

Starting a new business in London

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1 Introduction

London is an international city with a large population and great business potential. If someone wants to start a new business in London, which business to start and who are the competitors are interesting problems for a businessman.

2 Data, Resources&Methodology

We can use Foursquare to explore the venues in London. Then we can use groupby to check how many each venue is and find out which is the most popular business. In the end, we can use clustering to find out the locations of the most popular business.

3 Results

Using Foursquare to explore venues in London, the LIMIT and radius are set as 500 and 500 separately. Part of the dataframe of venues are as follows:

Table 1 Part of the dataframe of venues

	name	categories	lat	lng
90	The Rooftop	Cocktail Bar	51.507335	-0.129216
91	The Comedy Store	Comedy Club	51.510234	-0.132507
92	The Espresso Room	Coffee Shop	51.511074	-0.126568
93	wagamama	Asian Restaurant	51.510792	-0.124721
94	Smith & Wollensky	Steakhouse	51.509557	-0.122241
95	The Travellers Club	Lounge	51.506654	-0.132939
96	Koshari Street	African Restaurant	51.510889	-0.127005
97	M&M's World	Candy Store	51.510599	-0.131149
98	Chequers	Sandwich Place	51.510041	-0.123788
99	Sticks'n'Sushi	Sushi Restaurant	51.511038	-0.123655

There are 100 venues in the dataframe around London and there are 55 unique categories. Using groupby to count how many venues are in each categories, the results are as follows:

Table 2 Count for categories

	name	lat	lng
categories			
African Restaurant	1	1	1
Art Gallery	3	3	3
Art Museum	2	2	2
Asian Restaurant	2	2	2
Bakery	1	1	1
Bar	2	2	2
Bookstore	1	1	1
Boutique	1	1	1
Burger Joint	1	1	1
Café	2	2	2
Candy Store	2	2	2
Church	1	1	1
Cocktail Bar	4	4	4
Coffee Shop	2	2	2
Comedy Club	1	1	1
English Restaurant	2	2	2
Fountain	1	1	1
French Restaurant	2	2	2

Garden	2	2	2
Gay Bar	1	1	1
Greek Restaurant	1	1	1
Gym / Fitness Center	1	1	1
History Museum	1	1	1
Hotel	9	9	9
Ice Cream Shop	3	3	3
Indie Movie Theater	1	1	1
Italian Restaurant	1	1	1
Japanese Restaurant	2	2	2
Liquor Store	1	1	1
Lounge	1	1	1
Mexican Restaurant	1	1	1
Monument / Landmark	3	3	3
North Indian Restaurant	1	1	1
Opera House	1	1	1
Outdoor Sculpture	1	1	1
Park	1	1	1
Persian Restaurant	1	1	1
Pizza Place	1	1	1

Plaza	3	3	3
Portuguese Restaurant	1	1	1
Pub	3	3	3
Ramen Restaurant	1	1	1
Restaurant	2	2	2
Sandwich Place	3	3	3
Seafood Restaurant	1	1	1
Spa	2	2	2
Spanish Restaurant	1	1	1
Speakeasy	1	1	1
Steakhouse	2	2	2
Sushi Restaurant	1	1	1
Tea Room	1	1	1
Thai Restaurant	1	1	1
Theater	8	8	8
Toy / Game Store	1	1	1
Wine Bar	3	3	3

From the results above, there are 8 theaters and 9 hotels which are outnumbering other individual categories, which means theater and hotel are the most popular business in London. Finally, using clustering to get the competitors for each clustering group, especially for theater and hotel.

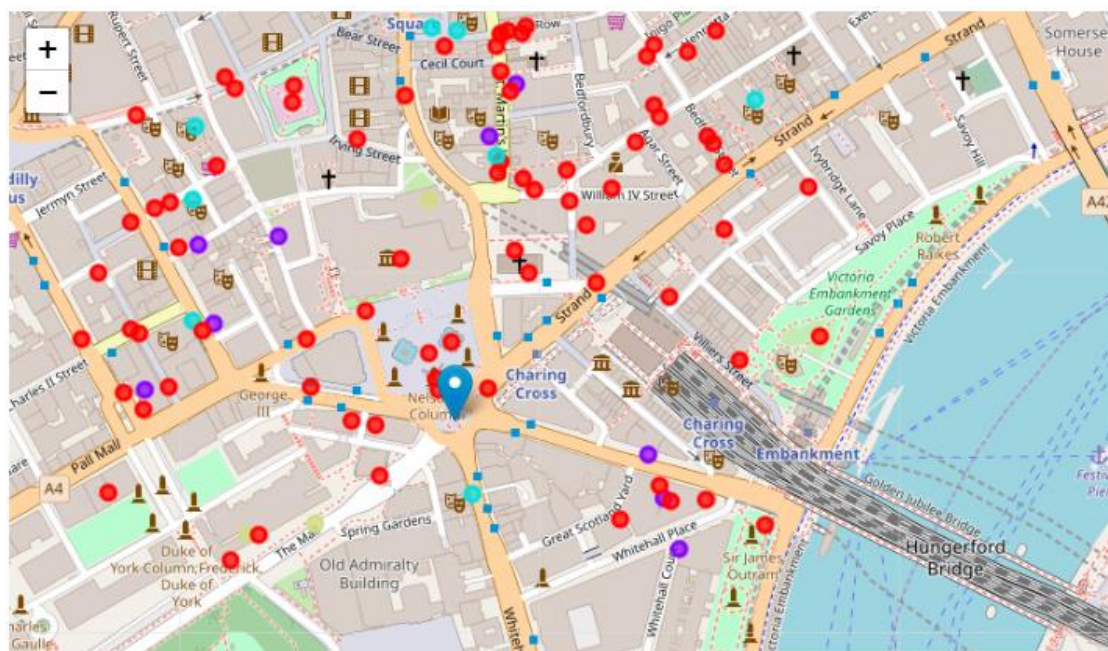


Figure 1 Map for clusters

Table 3 Competitors for hotel

	name	categories	lat	Ing	Cluster Labels	1st Most Common Venue
8	Corinthia Hotel	Hotel	51.506607	-0.124460	1	Hotel
17	Haymarket Hotel	Hotel	51.508267	-0.131315	1	Hotel
26	Citadines Trafalgar Square London	Hotel	51.507020	-0.124685	1	Hotel
36	The Royal Horseguards	Hotel	51.506127	-0.124224	1	Hotel
37	Sofitel London St James	Hotel	51.507636	-0.132367	1	Hotel
48	St. Martin's Lane Hotel	Hotel	51.510526	-0.126705	1	Hotel
50	hub by Premier Inn London Covent Garden	Hotel	51.510036	-0.127111	1	Hotel
66	The Z Hotel Piccadilly	Hotel	51.509009	-0.131564	1	Hotel
88	The Royal Trafalgar by Thistle	Hotel	51.509087	-0.130328	1	Hotel

Table 4 Competitors for theater

	name	categories	lat	Ing	Cluster Labels	1st Most Common Venue
10	Trafalgar Studios	Theater	51.506651	-0.127378	2	Theater
23	The London Coliseum	Theater	51.509846	-0.127005	2	Theater
28	Her Majesty's Theatre	Theater	51.508289	-0.131641	2	Theater
59	Harold Pinter Theatre	Theater	51.509443	-0.131644	2	Theater
63	Prince of Wales Theatre	Theater	51.510132	-0.131594	2	Theater
68	Noel Coward Theatre	Theater	51.511042	-0.127619	2	Theater
80	Adelphi Theatre	Theater	51.510383	-0.123068	2	Theater
86	Wyndham's Theatre	Theater	51.511072	-0.127990	2	Theater

4 Discussion

From the groupby and clustering results, we can see there are 8 theaters and 9 hotels in London, which are outnumbering the other businesses. According to the results, hotel and theater are popular business to invest in.

If a business man wants to open a hotel, the rivals are Corinthia Hotel, Haymarket Hotel, Citadines Trafalgar Square London, The Royal Horseguards, Sofitel London St James, St. Martin's Lane Hotel, hub by Premier Inn London Covent Garden, The Z Hotel Piccadilly and The Royal Trafalgar by Thistle. If someone wants to open a theater, the competitors are Trafalgar Studios, The London Coliseum, Her Majesty's Theatre, Harold Pinter Theatre, Prince of Wales Theatre, Noel Coward Theatre, Adelphi Theatre and Wyndham's Theatre .

5 Conclusion

In conclusion, this paper used Foursquare to explore the venues in London with the methodology of groupby and clustering to find out that hotel and theater are most popular business in London. For hotel business, the rivals are Corinthia Hotel, Haymarket Hotel, Citadines Trafalgar Square London, The Royal Horseguards, Sofitel London St James, St. Martin's Lane Hotel, hub by Premier Inn London Covent Garden, The Z Hotel Piccadilly and The Royal Trafalgar by Thistle. For theater business, the competitors are Trafalgar Studios, The London Coliseum, Her Majesty's

Theatre, Harold Pinter Theatre, Prince of Wales Theatre, Noel Coward Theatre, Adelphi Theatre and Wyndham's Theatre.

For further competitor investigation, people can use the competitor results of this research to find out the the competitive advantages and disadvantages before making marketing strategies.