Capstone Project - The Battle of Neighborhoods (Week 2)

BARCELONA RENTING HOUSE.

Currently I am living in the UK. I am planning on moving back to Barcelona in a short future.

In this scenario, I really need machine learning tools in order to assist me to make a wise and effective decision about which neighborhood is the best to rent a house.

I am going to cluster Barcelona neighborhoods in order to analyse how many and what kind of venues and the current average price of real estate.

The neighborhood will be segmented according to amenities and essential facilities surrounding such i.e. grocery stores, restaurants, pubs..

Background

CBRE's Global Living report on the housing market in 35 of the world's most important cities asserts that house prices increased the most in Barcelona last year, up 16.9%, with Madrid not far behind in fourth place with an increase of 10.2%. This comes as a surprise to locals in the business.

www.barcelona.cat

Ajuntament de
Barcelona

Estadística i Difusió de Dades

Inicio > Cifras de la ciudad > Estadísticas urbanísticas > El mercado inmobiliario de Barcelona > Precio de oferta de las viviendas de segunda mano > Cifras evolutivas. 2001-2020

Seleccionar tabla:　Precio medio de oferta en los barrios (€/m2). 2013-2019　⌄

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1. Oferta de viviendas de segunda mano en venta en Barcelona.

3. Precio medio de oferta en los barrios (€/m2). 2013-2019

Dto.	Barrios	2013	2014	2015	2016	2017	2018	...	2019	2020
	BARCELONA	3.019	3.188	3.392	3.879	4.284	4.344		4.115	4.111
1	1. el Raval	2.614	2.404	2.775	3.251	4.029	4.034		4.591	3.719
1	2. el Barri Gòtic	3.811	3.791	4.236	4.813	4.884	4.660		3.811	4.707
1	3. la Barceloneta	4.212	4.168	4.043	4.683	5.165	4.815		4.849	4.906
1	4. Sant Pere, Santa Caterina i la Ribera	3.534	3.682	3.827	4.501	5.152	4.689		4.772	4.818
2	5. el Fort Pienc	3.038	3.022	3.228	4.012	4.107	4.500		4.250	4.250
2	6. la Sagrada Família	3.029	2.959	3.157	3.746	4.209	4.202		4.173	4.092
2	7. la Dreta de l'Eixample	4.296	4.528	4.961	5.949	6.332	6.128		5.514	5.726
2	8. l'Antiga Esquerra de l'Eixample	3.521	3.551	3.999	4.747	5.091	5.081		5.197	5.451
2	9. la Nova Esquerra de l'Eixample	3.158	3.292	3.340	4.085	4.465	4.797		4.634	4.688
2	10. Sant Antoni	2.926	3.000	3.369	3.817	4.591	4.530		4.412	4.355
3	11. el Poble Sec-AEI Parc Montjuïc	2.495	2.518	2.815	2.771	3.936	4.083		3.911	3.854
3	12. la Marina del Prat Vermell-AEI Zona Franca	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.		n.d.	1.905
3	13. la Marina de Port	2.152	2.080	2.174	2.348	2.723	2.879		2.819	2.920
3	14. la Font de la Guatlla	n.d.	2.580	2.582	n.d.	3.510	3.457		3.893	3.516
3	15. Hostafrancs	n.d.	2.719	2.742	2.970	3.912	3.398		3.915	3.697
3	16. la Bordeta	n.d.	2.323	2.361	2.829	3.171	3.153		3.114	3.239
3	17. Sants-Badal	2.575	2.392	2.607	3.127	3.469	3.429		3.183	3.307
3	18. Sants	2.633	2511	2.816	3.181	3.666	3.556		3.642	3.624
4	19. les Corts	3.597	3.712	3.825	4.469	4.821	4.650		4.469	4.647

Table

```
In [26]: print(barcelona_venues.shape)
         barcelona_venues.head()
```
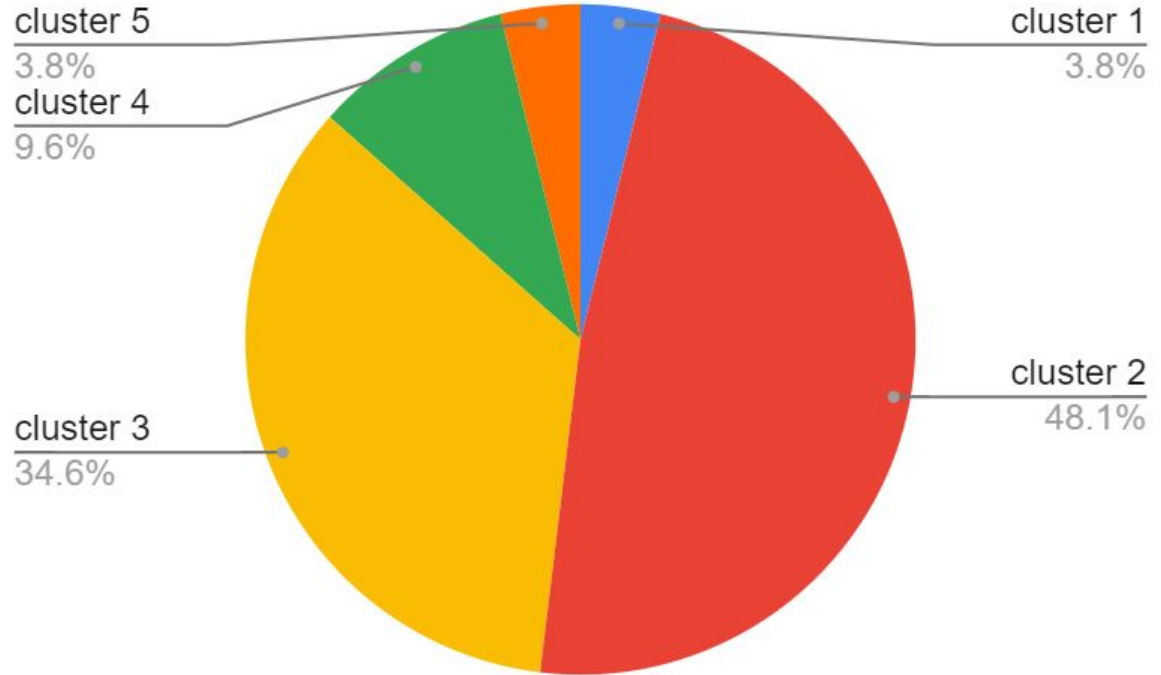
(2877, 7)

Out[26]:

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	. el Raval	41.379518	2.168368	Chulapio	41.379264	2.165905	Cocktail Bar
1	. el Raval	41.379518	2.168368	La Robadora	41.379500	2.170463	Gastropub
2	. el Raval	41.379518	2.168368	Arume	41.378953	2.166008	Spanish Restaurant
3	. el Raval	41.379518	2.168368	A Tu Bola	41.380096	2.169054	Tapas Restaurant
4	. el Raval	41.379518	2.168368	La Monroe	41.378795	2.170692	Spanish Restaurant

```
In [27]: barcelona_venues.groupby('Neighborhood').count()
```
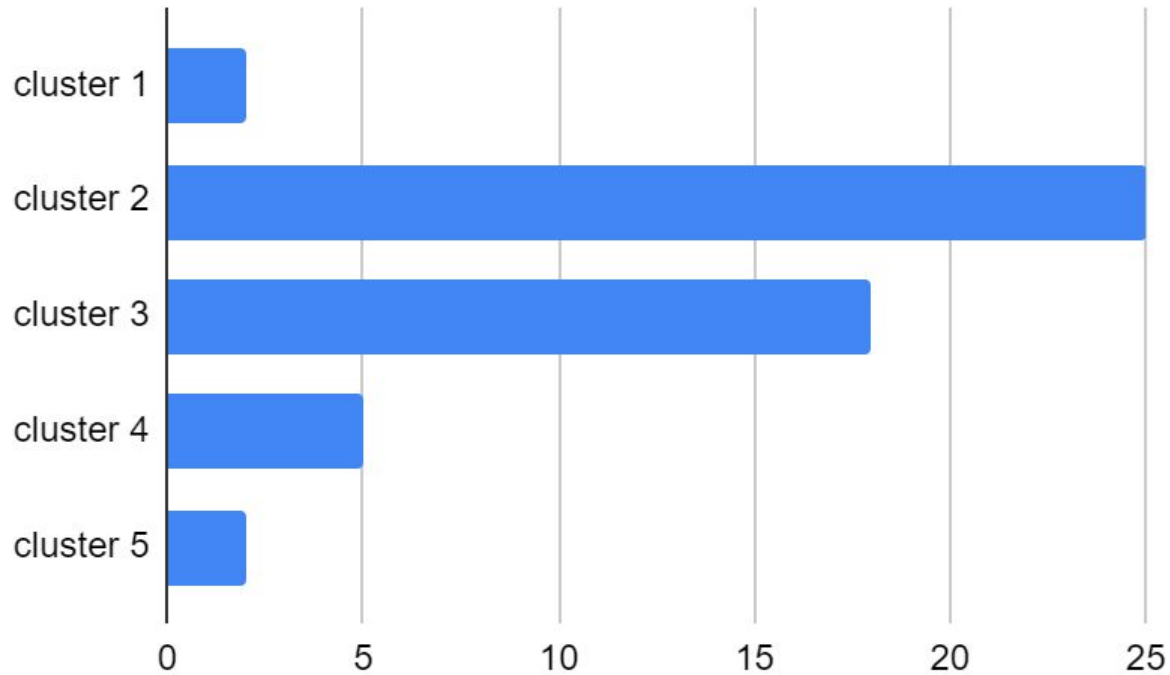
Out[27]:

	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Cat
Neighborhood						
. Can Baró	26	26	26	26	26	26
. Can Peguera ()	11	11	11	11	11	11

Analysis cluster

cluster 5
3.8%

cluster 4
9.6%

cluster 3
34.6%

cluster 1
3.8%

cluster 2
48.1%

Bar chart

- **Results section where you discuss the results.**

The statistical results reflect the difference between expensive and cheap neighborhoods. There is a relationship between the quality of venues and the price of renting.

The results split Barcelona mainly into two areas, the area near Tibidabo, Bonanova and the new neighborhoods near the sea.

L'eixample , both dreta and esquerra are in the same cluster, keeping the same offer in venues and similar renting prices.

Some areas like Parallel reflect a weak offer of venues and low prices.

Conclusion

1) There is exclusive and expensive renting with two options, mountain or see neighborhoods.
2) There is affordable renting mainly in dreta and esquerra eixample areas.
3) There is some cheaper renting with poor offer of venues in some areas like parallel.