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# Sustainable travel and tourists' satisfaction The case of Constanta, Romania

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Towards a SUSTAINABLE **BLUE**  
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## Introduction

The development of tourism is essential for the economic growth of maritime or mountainous areas. Lately, the emphasis is on the development of sustainable tourism, which will bring benefits to both the community and the planet.



However, to achieve this goal, a series of measures and investments are needed, which must be applied by all stakeholders.

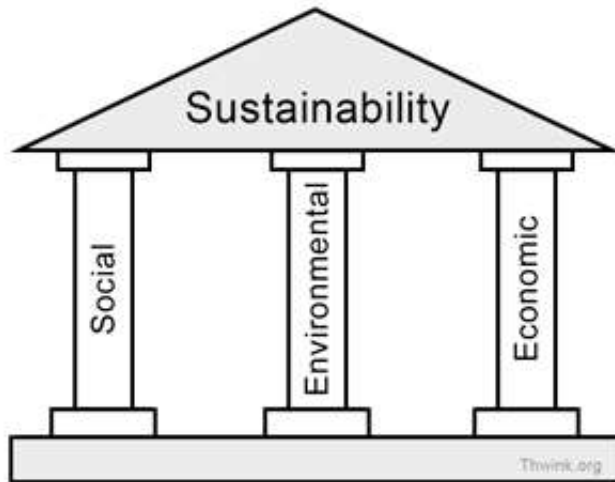


## Introduction

Ensuring sustainable tourism is conditioned by the generation of a minimal impact on the environment, being necessary to focus attention on the exploitation of resources below the limit of its renewal.



## Sustainable tourism



Source: <https://app.croneri.co.uk/topics/sustainability/indepth>

Sustainable tourism refers to all measures taken to protect the environment, to improve the quality of life, to ensure cultural diversity, and also a dynamic economy that can provide jobs and prosperity for all stakeholders.

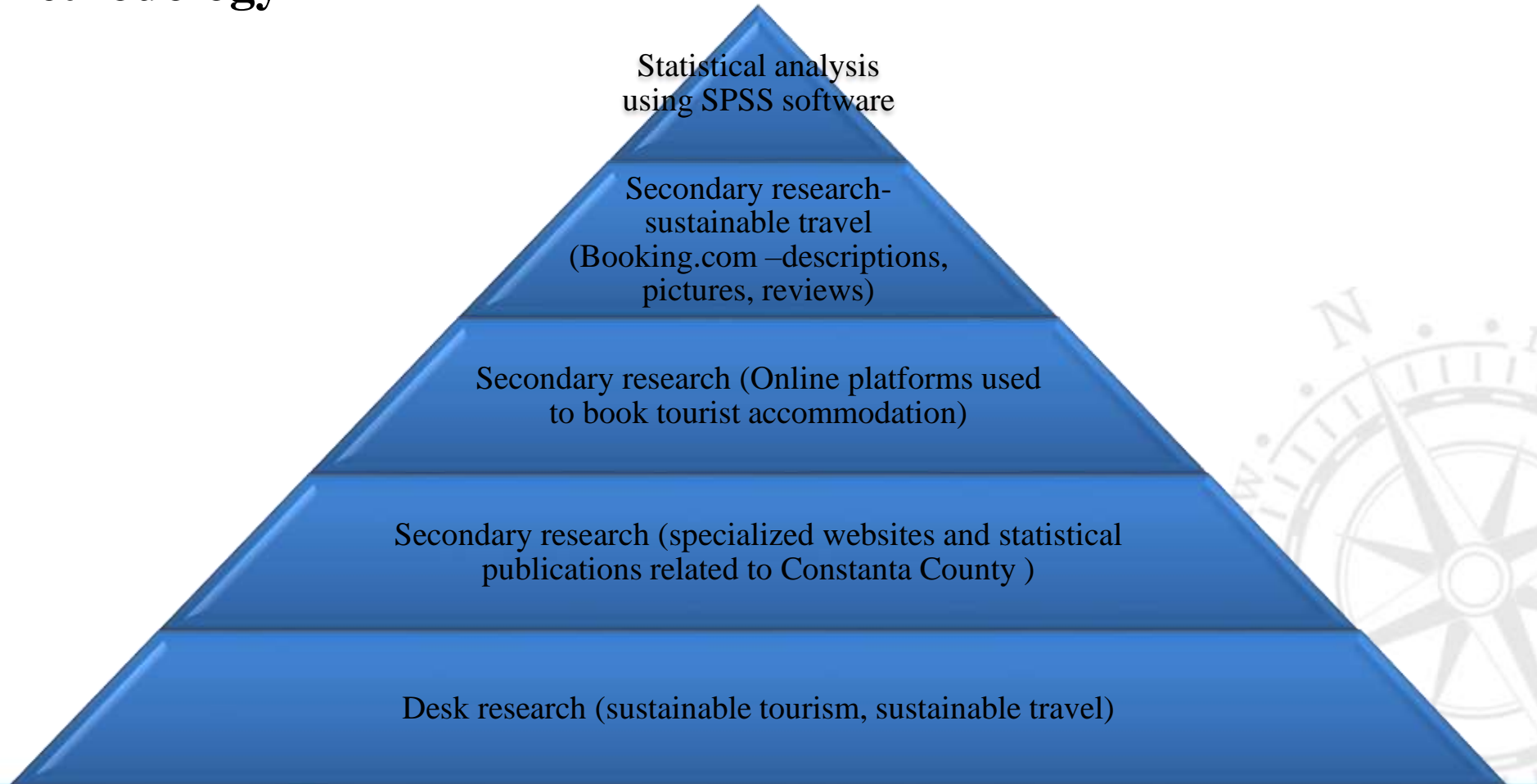


## The purpose of the paper

This paper aims to analyze the factors that influence the level of tourists' satisfaction visiting a tourist city in Romania and identify those measures to ensure a sustainable trip that influences the level of tourists' satisfaction.



## Methodology



## The case of Constanta, Romania

The city of Constanta has a very important social, economic, political, and cultural role for Romania, being also one of the most famous tourist cities from the Romanian Black Sea coast.

*Tourist attractions:* The Holiday Village Mamaia, Dolphinarium, Aquarium, Constanta Casino, Telegondola Mamaia, Aqua Magic Mamaia, Tomis Yachting Club and Marina, Museum of National History and Archeology, Neversea music festival, Constanta beaches.



## Constanta - a sustainable city

- creating additional green spaces in the city, increasing the energy performance of buildings, high-efficiency cogeneration, and eco-efficient street lighting, using the local potential of renewable energy sources and eco-urban mobility achieved through intelligent and secure traffic management, including the implementation of electro-mobility.





## Sustainable travel - The Booking.com platform

The Booking.com platform offers the possibility to select the properties that have made investments to ensure a sustainable trip for tourists.



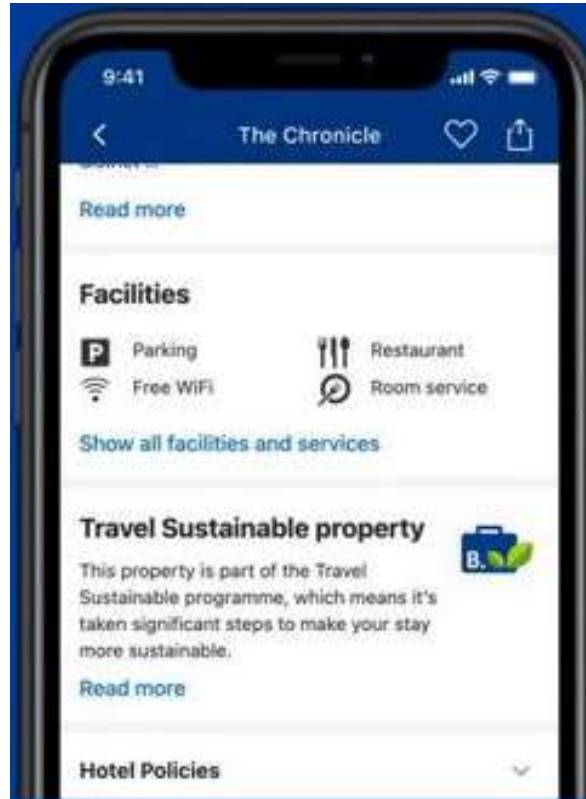
**Booking.com**

The Booking.com platform analyzed the actions undertaken by the accommodation units on 5 main categories:

- ✓ Waste
- ✓ Water
- ✓ Energy and greenhouse gases
- ✓ Destination and community
- ✓ Nature



## Searching for accommodation units that offer sustainable travel in Constanta



## Results

**Table 1.** The characteristics of the 9 accommodation units that offer sustainable travel

<i>No</i>	<i>Type of property</i>	<i>R</i>	<i>Sc</i>	<i>Ro</i>	<i>P.ES</i>	<i>P.S</i>	<i>DfC</i>	<i>DfB</i>	<i>S</i>	<i>L</i>	<i>Cl</i>	<i>Co</i>	<i>V</i>	<i>F</i>	<i>W</i>
1	H	370	<b>9.7</b>	1	88	358	1.7	1	9.8	9.6	9.8	9.8	<b>9.8</b>	9.7	9.7
2	H	805	<b>9.6</b>	1	306	483	1.4	1.3	9.7	8.9	9.7	9.7	<b>9.5</b>	9.7	9.9
3	Gh	476	<b>9.4</b>	1	148	290	4.1	3.2	9.6	8.7	9.6	9.5	<b>9.5</b>	9.4	9.4
4	Gh	15	<b>9.8</b>	1	100	400	2.3	2	10	9.5	10	9.8	<b>9.8</b>	9.8	9.9
5	Ap	5	<b>8.7</b>	2	2536	2818	5.1	1.5	9.5	6.5	9.5	8.5	<b>9.5</b>	9	8.7
6	Ap	37	<b>9.5</b>	2	98	334	1.3	0.2	9.4	9.5	9.5	9.5	<b>9.3</b>	9.5	9.8
7	Gh	5	<b>9.8</b>	2	527	607	0.3	750	10	10	9.5	10	<b>9.5</b>	10	9.9
8	Ap	66	<b>8.5</b>	2	300	300	5	1	8.5	8.8	8.8	8.5	<b>8.5</b>	8.4	8.2
9	Ap	66	<b>8.5</b>	2	2930	2930	5.1	1.5	8.5	8.4	8.2	8.7	<b>8.7</b>	8.5	8.8

**Note:** H- Hotel; Ap-Apartment; Gh-Guest house; R- Reviews; S-Score; Ro- Number of rooms; P.ES-Price per night, off-season; P.S-Price per night, peak season; DfC-Distance from the center; DfB-Distance from the beach; S-Staff; L-Location; Cl-Cleanliness; Co-Comfort; V-Value for money; F-Facilities; W- Free Wi-Fi.; The data were valid on 20 December 2021

## Results

**Table 2.** The relationship between the actions of the accommodation units and the tourists' satisfaction

	<i>R</i>	<i>Sc</i>	<i>V</i>	<i>P.ES</i>	<i>P.S</i>	<i>DfC</i>	<i>DfB</i>	<i>S</i>	<i>L</i>	<i>Cl</i>	<i>Co</i>	<i>F</i>	<i>w</i>
<i>Sc</i>	0.309	1	0.819**	-0.703*	-0.660	-0.892**	0.355	0.894**	0.692*	0.822**	0.980**	0.977**	0.956**
<i>V</i>	0.269	0.819**	1	-0.373	-0.291	-0.588	0.130	0.955**	0.198	0.912**	0.732*	0.872**	0.773*
<i>P.ES</i>	-0.338	-0.703*	-0.373	1	0.995**	0.618	-0.085	-0.474	-0.726*	-0.634	-0.677	-0.583	-0.545
<i>P.S</i>	-0.337	-0.660	-0.291	0.995**	1	0.595	-0.116	-0.409	-0.749*	-0.559	-0.650	-0.533	-0.502

**Note:** *N=9*, \*\*. Correlation is significant at the 0.01 level (2-tailed); \*. Correlation is significant at the 0.05 level (2-tailed); *R*- Reviews; *Sc*-Score; *V*-Value for money; *P.ES*-Price per night, off-season; *P.S*-Price per night, peak season; *DfC*-Distance from the center; *DfB*-Distance from the beach; *S*-Staff; *L*-Location; *Cl*-Cleanliness; *Co*-Comfort;; *F*-Facilities; *W*-Free wifi.

## Results

**Table 3.** Independent Samples Test for the score, value for money, and Nature dimension

Sustainable measures	Tourist's perception	Variance	Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
Green spaces such as gardens/rooftop gardens on the property	Score	E.v.a	15.829	0.005	-2.474	7	0.043	-0.715	0.289	-1.398	-0.032
		E.v.n.a			-2.731	5.138	0.04	-0.715	0.262	-1.383	-0.047
	Value for money	E.v.a	12.153	0.01	-2.203	7	0.063	-0.55	0.25	-1.14	0.04
		E.v.n.a			-2.424	5.275	0.057	-0.55	0.227	-1.124	0.024
Most food provided is organic	Score	E.v.a	0.819	0.396	-0.72	7	0.495	-0.275	0.382	-1.178	0.628
		E.v.n.a			-0.705	5.929	0.508	-0.275	0.39	-1.233	0.683
	Value for money	E.v.a	0.009	0.927	-0.108	7	0.917	-0.035	0.325	-0.803	0.733
		E.v.n.a			-0.109	6.764	0.917	-0.035	0.322	-0.801	0.731

**Note:** E.v.a.- Equal variances assumed; E.v.n.a.- Equal variances not assumed



Results

Sustainable measures	Tourist's perception	Variance	Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
Recycling bins are available to guests and waste is recycled	Score	E.v.a	25.562	0.001	-3.182	7	0.015	-0.805	0.253	-1.403	-0.207
		E.v.n.a			-3.575	4.375	0.020	-0.805	0.225	-1.410	-0.200
	Value for money	E.v.a	12.153	0.010	-2.203	7	0.063	-0.550	0.250	-1.140	0.040
		E.v.n.a			-2.424	5.275	0.057	-0.550	0.227	-1.124	0.024
The property makes efforts to reduce their food wastage	Score	E.v.a	25.562	0.001	-3.182	7	0.015	-0.805	0.253	-1.403	-0.207
		E.v.n.a			-3.575	4.375	0.02	-0.805	0.225	-1.41	-0.2
	Value for money	E.v.a	12.153	0.01	-2.203	7	0.063	-0.55	0.25	-1.14	0.04
		E.v.n.a			-2.424	5.275	0.057	-0.55	0.227	-1.124	0.024
Single-use plastic stirrers not used	Score	E.v.a	14.328	0.007	-1.468	7	0.186	-0.607	0.414	-1.585	0.371
		E.v.n.a			-2.809	6.572	0.028	-0.607	0.216	-1.125	-0.089
	Value for money	E.v.a	1.496	0.261	-1.095	7	0.31	-0.393	0.359	-1.241	0.456
		E.v.n.a			-1.678	4.417	0.162	-0.393	0.234	-1.019	0.234
Single-use plastic straws not used	Score	E.v.a	21.907	0.002	-1.854	7	0.106	-0.633	0.342	-1.441	0.174
		E.v.n.a			-2.65	5.585	0.041	-0.633	0.239	-1.229	-0.038
	Value for money	E.v.a	3.845	0.091	-1.235	7	0.257	-0.383	0.31	-1.117	0.35
		E.v.n.a			-1.666	6.692	0.142	-0.383	0.23	-0.933	0.166
Single-use plastic beverage bottles not used	Score	E.v.a	12.354	0.010	-1.095	7	0.310	-0.479	0.437	-1.512	0.555
		E.v.n.a			-2.101	6.523	0.077	-0.479	0.228	-1.025	0.068
	Value for money	E.v.a	1.496	0.261	-1.095	7	0.310	-0.393	0.359	-1.241	0.456
		E.v.n.a			-1.678	4.417	0.162	-0.393	0.234	-1.019	0.234
Single-use plastic cups / cutlery/plates not used	Score	E.v.a	10.11	0.015	0.928	7	0.384	0.414	0.446	-0.641	1.47
		E.v.n.a			1.383	4.001	0.239	0.414	0.3	-0.417	1.246
	Value for money	E.v.a	1.496	0.261	1.095	7	0.31	0.393	0.359	-0.456	1.241
		E.v.n.a			1.678	4.417	0.162	0.393	0.234	-0.234	1.019

Table 4. Independent Samples Test for the score, value for money, and Waste dimension

Note: E.v.a.- Equal variances assumed; E.v.n.a.- Equal variances not assumed

## Results

**Table 5.** Independent Samples Test for the score, value for money, and Energy and greenhouse gases dimension

			Levene's Test for Equality of Variances		t-test for Equality of Means						
Sustainable measures	Tourist's perception	Variance	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
Most food provided at the property is locally sourced	Score	E.v.a	0.072	0.796	-1.583	7	0.157	-0.567	0.358	-1.413	0.28
		E.v.n.a			-1.545						
	Value for money	E.v.a	0	1	-0.815	7	0.442	-0.267	0.327	-1.041	0.507
		E.v.n.a			-0.86						
Most lighting throughout property uses energy- efficient LED bulbs	Score	E.v.a	0.007	0.936	-0.569	7	0.587	-0.220	0.387	-1.135	0.695
		E.v.n.a			-0.562						
	Value for money	E.v.a	0.000	0.994	-0.170	7	0.870	-0.055	0.324	-0.822	0.712
		E.v.n.a			-0.171						
Offsets a portion of their carbon footprint	Score	E.v.a	21.907	0.002	-1.854	7	0.106	-0.633	0.342	-1.441	0.174
		E.v.n.a			-2.65						
	Value for money	E.v.a	3.845	0.091	-1.235	7	0.257	-0.383	0.31	-1.117	0.35
		E.v.n.a			-1.666						
Key card or motion- controlled electricity	Score	E.v.a	12.354	0.010	-1.095	7	0.310	-0.479	0.437	-1.512	0.555
		E.v.n.a			-2.101						
	Value for money	E.v.a	1.496	0.261	-1.095	7	0.310	-0.393	0.359	-1.241	0.456
		E.v.n.a			-1.678						

**Note:** E.v.a.- Equal variances assumed;  
E.v.n.a.- Equal variances not assumed

Results

**Table 6.** Independent Samples Test for the score, value for money, and Destination and Community dimension

		Levene's Test for Equality of Variances				t-test for Equality of Means				
Tourist's perception	Variance	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Score	E.v.a	1.003	0.35	-1.613	7	0.151	-0.545	0.338	-1.344	0.254
	E.v.n.a			-1.58	5.959				-1.391	0.301
Value for money	E.v.a	23.002	0.00 2	-2.755	7	0.028	-0.62	0.225	-1.152	-0.088
	E.v.n.a			-2.489	3.575				-1.345	0.105

**Note:** E.v.a.- Equal variances assumed; E.v.n.a.- Equal variances not assumed

## Results

**Table 7.** Independent Samples Test for the score, value for money, and Water dimension

Sustainable measures	Tourist's perception	Variance	Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
Water-efficient toilets	Score	E.v.a	2.414	0.164	-1.126	7	0.297	-0.410	0.364	-1.271	0.451
		E.v.n.a			-1.073	5.053	0.332	-0.410	0.382	-1.389	0.569
	Value for money	E.v.a	20.366	0.003	-1.369	7	0.213	-0.395	0.289	-1.077	0.287
		E.v.n.a			-1.227	3.397	0.298	-0.395	0.322	-1.355	0.565
Water-efficient showers	Score	E.v.a	.219	0.654	-0.200	7	0.847	-0.083	0.416	-1.067	0.900
		E.v.n.a			-0.207	4.469	0.845	-0.083	0.402	-1.155	0.988
	Value for money	E.v.a	3.845	0.091	-1.235	7	0.257	-0.383	0.310	-1.117	0.350
		E.v.n.a			-1.666	6.692	0.142	-0.383	0.230	-0.933	0.166
Option to opt-out of daily room cleaning	Score	E.v.a	38.955	0	1.13	7	0.296	0.433	0.384	-0.474	1.34
		E.v.n.a			1.53	6.637	0.172	0.433	0.283	-0.244	1.111
	Value for money	E.v.a	3.514	0.103	0.871	7	0.413	0.283	0.325	-0.486	1.053
		E.v.n.a			1.101	6.963	0.308	0.283	0.257	-0.326	0.893

**Note:** E.v.a.- Equal variances assumed;  
E.v.n.a.- Equal variances not assumed

## Conclusions

- *The overall score of tourists' satisfaction* was influenced by the interaction with staff, the cleanliness of the rooms, the comfort, the Wi-Fi, and the facilities offered by the accommodation units (in a positive way) but also by the price per night in the off-season and the distance from the center (in a negative way).
- *The value for money* was mostly influenced by the interaction with staff, the cleanliness of the rooms, and the facilities offered by the accommodation units.
- *The value for money perception strongly influences the overall score of satisfaction.*



## Conclusions

- *The tourists' perception regarding the value for money* is not influenced by the sustainable travel measures, however, *the overall score* is the one that can be positively affected by these actions.
- Even though staff plays an important role in increasing the overall score and the value for money score, it seems that this factor is not perceived as being an important part of ensuring a pleasant sustainable trip.

## Conclusions

- Even if the employees provide guests with information regarding local ecosystems, heritage, and culture, as well as visitor etiquette, as part of supporting sustainable tourism, tourists do not consider this measure necessary in assessing their tourism experience.
- *Tourists' overall score of satisfaction* is not influenced by the actions taken by the accommodation units to reduce water consumption.

## Conclusions

- The factors necessary to ensure sustainable travel that could influence the tourists' satisfaction: *nature, energy and greenhouse gases, and also waste.*
- *The overall score of tourists' satisfaction* can be positively influenced by the following sustainable measures:
  - ensuring a green space near the accommodation unit,
  - offsetting part of the accommodation unit carbon footprint through various investments,
  - providing more recycling bins,
  - recycling waste,
  - making efforts to reduce food wastage,
  - replacing all that disposable plastic objects with sustainable ones.

## Conclusions

- Despite the efforts made by the accommodation units in ensuring sustainable travel, not all of them are appreciated by tourists.
- Tourists are more focused on the accommodation facilities that offer them comfort, even if those facilities are not necessarily the most sustainable.
- This sad situation can also be explained by the lack of tourists' education in terms of sustainability and sustainable tourism.

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