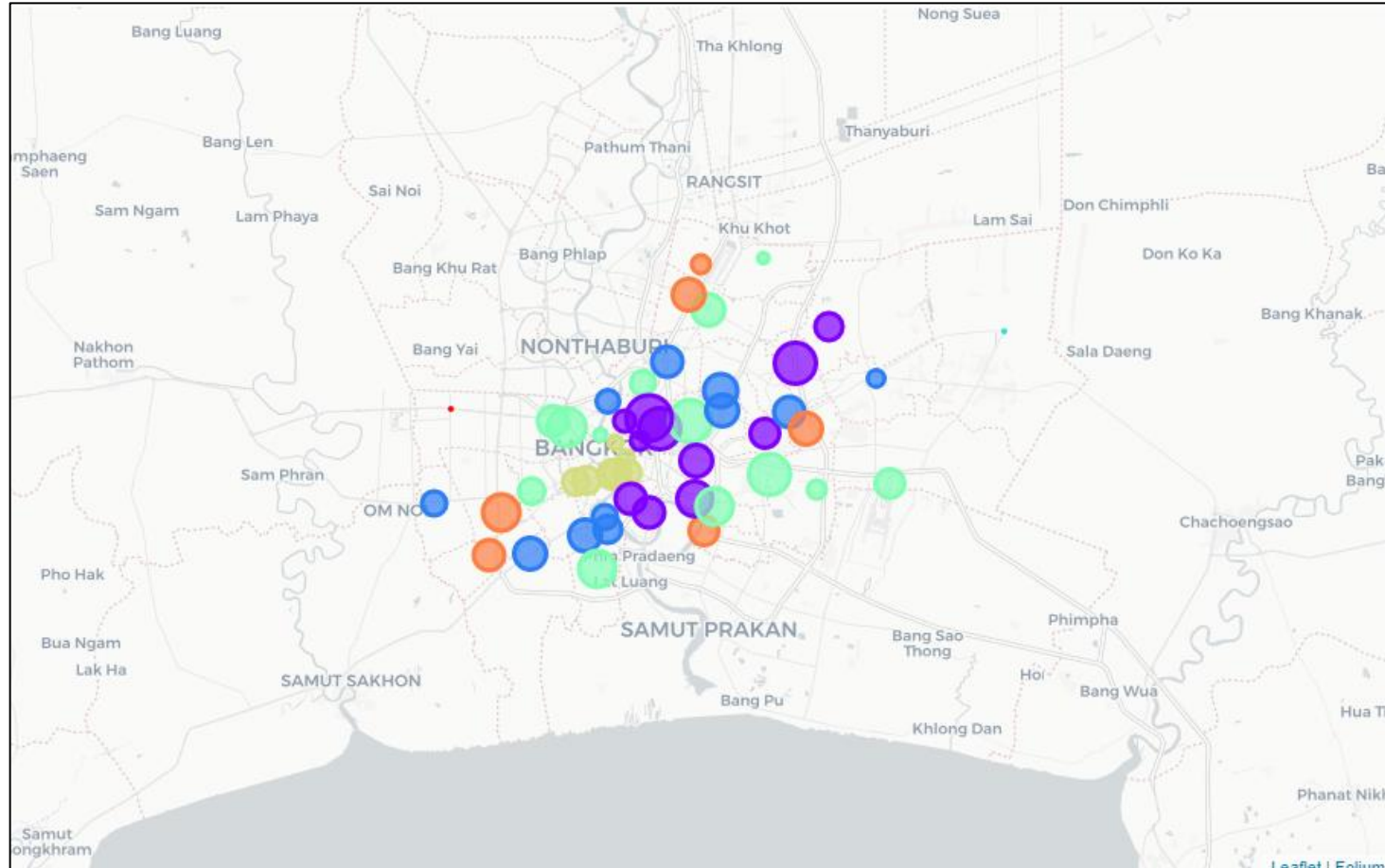## Note: Thai and Asian categories removed

Restaurant Frequency

	Venue_Category	Frequency
0	Japanese Restaurant	123
1	Som Tum Restaurant	112
2	Seafood Restaurant	98
3	Hotpot Restaurant	88
4	Chinese Restaurant	82
5	Fast Food Restaurant	70
6	Restaurant	65
7	Vietnamese Restaurant	38
8	Sushi Restaurant	31
9	Italian Restaurant	29
10	Shabu-Shabu Restaurant	28
11	Ramen Restaurant	21
12	Halal Restaurant	18
13	Korean Restaurant	17
14	Dim Sum Restaurant	15
15	Cantonese Restaurant	10
16	Vegetarian / Vegan Restaurant	9
17	Indian Restaurant	6
18	Tonkatsu Restaurant	6
19	Japanese Curry Restaurant	6

Chart of Restaurant Type and Frequency

Most Frequent International Restaurants in Bangkoks 50 Districts

Results of the Clustering (n=7)

Cluster Map using n=7 clusters

Cluster 0: The diverse mix

A small cluster, showing the most diversity in international choices and would be a good choice for a wide selection. Chinese, fast food, Indian, Halan, Mediterranean and European choices are available.

	Popu-lation	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
44	76351	Chinese Restaurant	Yoshoku Restaurant	Fast Food Restaurant	Indian Restaurant	Hotpot Restaurant	Halal Restaurant	Hainan Restaurant	Greek Restaurant	German Restaurant	French Restaurant

Cluster 1: Japanese

These are the areas if you want Japanese food; either the 1st or 2nd most common.

	Popu-lation	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
1	148465	Japanese Restaurant	Som Tum Restaurant	Vietnamese Restaurant	Fast Food Restaurant	Halal Restaurant	Chinese Restaurant	Japanese Curry Restaurant	Shabu-Shabu Restaurant	Seafood Restaurant	Hotpot Restaurant
15	130220	Japanese Restaurant	Som Tum Restaurant	Sushi Restaurant	Hotpot Restaurant	Korean Restaurant	Restaurant	Donburi Restaurant	Vegetarian / Vegan Restaurant	Shabu-Shabu Restaurant	Seafood Restaurant
17	107655	Japanese Restaurant	Chinese Restaurant	Restaurant	Hotpot Restaurant	Sushi Restaurant	Som Tum Restaurant	Dim Sum Restaurant	Italian Restaurant	French Restaurant	Halal Restaurant
19	88678	Japanese Restaurant	Fast Food Restaurant	Seafood Restaurant	Sushi Restaurant	Hotpot Restaurant	Som Tum Restaurant	Restaurant	Udon Restaurant	Shabu-Shabu Restaurant	Tonkatsu Restaurant
20	169489	Restaurant	Japanese Restaurant	Som Tum Restaurant	Seafood Restaurant	Hotpot Restaurant	Vietnamese Restaurant	Fast Food Restaurant	Italian Restaurant	Cantonese Restaurant	Donburi Restaurant
22	109041	Japanese Restaurant	Italian Restaurant	Sushi Restaurant	Chinese Restaurant	Korean Restaurant	Ramen Restaurant	Indian Restaurant	Vietnamese Restaurant	Eastern European Restaurant	Restaurant
31	72952	Japanese Restaurant	Som Tum Restaurant	Restaurant	Sushi Restaurant	Dim Sum Restaurant	Mexican Restaurant	Italian Restaurant	Cantonese Restaurant	Chinese Restaurant	Shabu-Shabu Restaurant
37	73035	Japanese Restaurant	Som Tum Restaurant	Italian Restaurant	Vietnamese Restaurant	Molecular Gastronomy Restaurant	Seafood Restaurant	Shabu-Shabu Restaurant	Hotpot Restaurant	Sushi Restaurant	Tonkatsu Restaurant
41	84916	Som Tum Restaurant	Japanese Restaurant	Italian Restaurant	Seafood Restaurant	Restaurant	French Restaurant	Modern European Restaurant	Cantonese Restaurant	Chinese Restaurant	Sushi Restaurant
48	81623	Japanese Restaurant	Italian Restaurant	Restaurant	Ramen Restaurant	Shabu-Shabu Restaurant	Vegetarian / Vegan Restaurant	Vietnamese Restaurant	Kaiseki Restaurant	Korean Restaurant	Greek Restaurant
49	81521	Seafood Restaurant	Japanese Restaurant	Restaurant	Sushi Restaurant	Som Tum Restaurant	Hotpot Restaurant	Hainan Restaurant	German Restaurant	Korean Restaurant	Ramen Restaurant

Cluster 2: Chinese Hotpot

1st to 3rd most common venues in this cluster are Chinese Hotpot.

	Popu-lation	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
4	94956	Hotpot Restaurant	Chinese Restaurant	Seafood Restaurant	Dim Sum Restaurant	Vegetarian / Vegan Restaurant	Halal Restaurant	Restaurant	Japanese Restaurant	Indian Restaurant	Donburi Restaurant
5	165491	Hotpot Restaurant	Seafood Restaurant	Restaurant	Japanese Restaurant	Som Tum Restaurant	Chinese Restaurant	Fast Food Restaurant	Sushi Restaurant	Vietnamese Restaurant	Cantonese Restaurant
7	99273	Chinese Restaurant	Japanese Restaurant	Hotpot Restaurant	Restaurant	Som Tum Restaurant	Seafood Restaurant	Dim Sum Restaurant	Cantonese Restaurant	Donburi Restaurant	Dumpling Restaurant
12	145830	Japanese Restaurant	Seafood Restaurant	Hotpot Restaurant	Chinese Restaurant	Halal Restaurant	Restaurant	Fast Food Restaurant	Vietnamese Restaurant	Dim Sum Restaurant	Som Tum Restaurant
13	160906	Hotpot Restaurant	Som Tum Restaurant	Japanese Restaurant	Seafood Restaurant	Chinese Restaurant	Fast Food Restaurant	Restaurant	Japanese Curry Restaurant	Korean Restaurant	Yoshoku Restaurant
14	158005	Hotpot Restaurant	Chinese Restaurant	Seafood Restaurant	Som Tum Restaurant	Restaurant	Halal Restaurant	Sushi Restaurant	Ramen Restaurant	Eastern European Restaurant	Hainan Restaurant
25	122182	Hotpot Restaurant	Japanese Restaurant	Chinese Restaurant	Som Tum Restaurant	Restaurant	Seafood Restaurant	Halal Restaurant	Italian Restaurant	Vietnamese Restaurant	Korean Restaurant
26	137251	Seafood Restaurant	Hotpot Restaurant	Halal Restaurant	Fast Food Restaurant	Shabu-Shabu Restaurant	Japanese Restaurant	Dim Sum Restaurant	Donburi Restaurant	Dumpling Restaurant	Chinese Restaurant
28	150218	Hotpot Restaurant	Restaurant	Sushi Restaurant	Fast Food Restaurant	Som Tum Restaurant	Ramen Restaurant	Japanese Restaurant	Chinese Restaurant	Dim Sum Restaurant	Donburi Restaurant
36	86695	Hotpot Restaurant	Chinese Restaurant	Seafood Restaurant	Dim Sum Restaurant	Japanese Restaurant	Ramen Restaurant	Halal Restaurant	Vegetarian / Vegan Restaurant	Restaurant	Sushi Restaurant
47	114768	Chinese Restaurant	Hotpot Restaurant	Japanese Restaurant	Seafood Restaurant	Som Tum Restaurant	Restaurant	Halal Restaurant	Vietnamese Restaurant	Korean Restaurant	American Restaurant

Cluster 3: Generic Restaurants

In Thailand, the simple "restaurant" category are sit-down venues and have a large menu and variety of dishes; including Thai, American and European and Mediterranean.

	Popu-lation	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
27	157138	Restaurant	Yoshoku Restaurant	Japanese Curry Restaurant	Indian Restaurant	Hotpot Restaurant	Halal Restaurant	Hainan Restaurant	Greek Restaurant	German Restaurant	French Restaurant

Cluster 4: North-Eastern food

"Som Tum" is the 1st or 2nd most popular in cluster 4. A spicy and delicious saled, which is technically Thai, these restaurants offer a menu from the North-Eastern region that includes Laos. Dishes are less spicy, delicate and include more vegetarian or freshwater-fish.

	Popu-lation	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
3	189539	Hotpot Restaurant	Som Tum Restaurant	Vietnamese Restaurant	Japanese Restaurant	Seafood Restaurant	Shabu-Shabu Restaurant	Fast Food Restaurant	Ramen Restaurant	Restaurant	Halal Restaurant
9	132234	Som Tum Restaurant	Japanese Restaurant	Seafood Restaurant	Hotpot Restaurant	Cantonese Restaurant	Chinese Restaurant	Vegetarian / Vegan Restaurant	Dim Sum Restaurant	Shabu-Shabu Restaurant	Halal Restaurant
10	117793	Som Tum Restaurant	Hotpot Restaurant	Chinese Restaurant	Seafood Restaurant	Japanese Restaurant	Ramen Restaurant	Shabu-Shabu Restaurant	Sushi Restaurant	Fast Food Restaurant	Halal Restaurant
18	78175	Som Tum Restaurant	Japanese Restaurant	Vietnamese Restaurant	Korean Restaurant	Seafood Restaurant	Hotpot Restaurant	Dim Sum Restaurant	Chinese Restaurant	Indian Restaurant	Fast Food Restaurant
24	163175	Som Tum Restaurant	Fast Food Restaurant	Japanese Restaurant	Seafood Restaurant	Italian Restaurant	Vietnamese Restaurant	Sushi Restaurant	Dim Sum Restaurant	Shabu-Shabu Restaurant	Hotpot Restaurant
30	129827	Japanese Restaurant	Som Tum Restaurant	Fast Food Restaurant	Hotpot Restaurant	Ramen Restaurant	Vietnamese Restaurant	Donburi Restaurant	Shabu-Shabu Restaurant	Seafood Restaurant	Chinese Restaurant
32	93482	Japanese Restaurant	Som Tum Restaurant	Vietnamese Restaurant	Italian Restaurant	Ramen Restaurant	Shabu-Shabu Restaurant	Fast Food Restaurant	Chinese Restaurant	Hotpot Restaurant	Dumpling Restaurant
33	57876	Som Tum Restaurant	Japanese Restaurant	Vietnamese Restaurant	Hotpot Restaurant	Fast Food Restaurant	Italian Restaurant	Seafood Restaurant	Dim Sum Restaurant	Donburi Restaurant	Dumpling Restaurant
35	160671	Som Tum Restaurant	Fast Food Restaurant	Restaurant	Seafood Restaurant	Vietnamese Restaurant	Halal Restaurant	Hotpot Restaurant	Chinese Restaurant	Dim Sum Restaurant	Donburi Restaurant
38	188123	Vietnamese Restaurant	Restaurant	Som Tum Restaurant	Italian Restaurant	Fast Food Restaurant	Yoshoku	Hotpot Restaurant	Halal Restaurant	Hainan Restaurant	Greek Restaurant
42	115658	Som Tum Restaurant	Chinese Restaurant	Seafood Restaurant	Japanese Restaurant	Hotpot Restaurant	Italian Restaurant	Vietnamese Restaurant	Restaurant	Cantonese Restaurant	Fast Food Restaurant
43	106604	Som Tum Restaurant	Japanese Restaurant	Fast Food Restaurant	Hotpot Restaurant	Restaurant	Italian Restaurant	Chinese Restaurant	Sushi Restaurant	Shabu-Shabu Restaurant	Seafood Restaurant
46	116473	Som Tum Restaurant	Hotpot Restaurant	Japanese Restaurant	Fast Food Restaurant	Seafood Restaurant	Chinese Restaurant	Vietnamese Restaurant	Sushi Restaurant	Shabu-Shabu Restaurant	Ramen Restaurant

Cluster 5: Seafood

Tourists searching for seafood will find a lot of choices in these areas.

	Popu-lation	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
8	45875	Restaurant	Italian Restaurant	Som Tum Restaurant	Japanese Curry Restaurant	French Restaurant	Seafood Restaurant	Chinese Restaurant	Japanese Restaurant	Tonkatsu Restaurant	Dim Sum Restaurant
11	72321	Seafood Restaurant	Japanese Restaurant	Chinese Restaurant	Vegetarian / Vegan Restaurant	Som Tum Restaurant	Vietnamese Restaurant	Fast Food Restaurant	Hotpot Restaurant	Cantonese Restaurant	Dim Sum Restaurant
21	76446	Seafood Restaurant	Chinese Restaurant	Som Tum Restaurant	Japanese Restaurant	Shabu-Shabu Restaurant	Hotpot Restaurant	French Restaurant	Restaurant	Indian Restaurant	Italian Restaurant
29	53263	Seafood Restaurant	Japanese Restaurant	Molecular Gastronomy Restaurant	Japanese Curry Restaurant	Tonkatsu Restaurant	Som Tum Restaurant	Hotpot Restaurant	Restaurant	Hainan Restaurant	Greek Restaurant
34	51006	Seafood Restaurant	Som Tum Restaurant	Sushi Restaurant	Vietnamese Restaurant	Japanese Restaurant	Chinese Restaurant	Cantonese Restaurant	Cajun / Creole Restaurant	Dim Sum Restaurant	Donburi Restaurant
39	27452	Seafood Restaurant	Chinese Restaurant	Som Tum Restaurant	Japanese Restaurant	French Restaurant	Restaurant	Indian Restaurant	Italian Restaurant	Cantonese Restaurant	Tonkatsu Restaurant
45	119708	Chinese Restaurant	Seafood Restaurant	Satay Restaurant	Shabu-Shabu Restaurant	Vietnamese Restaurant	Fast Food Restaurant	Hotpot Restaurant	Indian Restaurant	Som Tum Restaurant	Cantonese Restaurant

Cluster 6: Fast Food

Mac Donald's, Burger King, KFC and more. If you really need a quick bang-for-the-buck taste from home, search no more!

	Popu-lation	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	105161	Fast Food Restaurant	Japanese Restaurant	Chinese Restaurant	Som Tum Restaurant	Hotpot Restaurant	Cantonese Restaurant	Seafood Restaurant	Vietnamese Restaurant	Vegetarian / Vegan Restaurant	Satay Restaurant
2	191781	Fast Food Restaurant	Japanese Restaurant	Chinese Restaurant	Som Tum Restaurant	Hotpot Restaurant	Ramen Restaurant	Seafood Restaurant	Shabu-Shabu Restaurant	Restaurant	Australian Restaurant
6	95912	Italian Restaurant	Fast Food Restaurant	Vietnamese Restaurant	Chinese Restaurant	Seafood Restaurant	Shabu-Shabu Restaurant	Korean Restaurant	Restaurant	Japanese Restaurant	Dumpling Restaurant
16	166261	Fast Food Restaurant	Restaurant	Japanese Restaurant	Som Tum Restaurant	Eastern European Restaurant	Shabu-Shabu Restaurant	Seafood Restaurant	Chinese Restaurant	Dim Sum Restaurant	Donburi Restaurant
23	109770	Fast Food Restaurant	Japanese Restaurant	Hotpot Restaurant	Som Tum Restaurant	Vietnamese Restaurant	Seafood Restaurant	Korean Restaurant	Restaurant	Dumpling Restaurant	Sushi Restaurant
40	89825	Japanese Restaurant	Fast Food Restaurant	Halal Restaurant	Chinese Restaurant	Hotpot Restaurant	Seafood Restaurant	Swiss Restaurant	Dim Sum Restaurant	Shabu-Shabu Restaurant	Donburi Restaurant

Discussion

- Although Thai and Asian restaurants are obviously the most common in Bangkok, there is some variety in the international flavors
- Experimenting, I found that seven clusters was the best and showed the most difference between neighborhoods
- Cluster 0 and 3 only represent one district each, and both are suburbs, explaining possibly why they both have a wide variety of food types
- The Seafood clusters are near the river which is logical
- The Japanese restaurants are in the more upscale districts, which indicates that this is considered an exclusive treat

Conclusions

- K-means clustering resulted in successfully showing where a certain type of international restaurant may be found in Bangkok

- The most common international foods are Japanese, Chinese, and American-style fast food

- More remote districts will have a variety of restaurants, or single restaurants with a diverse menu