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Starting a new Indian Restaurant in Scotland

Introduction

Scotland is an outgoing nation, with high number of tourists:

- The food and drink industry is worth around £14 billion.
- Accounts for 1 in 5 manufacturing jobs in Scotland.

There is high potential in investment:

- 20% of new business fail in the first 2 years.
- 45% during the first 5 years.
- In Scotland around 18% is born and 15% dies every year in the food industry.

Study Highlights

- Factors deciding the decision making:
 1. The city where the restaurant is located (the ratio of restaurant facilities to amount of population)
 2. The area where the restaurant is located (the amount of restaurants located in a certain area)
 3. The type of food served (the cuisine served should be unique or least represented in the area of choice)

Data Acquisition and cleaning

Initial study had major issues regarding the obtained data.

Problems encountered:

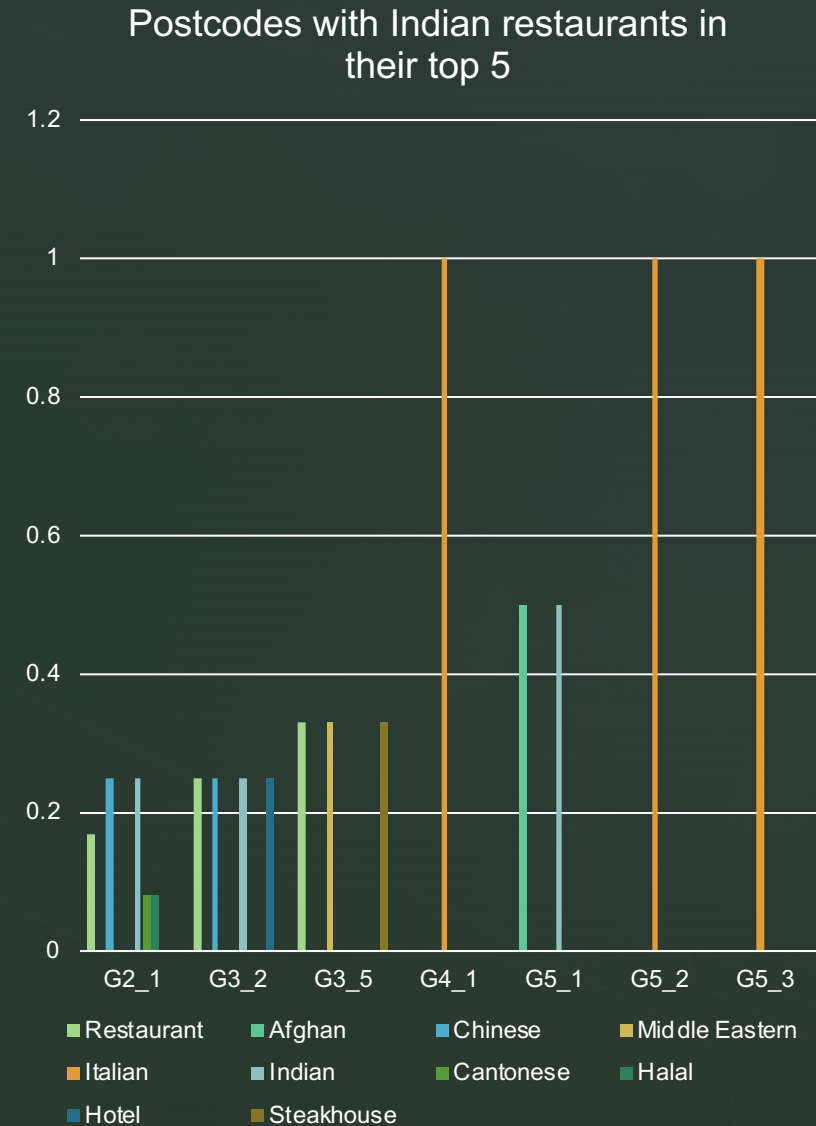
- Foursquare doesn't contain all data for all the restaurants in Scotland.
- The number of restaurants observed is uneven when compared to tripadvisor.
- Decision based on Foursquare will not be relevant.

	Cities	Population	Latitude	Longitude	N_restaurants	ratio	tripadvisor_data	ratio_tripadvisor
0	Glasgow	626410	55.86515	-4.25763	13	48185	192	3262
4	Inverness	47380	57.47908	-4.22398	5	9476	14	3384
5	Aberdeen	227300	57.14000	-2.09814	4	56890	59	3856
1	Edinburgh	518500	55.95206	-3.19648	25	20740	131	3958
3	Dundee	148750	56.46913	-2.97489	3	49583	29	5129
2	Stirling	94330	56.11903	-3.93682	1	94330	11	8575

Glasgow picked to carry out the study

Initial Analysis

- Initial analysis with top 5 venues was impossible.
- Many postcodes don't have 5 restaurant types.
- The decision of only choosing top 3 was made.



Initial analysis

- Only the postcodes containing at least 3 restaurants were selected.
- The others were discarded.

	Gla Latitude	Gla Longitude	name	rest Latitude	rest Longitude	rest id	rest Category
Gla postcode							
G1_1	30	30	30	30	30	30	30
G1_2	4	4	4	4	4	4	4
G2_1	12	12	12	12	12	12	12
G3_1	12	12	12	12	12	12	12
G3_11	2	2	2	2	2	2	2
G3_2	4	4	4	4	4	4	4
G3_5	3	3	3	3	3	3	3
G3_6	1	1	1	1	1	1	1
G4_1	1	1	1	1	1	1	1
G5_1	2	2	2	2	2	2	2
G5_2	1	1	1	1	1	1	1
G5_3	1	1	1	1	1	1	1

K-Means clustering

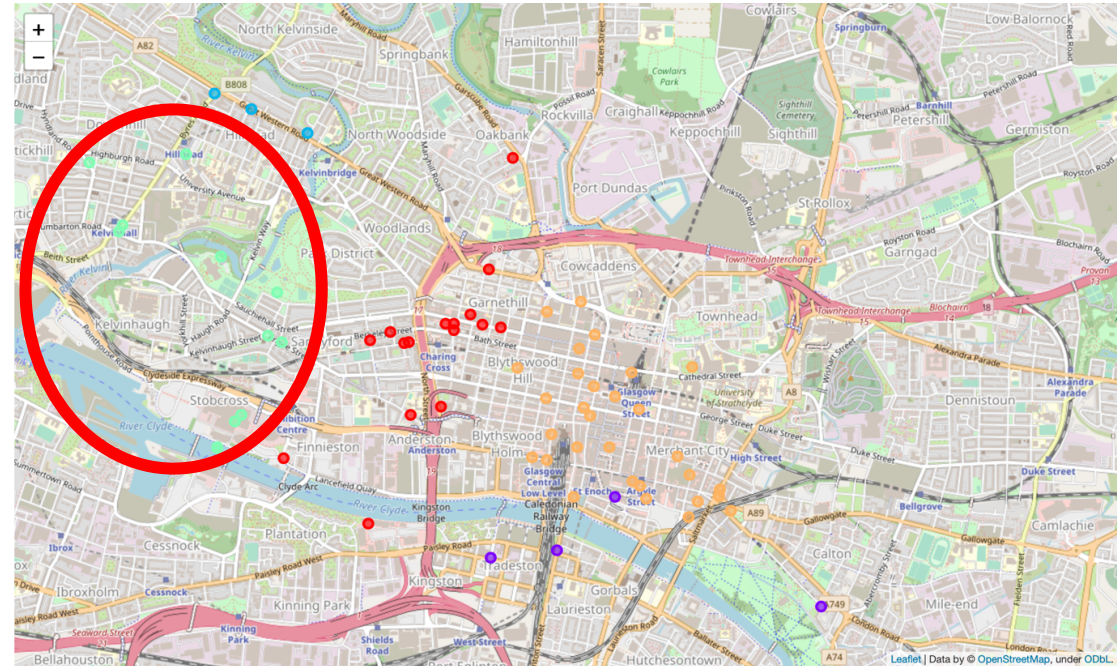
- An example of K-means clustering result as observed.
- Top three of restaurant types presented for each postcode point.
- Clusters from 3 to 5 were explored.

	Gla postcode	1st Most Common Restaurant	2nd Most Common Restaurant	3rd Most Common Restaurant
0	G1_1	Restaurant	Turkish	Bar
1	G1_2	Persian	Brewery	Restaurant
2	G2_1	Indian	Chinese	Restaurant
3	G3_1	Restaurant	Bar	Vegetarian / Vegan
4	G3_2	Hotel	Restaurant	Chinese

5 clusters was the most suitable

5 clusters map of Glasgow

- Clusters 2 turquoise and 4 orange have the highest potential (many restaurants with no Indian restaurants)
- Cluster 0 in red has no potential (many Indian restaurants)
- Cluster 1 and 3 have little interest (low presence in restaurants but no Indian)



Cluster 2 in turquoise is the preferred area of choice of a new Indian restaurant

Conclusion

- Data provided by Foursquare is poor.
- Analysis of Glasgow carried out with success.
- East End area of Glasgow has been defined as the most suitable to start a new Indian restaurant.
- Merchant City is also another suitable area of interest.