
TOURISM IN SARDINIA

Insights for future development

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25th May 2020

Introduction

Background

Sardinia is an Italian island placed between the Italian peninsula and Spain. It is the second-largest island in the Mediterranean Sea, after Sicily, with an area of 24,100 square kilometres. Well known for its rich environment and in particular coasts, it has one of the pillars of its economy in the tourism industry. In the past, one of the main issues regarding this sector has been the important difference of tourist attraction capability within different areas in the region and this has been mainly due to various business development strategy put in place by operators and public policies. Nowadays tourism industry is all over suffering for Covid-19 consequences and even more in Sardinia because of transport limitations and costs. Therefore, it is urgent to define new strategies and business models to cope with this tragic crisis.

Problem

Why some areas, like *Costa Smeralda* in the North East of the island, can attract a lot of tourists and some others are almost unknown even with beautiful landscape and environmental attractions? Of course, we are not at the starting point so lots of investments spread the differences among the different areas, but can we still find some common characteristics to suggest development paths? In this era of social distancing, could there be the opportunity to link famous and unknown areas for a mutual benefit? To discover it the base is to identify key features in different zones and group them in clusters.

Interest

Tour operators are the stakeholder more directly interested, but the national, regional and local authorities are involved too to promote the economy of the island. At the same time all related activities, such as building firms and farmers. Due to the importance of the tourism sector in the regional economy, we can say that Sardinia, as a whole, is interested in everything that can bring advantage to this subject.

Data acquisition and preparation

Data sources

Data regarding incoming tourists are provided by the regional administration in the [Opendata Sardegna portal](#).

Main datasets, in .csv format, are:

- [Tourist movements in Sardinia 2019 by municipality](#)
- [Sardinia 2019 accommodation capacity](#)

```
capacità_ricettiva_2019 = pd.read_csv('http://opendata.sardegaturismocloud.it/IT/turismo/offerta/ricettivita/capacita-strutture-ricettive/2019')
```

[] capacità_ricettiva_2019

	anno	Provincia	comune	mese	Tipologia	Stelle	numero_strutture	letti	camere
0	2019	Città metropolitana di Cagliari	ASSEMINI	1	Affittacamere	II Categoria	1	9.0	4.0
1	2019	Città metropolitana di Cagliari	CAGLIARI	1	Affittacamere	NaN	8	57.0	29.0
2	2019	Città metropolitana di Cagliari	CAGLIARI	1	Affittacamere	I Categoria	3	28.0	13.0
3	2019	Città metropolitana di Cagliari	CAGLIARI	1	Affittacamere	II Categoria	67	545.0	274.0
4	2019	Città metropolitana di Cagliari	CAPOTERRA	1	Affittacamere	II Categoria	2	16.0	8.0
...
16536	2019	Provincia di Sassari	TELTU	12	TurismoRurale	NaN	1	6.0	3.0
16537	2019	Provincia di Sassari	TEMPIO PAUSANIA	12	TurismoRurale	NaN	2	23.0	37.0
16538	2019	Provincia di Sassari	TERGU	12	TurismoRurale	NaN	1	18.0	12.0
16539	2019	Provincia di Sassari	TULA	12	TurismoRurale	NaN	1	20.0	12.0
16540	2019	Provincia di Sassari	OLBIA	12	Villaggio albergo	2 Stelle	1	130.0	0.0

16541 rows x 9 columns

Population by municipality is available in [a Wikipedia website](#) while geographic coordinates can be found [here](#).

Comuni della Sardegna

Da Wikipedia, l'enciclopedia libera.

I **comuni della Sardegna** sono 377, così ricompresi (al 1º gennaio 2019):

- 17 alla città metropolitana di Cagliari.
- 74 alla provincia di Nuoro.
- 87 alla provincia di Oristano.
- 92 alla provincia di Sassari.
- 107 alla provincia del Sud Sardegna.


. La popolazione indicata risulta dai dati [Istat](#) aggiornati al 30 giugno 2019.^[1]

Lista [[modifica](#) | [modifica wikitesto](#)]

Comune	Toponimo in lingua locale	Provincia	Popolazione	Altitudine
Abbasanta	(sc) <i>Abbasànta</i>	Oristano	2665	315
Aggius	(sdn) <i>Àggju</i>	Sassari	1436	514
Aglientu	(sdn) <i>Santu Franciscu di l'Aglièntu</i>	Sassari	1221	420
Aidomaggiore	(sc) <i>Aidumajòre/Bidumajòre</i>	Oristano	427	250
Alà dei Sardi	(sc) <i>Alà</i>	Sassari	1846	663
Albagiara	(sc) <i>Ollàsta</i>	Oristano	253	215
Ales	(sc) <i>Àbas</i>	Oristano	1372	194
Alghero	(ca) <i>L'Alguer</i> , (sc) <i>S'Alighèra</i> , (sdn) <i>L'Alièra</i>	Sassari	43845	7
Allai	(sc) <i>Àllai</i>	Oristano	363	60

In a Wikipedia website we can find the list of [coastal municipalities](#).

Mar di Sardegna (38 comuni) [[modifica](#) | [modifica wikitesto](#)]

 Lo stesso argomento in dettaglio: **Mar di Sardegna**.

I comuni sono elencati da nord a sud

Comune ↕	Regione ↕	Provincia ↕
Santa Teresa Gallura		Sassari (12)
Aglientu		
Trinità d'Agultu e Vignola		
Badesi		
Valledoria		
Castelsardo		
Sorso		
Porto Torres		
Stintino		
Sassari		
Alghero		
Villanova Monteleone		
Bosa		
Magomadas		
Tresnuraghes		
Cuglieri		

These datasets will be matched with the Foursquare location data to explore and compare to find patterns and similarities. Clustering will be used to make it possible.

Data preparation and modelling

The main problem regards data not appropriately recorded. This is clear in the table “Tourist movements in Sardinia 2019 by municipality” where in 3041 rows the occurring month is reported as “Other”.

After the data cleaning indexes must be checked and some tables will be merged to simplify the analysis.

Then feature selection will be executed and values will be normalized to obtain comparable results.

The aim is to obtain clusters to show the “touristic capacity “ of the various municipality in Sardinia.