

Coursera Capstone Project

for IBM Professional Certification in Data Science

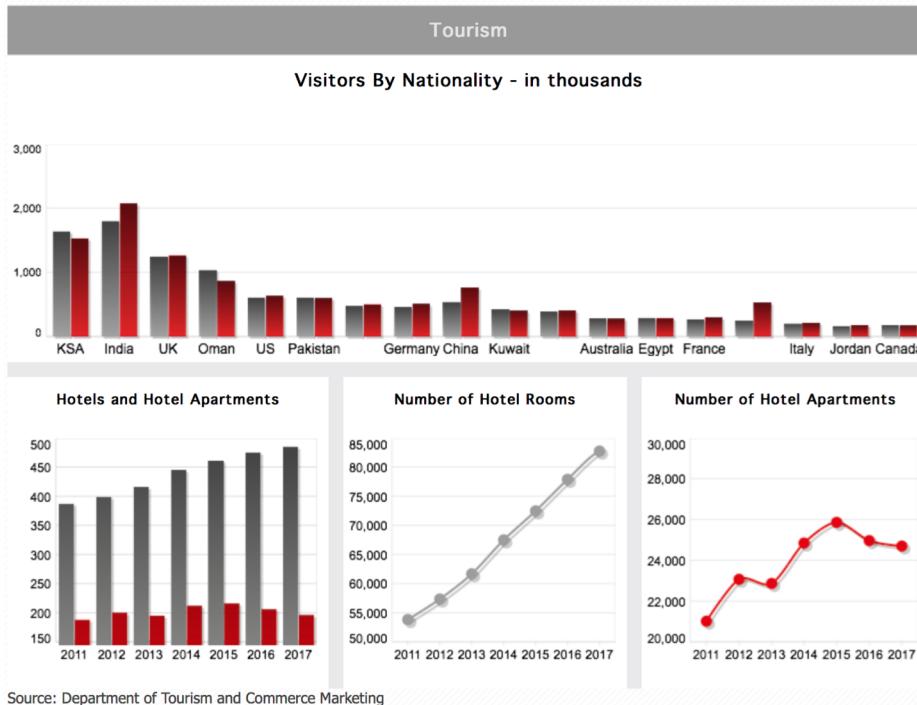
“The Battle of the Neighborhoods”
Analysis of preferred restaurant opportunities in Dubai

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Problem statement

Due to its central geographic location and generally welcoming climate, Dubai is known for its international atmosphere. It is home to close to 2.5 Million expatriates who make up 90% of the total population and it hosts close to 15 Million visitors per year.



Question: if we were to consider an investment opportunity to open a restaurant, where would be the best place to do it?

Elements to consider:

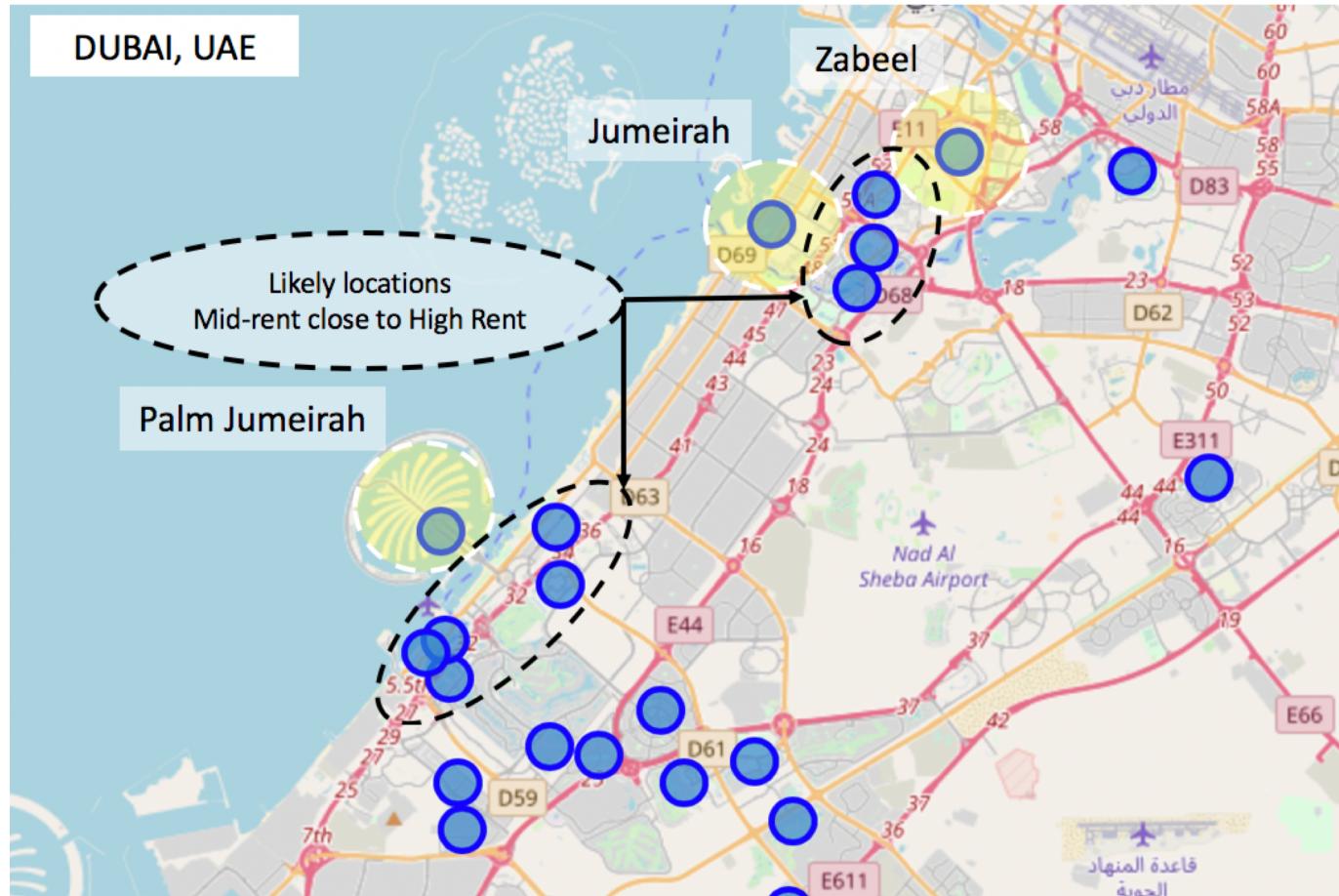
- Average rents by neighborhood
- Ratio of Hotels to Restaurants
- Proximity to 'high rent' neighborhoods

Preliminary Analysis:

Average rent by neighborhood and location

Average Distance from High Rent Areas								Low Rent Avg
Neighborhood	Avg Rent Per Unit	Z-Score	Distance from Palm	Distance from Zabeel	Distance from Jumeirah	Latitude	Longitude	
Discovery Gardens	44,672	-1.53	8.18	26.15	20.73	25.039	55.1445	
Dubai Silicon Oasis	54,417	-1.30	24.96	13.31	16.39	25.1279	55.3863	
Jumeirah Village Circle	60,068	-1.17	9.16	20.56	16.13	25.0602	55.2094	
Dubai Sports City	62,753	-1.10	11.36	22.32	18.28	25.0391	55.2176	
Remraam	67,284	-0.99	16.71	25.27	22.27	25.0014	55.2508	
Al Furjan	73,648	-0.84	9.70	27.28	22.02	25.0252	55.1459	
Jumeirah Village Triangle	82,014	-0.64	8.87	22.78	18.04	25.0473	55.19	
Motor City	83,876	-0.60	12.61	20.90	17.42	25.045	55.2397	
Damac Hills	94,630	-0.34	16.40	22.41	19.37	25.0275	55.2524	
Al Sufouh	95,804	-0.31	0.70	17.88	12.02	25.1134	55.1762	
DIFC	105,183	-0.09	17.86	3.02	3.57	25.2106	55.2794	
Business Bay	105,682	-0.08	15.61	5.55	3.45	25.1832	55.2729	
Jumeirah Lakes Towers	106,352	-0.06	4.80	23.80	18.03	25.0693	55.1417	
Barsha Heights	111,804	0.07	4.10	19.08	13.48	25.097	55.1776	
Emirates Living	114,422	0.13	7.82	23.43	18.36	25.0496	55.174	
Dubai Marina	115,236	0.15	3.55	23.02	17.12	25.0805	55.1403	
Dubai Investments Park	116,379	0.18	15.30	30.13	25.71	24.979	55.1762	
Jumeirah Beach Residence	143,520	0.83	3.97	23.75	17.82	25.0769	55.1341	
Dubai Festival City	151,341	1.02	25.23	5.60	11.81	25.2171	55.3614	
Downtown	153,546	1.07	16.77	4.19	3.41	25.195	55.2784	
Zabeel	176,213	1.61	20.84	0.00	6.57	25.2231	55.3061	
Jumeirah	180,180	1.71	14.59	6.57	0.00	25.2016	55.2453	
Palm Jumeirah	204,430	2.29	0.00	20.84	14.59	25.1124	55.139	

Initial Mapping of Neighborhoods



Focus on 'mid-rent' centers
in proximity to 'high-rent' centers

- **Al Sufouh**
- **Barsha Heights**
- **Business Bay**
 - DIFC
- **Dubai Marina**
- **Jumeirah Lake Towers**

Secondary Analysis:

Elimination of neighborhoods with low traffic or high competition

Total Venue Count

'Venue Type' =
Restaurant/Hotel

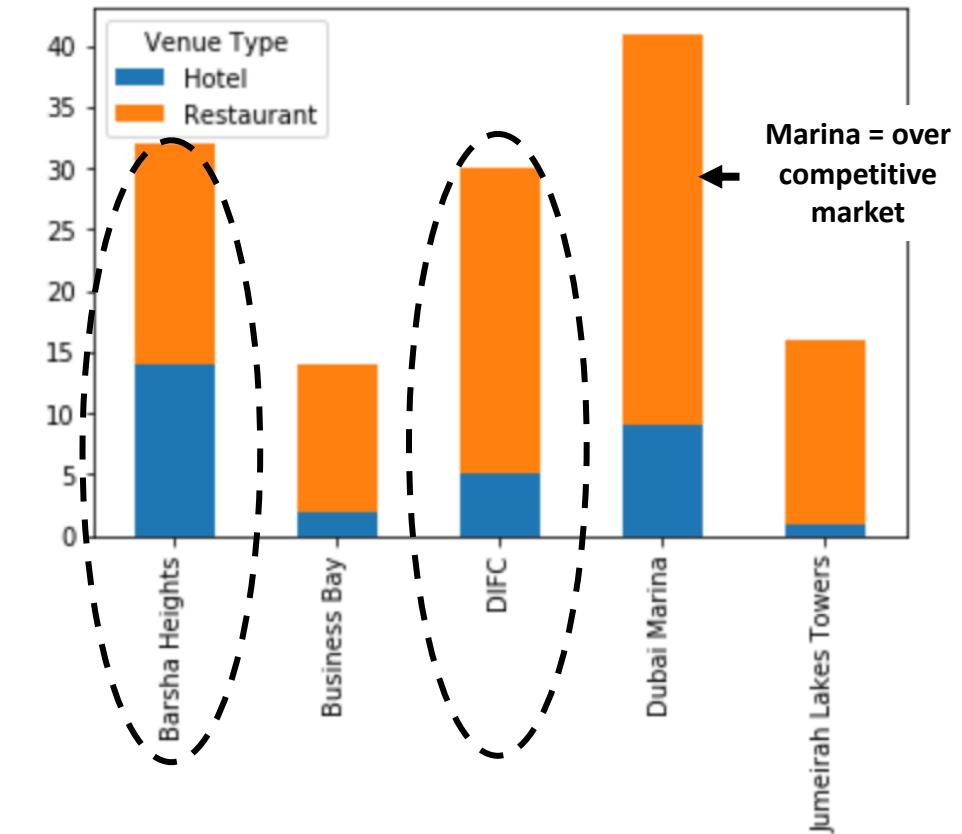
Split by Venue Type/Neighborhood

neighborhood	Total Venue Count
Al Sufouh	5
Barsha Heights	62
Business Bay	22
DIFC	75
Dubai Marina	98
Jumeirah Lakes Towers	33

= preferred scenario

i.e. high volume of venues, high
volume of hotels & low volume of
restaurants

neighborhood	Venue Type	Count
Barsha Heights	Hotel	14
	Restaurant	18
Business Bay	Hotel	2
	Restaurant	12
DIFC	Hotel	5
	Restaurant	25
Dubai Marina	Hotel	9
	Restaurant	32
Jumeirah Lakes Towers	Hotel	1
	Restaurant	15



Final selection:

Benefits analysis of Barsha Heights vs. DIFC

neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0 Barsha Heights	Hotel	Middle Eastern Restaurant	Italian Restaurant	Thai Restaurant	Hotel Bar
1 Business Bay	Restaurant	Italian Restaurant	Middle Eastern Restaurant	Hotel	Tapas Restaurant
2 DIFC	Hotel	Italian Restaurant	Restaurant	Indian Restaurant	Asian Restaurant
3 Dubai Marina	Hotel	Middle Eastern Restaurant	Italian Restaurant	Asian Restaurant	Restaurant
4 Jumeirah Lakes Towers	Italian Restaurant	Vietnamese Restaurant	Theme Restaurant	Modern European Restaurant	American Restaurant

Barsha Heights:

- (+) High Volume of Hotels
- (+) Low Volume or Restaurants
- (+) Proximity to Palm Jumeirah
- (-) Lower frequency of Venues total
- (-) Not as well known

DIFC

- (+) High Volume of Hotels
- (+) Well known for Restaurants
- (+) Proximity to 3 'High rent' districts
- (-) Increased competition
- (-) Higher rent than Barsha Heights

Mapping of Final Selection - DIFC

