ALGARVE SUSTAINABLE TOURISM OBSERVATORY (AlgSTO)

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visit Algarve Portugal

CCDR Algarve

TURISMO DE PORTUGAL

UAlg UNIVERSIDADE DO ALGARVE

Technical information

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Foreword

No doubt, most of us may have already heard the catch phrase, commonly credited to one of Management's gurus – Peter Drucker –, stressing out that "you can't manage what you don't measure".

Even though the "paternity" of the expression is debatable, it is unquestionable that it holds a lot of power, and that it needs to be understood and adopted by destination managers.

To analyse key metrics and forecast tendencies may be crucial to the growth and success of this sector, when we take into consideration that, if we measure to manage, we will surely find areas where it is possible to improve our performance.

These issues appear to be particularly pertinent in a context where, after three years of heavy restrictions imposed by COVID-19, the conjugation of an ongoing war in Europe, inflation and - in some cases – recession seem bounded to assume relevance, leaving, once again, the markets on hold.

In a scenario of, once again, great uncertainty, is where projects such as the Observatories of Sustainable Tourism must be on the forefront of efforts and assume redoubled importance. These organizations, most assuredly, will not be putting forward answers to all the questions; will not anticipate all the problems that may occur; will not present all possible solutions. In a context with so many variables and unknown factors present, that would hardly be possible.

What seems clear to us, though, is that the destinations that are equipped with the best and most timely information will be those that will be better able to face the moments that lie ahead and this was, from the very beginning, the principle that guided the creation of the Algarve Sustainable Tourism Observatory.

The moment may be one of uncertainty and turbulence, the paths may need to be adjusted, but the goal remains the same and involves affirming the Algarve as a tourist destination of excellence, based on sustainable development.

Executive Summary

The creation of the Algarve Sustainable Tourism Observatory (AlgSTO), and its adhesion to the INSTO, is expected to represent a critical step forward in the process of evaluating the sustainability of the tourist activity in the region of Algarve. The role of the AlgSTO is to monitor and supervise the tourist activity carried out in the Region, as well as to propose and promote specific measures aimed at improving the functioning of tourist practices, in order to ensure the highest levels of both quality and sustainability.

An important area of the AlgSTO intervention concerns the collection and processing of genuine regional data, so that a battery of descriptive indicators can be developed and applied leading to an improved knowledge of regional tourism activity. To accomplish this task, some questionnaires were developed with the specific aim of obtaining the necessary primary data upon which indicators can be applied. Such questionnaires are addressed to the main economic agents in the Region; namely, local residents, individual tourists and companies providing tourist services in the Region.

Two milestones of the AlgSTO activity during 2022 are worth mentioning: firstly, the implementation of two important questionnaires: to local residents and to individual tourists. Secondly, the considerable effort to characterize the tourism sustainability in the Region, through the application of a limited number of indicators classified by the various dimensions of sustainability.

With regard to local residents, a questionnaire was applied during the 2022 tourist high season to a representative sample of 990 individuals stratified by age, gender and municipality of residence. Local residents attach importance to both the positive and negative effects of tourism, especially those of economic and environmental nature. Tourism is seen as having positive impacts on employment and the dynamics of the local economy. However, tourism is perceived by residents as having much fewer positive impacts on housing, the construction of new social infrastructures and the rehabilitation of historical heritage. In addition, tourism is seen as an aggravating factor for the housing problem in the region, due to its effect on prices. In general, residents believe that tourism is one of the causes of the rising cost of living. Residents tend to look at

tourism as a factor that affects the environment negatively: particularly, tourism's contribution to increased pollution, increased road traffic, increased risk of accidents, and even the invasion and degradation of natural areas of free use. In general, tourism is perceived as less beneficial for social and cultural activities than for economic ones.

With regard to the questionnaire among tourists, 974 valid responses were obtained. The stratification criterion of the surveyed tourists was the country of residence. The main motivation for tourist trips is leisure and vacations. Most of the results obtained through the questionnaire reveal that the Algarve is a destination viewed positively by the tourists who visit it. In general, overall satisfaction with the Algarve is high or very high. Portuguese tourists are the less satisfied. The Algarve compares favorably with alternative Sun & Sand tourist destinations. Issues such as crime, violence and lack of security are not primarily concerns for tourists visiting the Region. Finally, a large proportion of tourists, including the Portuguese, declared their intention to revisit the Region.

Over the period covered by the present report, it was possible to gather the necessary data to calculate a set of regional tourism indicators, selected from a list whose elaboration was meant to provide an adequate measurement of tourism sustainability in its various dimensions; that is, economic, social and environmental.

Most of the data used for this purpose come from official Portuguese sources; namely, the Turismo de Portugal, a public institution whose role is dedicated to promote Portugal as a tourist destination; and the National Statistics Institute (INE), the main producer of official statistics in Portugal. Statistical information on the environmental aspects of tourist activities is scarce. Therefore, applications of sustainability indicators based on the aforementioned data sources are primarily concerned with the social and economic dimensions of tourism activity. On the environmental side, results obtained are quite limited. It is expected that more comprehensive and interesting results will appear soon after the implementation of a survey to tourist companies.

Despite the limitations mentioned above, it was possible to obtain some results that reveal the characteristics of recent tourism activity in the Region. In general, the picture

portrayed by the values of the variables and indicators reveals the dramatic effect of the COVID-19 pandemic on regional tourist activities.

The strong retraction of demand for tourist services by non-resident tourists in Portugal was one of the most significant impacts resulting from the outbreak of the pandemic. For example, the sustained rise in the number of tourist overnight stays in the period 2016-2019 was followed in 2020, the initial year of the pandemic crisis, by a sudden and massive global drop of almost two-thirds of the 2019 volume. However, for the particular case of the foreign tourist segment (non-residents in Portugal) this drop was much greater: around three quarters of the 2019 volume. Therefore, it can be concluded that the segment of tourists residing in Portugal worked as an element of mitigation of the retraction effect of tourist demand during the pandemic period. In 2021, a recovery process began, which, however, has not yet allowed the full recovery of pre-pandemic values: in 2022, the global volume of overnight stays represented 85% of the same value in 2019.

Similar trends can be detected in the cases of other tourist variables and indicators, such as the tourist intensity ratio, or the occupancy rates of tourist rooms and beds. Some indicators showed somewhat more moderate reductions. This is the case of the percentage contribution of the tourist accommodation sector to the creation of value added in the regional economy: the drop recorded in 2020 compared to 2019 was around 50%. In fact, understanding the evolution of this variable is inseparable from the evolution of the rest of the economy in a context of crisis. The fact that activities providing accommodation services recorded a substantial drop in this indicator is a clear indication that the sector was particularly hit by the pandemic crisis.

In the case of the food and beverage sector, its percentage contribution to the formation of income in the economy proved to be very stable. This is related to the fact that, contrary to the accommodation sector, the activity of restaurants and coffee shops exhibits a significant non-tourist component.

Finally, the recognized seasonal pattern of tourist activity in the Region is confirmed by the seasonality rate. Furthermore, the results show that the usual high level of

seasonality has been considerably aggravated by the COVID-19 pandemic. Therefore, the general negative effect of the pandemic has been relatively more intense in the low season. This can be explained by restrictions imposed by national health authorities.

It is recognized that the spectrum of indicators applied throughout AlgSTO's activity in 2022 is narrow. Such a limitation was due to the fact that it was not yet possible to determine the results of the survey to be carried out with tourist companies, and that the data from the surveys of residents and tourists are still in a preliminary processing phase. Such a limitation will surely be overcome in the report on the activities of the AlgSTO in 2023.

1

Algarve profile

1. Algarve profile

1.1 Identity

The Algarve is the southernmost region of Portugal occupying an area of 4 997 km^2. With 467 475 residents it's the Portuguese region with the highest population growth in the last 10 years (+3.7%). Its population density is 93.5 per km^2.

It has a network of aerial, road, railroad and maritime infrastructures that, altogether, open the region to Europe and to the World. Its main doorway is Faro International Airport which on a national level is the second biggest in what concerns air traffic. The A1 (to Lisbon) and A22 (regional) motorways are its main road accesses.

Considered main strong points:

- Mild weather conditions throughout the year, with over 3000 hours of sunshine and low rainfall;

- around 200 km of coastline with coves, cliffs, sea caves, and rocky or wide golden sandy beaches, along with a clear, lukewarm and calm sea, which makes the Algarve region to be considered the best beach destination in the world;

- Natural areas occupying 70% of the Algarvian Coast and 37% of its territory inserted in natural reservations, nature parks or protected landscape areas, suggestive of open-air activities throughout the whole year, like walking trails (Via Algarviana, GR15, Rota Vicentina), bicycle riding (Ecovia) or birdwatching;

- A diversified offer in tourist, based on a variety of accommodation facilities, transportation, entertainment (wide range of hotel offer, recognized quality of its services, 40 golf courses considered to be among the best in the world, marinas, sports and cultural facilities, a wide range of events throughout the year);

- Hospitable population, speaking several languages and always ready to welcome, and to unveil its history and traditions, arts and crafts, folklore, its gastronomy based essentially on the Mediterranean Diet, which is part of the UNESCO's World Heritage.

1.2 Economic data and the weight of tourism

The Algarve is a region where the tertiary sector has a big weight, therefore being the one that presents itself as the main employment generator, and where the highlights are the tourism sector companies. Of the employed population of the Algarve (91.7% of the active population), in 2020 about 85% work in tertiary sector companies, 11.2 % in the secondary sector and 3.8% in the primary sector.

The weight of the regional GVA in the activity sector "wholesale and retail commerce; repair of vehicles and motorcycles; transportation and storage; restaurant and accommodation activities" was in 2019 of 38.9%. The second biggest contribution to the regional GVA in 2019 was "Real Estate Activities" with 17.0%.

The contribution of the Algarve to the national GDP was, in 2021, of 4.3% (provisional data). In the same year, still affected by the COVID-19 pandemic, the Algarve represented 30.3% of total bed nights and 32.6% of bed capacity in Portugal.

1.3 Main source markets

Considering the origin of external demand, while in 2019 United Kingdom, Germany, Ireland, Netherlands and France represented 60.6% of the overall nights spent by non-resident tourists in the Algarve, in 2022, and after a year of hiatus, Ireland returned replacing Spain in this top five source markets.

Despite the sharp drop in tourist flows from these and other markets directly related with the travel restrictions during 2020 and 2021, in terms of strategy, this has not yet changed the Algarve tourism market rating that is still divided in 20 incoming markets grouped into three different types: priority (which are already matured and consolidated in the region, and for its weight in the market and/or potential for growth, justify priority of action); wager (markets that are not yet consolidated and which require a different strategy in order to increase demand); to monitor (those which still don't have a high demand in the region, but have a growth potential).

Table 1: Market rating matrix.

Markets	Rating		
	Priority markets	Wager markets	Markets to monitor
United Kingdom	X		
Portugal	X		
Germany	X		
Ireland	X		
Netherlands	X		
France	X		
Spain	X		
Belgium		X	
Poland		X	
Canada		X	
USA		X	
Italy		X	
Sweden		X	
Switzerland		X	
Brazil		X	
Austria		X	
Denmark		X	
Norway			X
Finland			X
Russia			X

Source: Algarve Tourism Board.

1.4 Tourism products

Concerning main tourism products/segments the Algarve has identified 19 as follows:

1. Sun and Sea;

2. Golf;

3. Meeting Industry & Corporate;

4. Nature Tourism;

5. Residential Tourism;

6. Gastronomy and Wine;

7. Cultural and landscaping Touring;

8. Health & well-being Tourism;

9. Sports Tourism;

10. Nautical Tourism;

11. Accessible Tourism;

12. Senior Tourism;

13. Cruises tourism;

14. Campervan Tourism;

15. Cinema and audio-visual Tourism;

16. Luxury Tourism;

17. LGBTQIA+;

18. Weddings;

19. Digital Nomads.

1.5 Development Strategy

The development strategy set for the Algarve is based in three axis which reflect the vison and the critical factors for the success of the region and for which a set of action plans and strategic projects are programmed:

Figure 1: Development Strategy.

Source: Algarve Tourism Board.

- Axis A – Competitivity – The intervention in this axis is aimed at enabling the region to present itself in a differentiated and unique fashion in the global market;

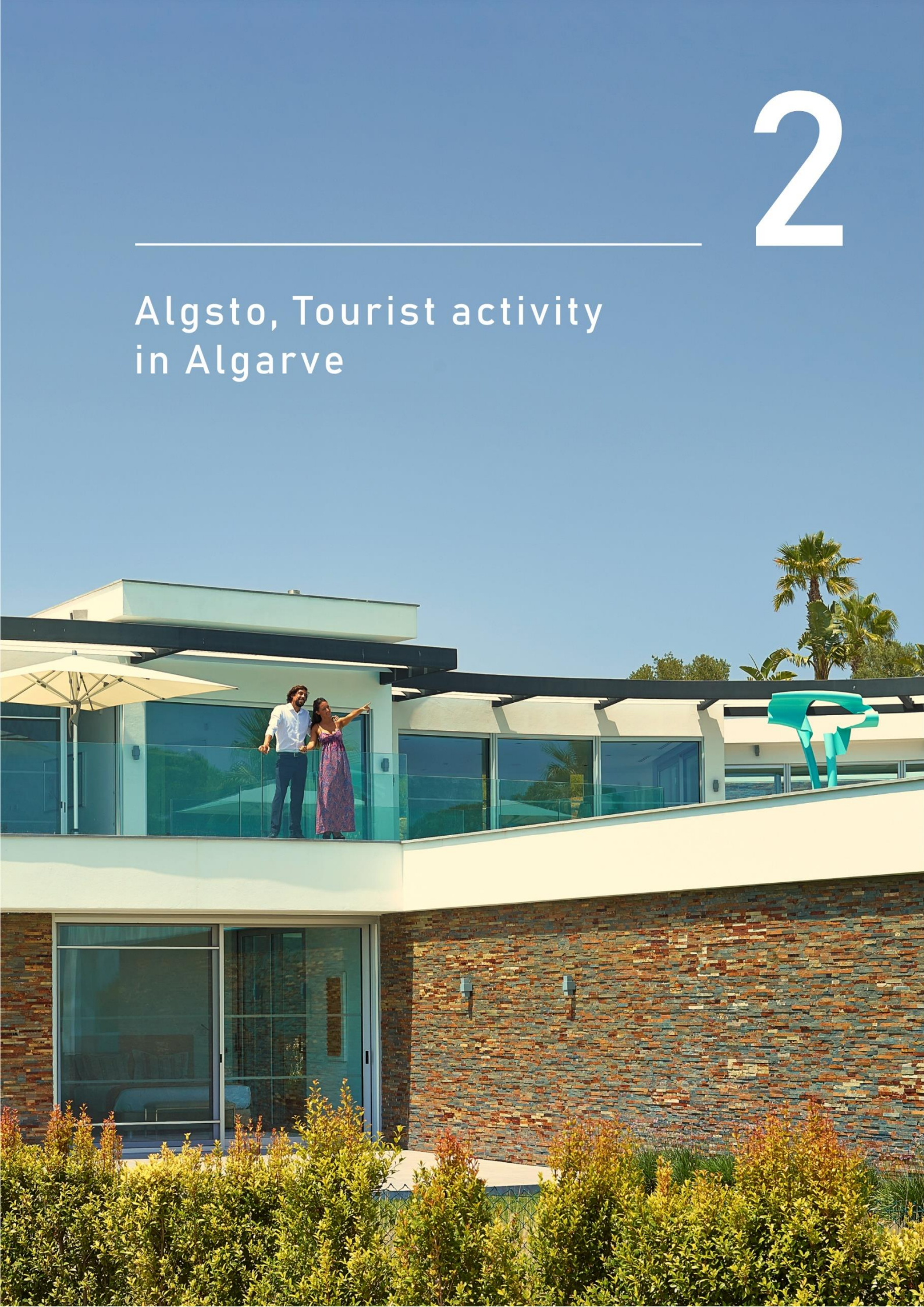
- Axis B – Quality – this axis is aimed at presenting a set of projects that contribute to the qualification and consolidation of the supply;

- Axis C – Contribution for the 2030 Agenda – The action plans and their corresponding strategic projects will contemplate interventions that promote the development of sustainable tourism in the region, lending their contribution so that the tourism in the region asserts itself as a development engine and territorial and social cohesion.

The Observatory for Sustainable Tourism in the Algarve allows us to monitor the tourism development in the areas of economic, social and environmental sustainability.

2

Algsto, Tourist activity in Algarve



2. Algsto, Tourist activity in Algarve

2.1 Tourism performance indicators in the Algarve – January to October

The recent shutdown due to the COVID-19 pandemic, whose pernicious effects the tourism industry is still trying to assess in its entirety, clearly emphasized that both public and private sectors need to adopt more sustainable development strategies. This awareness has generated several calls for further reset tourism on a more resilient framework that allows businesses to focus on a competitive performance but also being able to lay foundations to the correct management of resources, economy and visitor expectations.

Achieving ever-higher numbers of visitors, occupancy, demand and tourism revenues must also contribute positively to its community's economic health and quality of life in an environmentally conscious way, with agents throughout the spectrum integrating processes of open intersectoral debate, therefore ensuring resident's support of tourism and a beneficial relationship between them.

Efficient collection and management of performance indicators for the tourism activity is of paramount importance, allowing for objectively measuring the translation of policies into results.

2.1.1 Guests

The number of guests is one of the most important KPIs in tourism industry.

From January to October 2022, registered guests in the Algarve were 4.39 million, which represented a 60.9% growth considering the same period of the previous year, as reported in Table 2 and Figure 2.

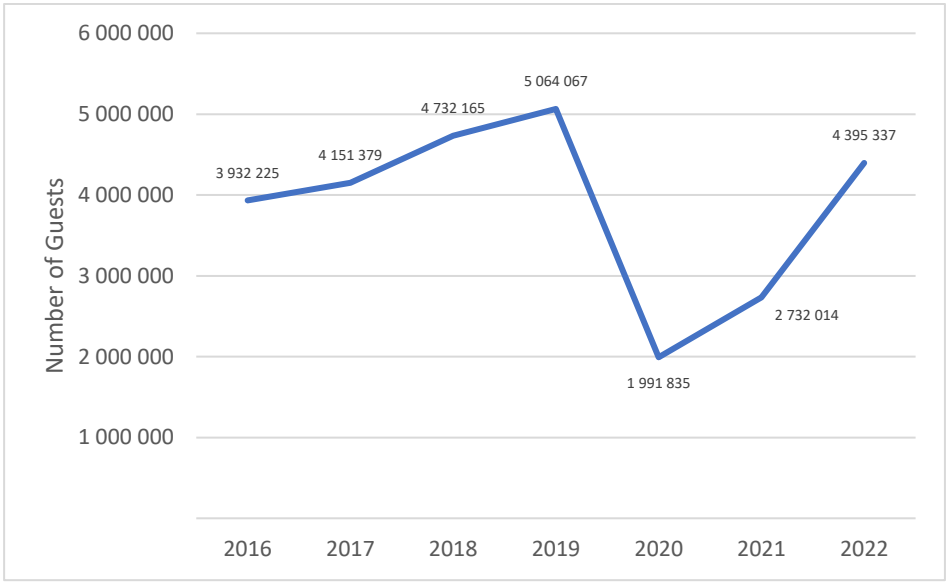
Table 2: Number of guests. Algarve, 2016-22.

Number of Guests	2016	2017	2018	2019	2020	2021	2022
Total	3 932 225	4 151 379	4 732 165	5 064 067	1 991 835	2 732 014	4 395 337
Variation (%)	7,3%	5,6%	14,0%	7,0%	-60,7%	37,2%	60,9%

Source: Tourism of Portugal

The provisional data available in October 2022, also reflects a decreasing number of Portuguese guests (2.95%), against the published figures from the previous year. With still to months to take into consideration, this data suggests and punctuates, the already made assessment about the resilience and vitality of the national market, as tourist flows start to resume their relative dynamics within the region.

Figure 2: Evolution of Guests' number. Algarve, 2016-22.



Source: Tourism of Portugal

Data made available by Tourism of Portugal, in Table 3, also shows a major increase in the number of foreign guests by 127.9%.

The United Kingdom, our lead foreign market, reached a 215.6% increase in the number of guests, while demand from tourists originating from France and Spain was 63.2% and 51.2% higher respectively.

Other important markets, such as the Netherlands and Germany, also experienced increased numbers of 75.0% and 101.9%.

Table 3: Number of guests by nationality. Algarve, 2018-22.

Number of Guests	2018	2019	2020	2021	2022	Y. Var.%	Share
Portuguese	1 363 013	1 471 626	1 067 397	1 400 295	1 358 983	-2,95%	30,9%
Foreign	3 369 152	3 592 441	924 438	1 331 719	3 035 977	127,97%	69,1%
UK	1 112 453	1 181 824	204 004	319 062	1 006 830	215,56%	22,9%
Germany	380 098	361 662	127 824	140 629	283 873	101,86%	6,5%
Netherlands	214 541	201 151	85 378	100 821	176 474	75,04%	4,0%
France	283 862	293 734	104 648	159 937	261 056	63,22%	5,9%
Spain	356 345	407 356	180 982	208 779	315 700	51,21%	7,2%

Source: Tourism of Portugal

2.1.2 Bed nights

Bed nights registered in the comprehended analysis period – January to October 2022 – were of 17,8 million, 63.9% more than the complete figures for 2021. The evolution of this indicator is reported in Table 4 and Figure 3.

Table 4: Number of bed nights. Algarve, 2016-22

Number of bed nights	2016	2017	2018	2019	2020	2021	2022
Total	19 005 838	20 207 151	20 443 247	20 900 495	7 890 711	10 874 036	17 823 169
Variation (%)	10,1%	6,3%	1,2%	2,2%	-62,2%	37,8%	63,9%

Source: Tourism of Portugal

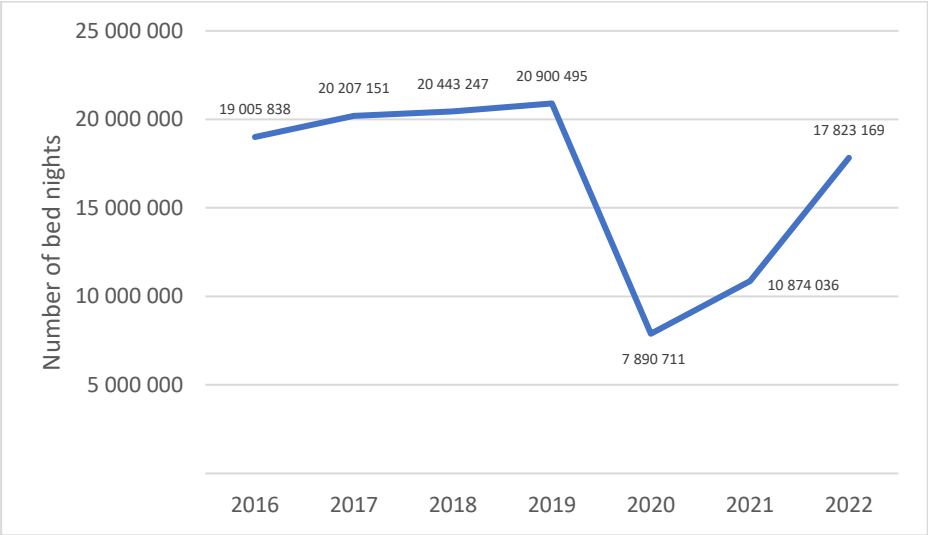
The numbers above show a clear and consistent increase in demand throughout the 2016-19 period, peaking at 2019 (20,9 million bed nights).

The following year, demand for the Algarve, as well as all around the globe, suffered a heavy toll from the effects of the COVID-19 pandemic, numbers taking a major downturn. The number of bed nights registered the series' lower figure at 7.89 million.

As soon as travel restrictions began to being lifted, during 2021, tourist flows resumed, but the economic context and confidence levels of families were not favourable, and numbers suffered not matching the pre-COVID levels.

However, official estimates point for a full recovery in 2023; numbers of guests in 2022, were 63.9% higher than in 2021 (17.8 million), but still short of prior levels.

Figure 3: Evolution of bed nights' number. Algarve, 2016-22



Source: Tourism of Portugal

The table below reports on the number of bed nights, by country of origin including Portugal.

Bed nights from residents summed 4.7 million, 4.1% less than in the same period of the previous year (January to October). Nevertheless, the domestic market is the only of the major demand markets to underperform. The UK (18.4%) and Portugal (17.4%) had the major slice on demand in the Algarve, representing 9.7 million of aggregated bed nights.

Table 5: Bed nights per tourists' country of residence. Algarve, 2016-22

N. bed nights	2016	2017	2018	2019	2020	2021	2022	Y. Var.	Share
Portuguese	4 134 969	4 332 057	4 797 528	4 985 984	3 813 998	5 227 754	4 698 718	-10,12%	17,4%
Foreign	14 870 869	15 875 094	15 645 719	15 914 511	4 076 713	5 646 282	13 124 451	132,44%	48,6%
UK	6 208 951	6 249 136	5 795 119	5 916 074	1 018 490	1 562 425	4 959 323	217,41%	18,4%
Germany	1 894 337	2 121 846	2 042 042	1 870 377	674 184	695 257	1 405 962	102,22%	5,2%
Netherlands	1 552 326	1 536 882	1 366 634	1 219 837	532 593	522 152	960 899	84,03%	3,6%
France	931 796	1 048 912	1 147 029	1 178 976	414 722	632 612	986 993	56,02%	3,7%
Spain	902 901	961 722	1 038 845	1 131 271	467 594	587 448	876 169	49,15%	3,2%

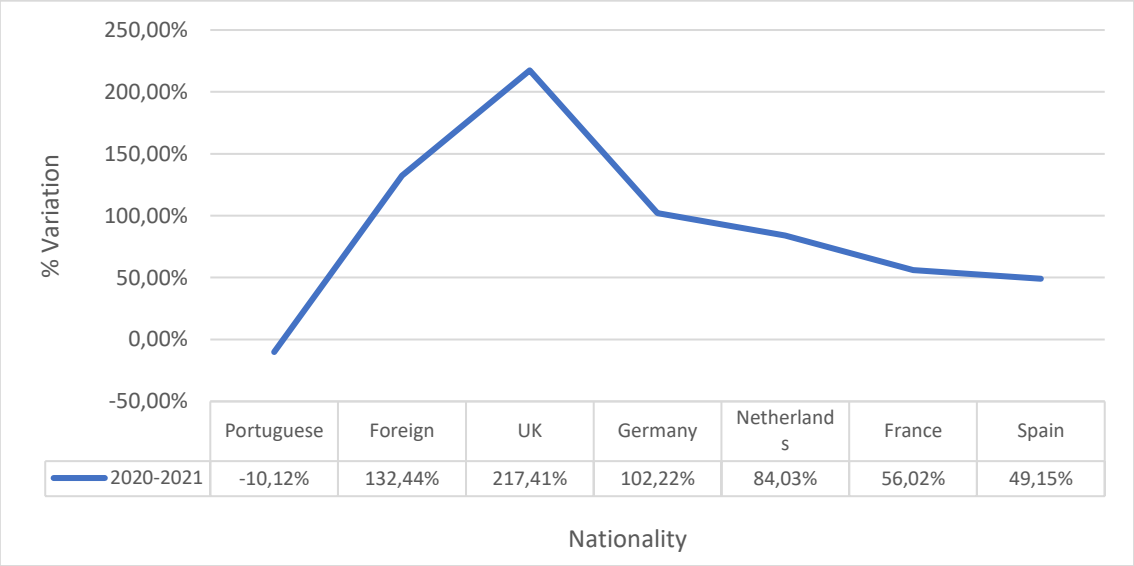
Source: Tourism of Portugal

In 2022, inside the demand evolution curve within the group of the most important inbound markets to the region, only the Portuguese (-10.1%) had a negative

performance. The best performance came from the UK, with a 217.4% increase in number of bed nights.

Between 2019 and 2022, the United Kingdom, the major incoming market in the Algarve, had a negative variation of bed nights of 20.1%. This amounted to 1.2 million less bed nights, while Germany registered a 25.8% drop, translated into 0.5 million less bed nights.

Figure 4: Variation in number of bed nights. Algarve, 2016-22



Source: Tourism of Portugal

2.1.3 Profit

Both total and accommodation profit, reflect observation of guests and bed nights numbers. From January to October 2022, the total amount of profit was 1386.1 million Euro, with a percentage drop of 98.5% when compared with the same period of 2022. The results of the performance of these indicators are reported in Table 6 and Figure 5.

Table 6: Total and accommodation profit. Algarve, 2016-22

Profit (Total)	2016	2017	2018	2019	2020	2021	2022
NUTS II - Algarve (millions)	941,0	1078,2	1144,5	1225,7	461,6	698,2	1346,7
Variation (%)	20,6%	14,6%	6,1%	7,1%	-62,3%	51,3%	92,9%

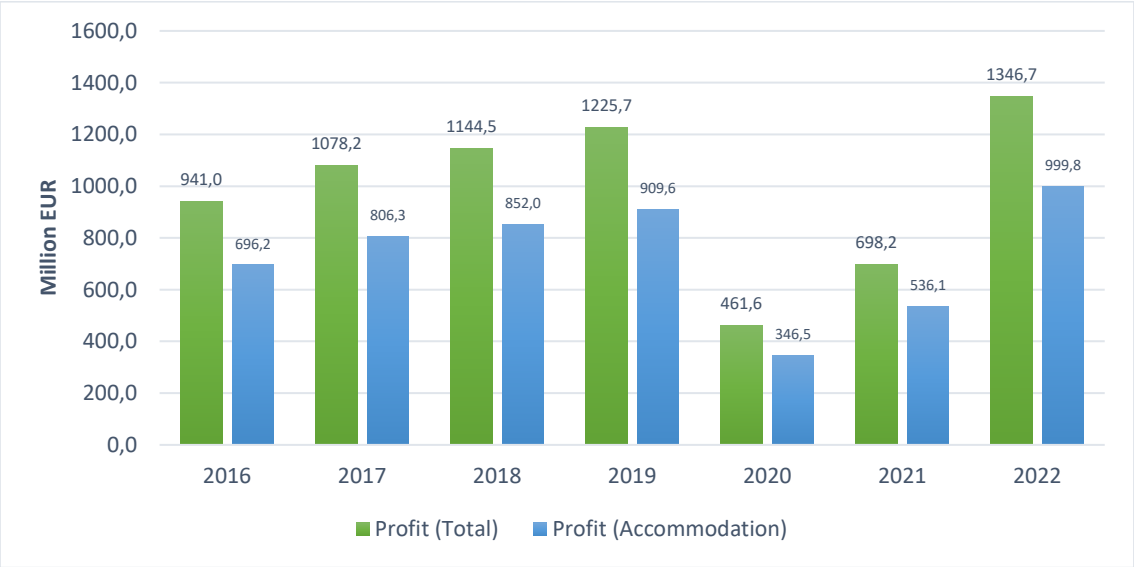
Profit (Accommodation)	2016	2017	2018	2019	2020	2021	2022

NUTS II - Algarve (millions)	696,2	806,3	852,0	909,6	346,5	536,1	999,8
Variation (%)	22,1%	15,8%	5,7%	6,8%	-61,9%	54,7%	86,5%

Source: Tourism of Portugal

Considering the same series, the accommodation profit, which amounted to a 54.7% growth in 2021, has trended positively, registering a renewed growth of 85.7% (1025.1 million) in 2022.

Figure 5: Evolution of total versus accommodation profits. Algarve, 2016-22



Source: Tourism of Portugal

From 2016 to 2019, considering the period between January and October, there was a noticeable increase in total profits, varying from 941 million EUR, in 2016, to 1.225,7 million EUR, in 2019.

In 2020, the behaviour of the profits' curve was no exception to the other KPI's low performance. The COVID-19 pandemic had a severe effect on tourist flows coming to the Algarve, resulting in a 62,3% drop in results (461.6 million EUR). In spite of the following recovery in the ensuing year (2021), the achieved 698.2 million EUR fell halfway short of the year before. However, confirming the tourism authorities estimates for 2022, the tourist flows have resumed their levels prior to the COVID-19 outbreak, trending in growth and registering a series peak at 1.346,7 million EUR.

As expected, results for profits of accommodation follow a similar pattern as total profits, with an annual increase between 22.1%, in 2016, and 6.8%, in 2019. In 2020, COVID-19 impacted on the activity outcome, reflected by a 61.9% drop (346.5 million EUR). Nevertheless, the referred estimations proved to be accurate and 2021 yielded 54.7% more accommodation profits than the year before (536.1 million EUR); then again in 2022, results yielding a series best at 999.8 million EUR, providing excellent indicators towards recovery of the tourism demand worldwide.

2.1.4 Airport Gago Coutinho - Passengers

The number of arrivals at the Faro international airport is an important indicator for tourism performance.

The capacity of attracting air transport and access to international markets is a key asset for regional and national economies, playing an important role in trade, in tourism development and thus in regional development.

The number of incoming passengers at Faro international airport is reflected in Table 7 and Figure 6. About 7.52 million passengers arrived at Faro between January and October 2022, which represents an increase of 167.5% when compared with the same period of the previous year.

Table 7: Number of incoming passengers at Gago Coutinho Airport. 2016-22

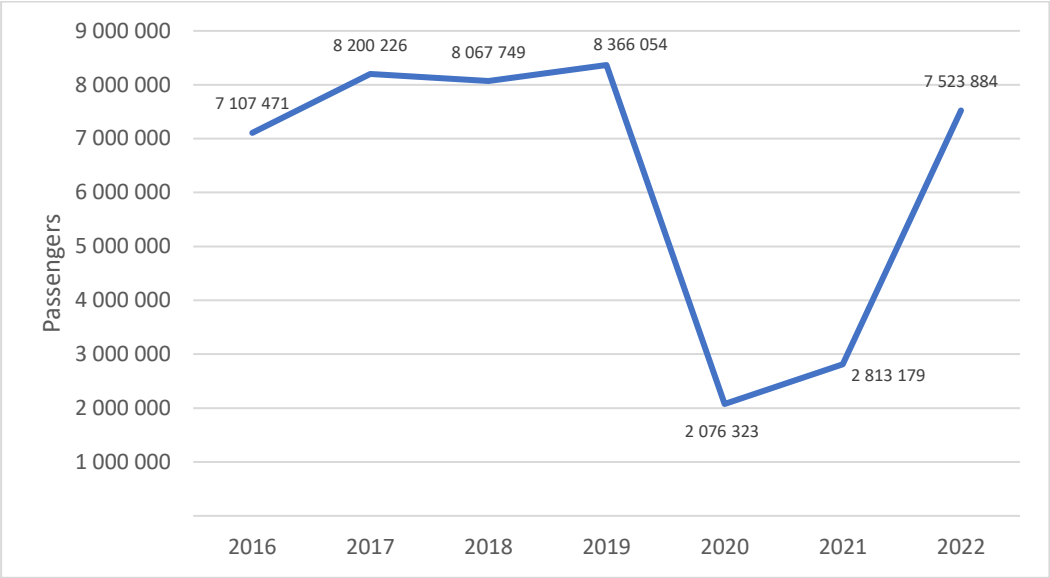
Number of Passengers	2016	2017	2018	2019	2020	2021	2022
Total	7 107 471	8 200 226	8 067 749	8 366 054	2 076 323	2 813 179	7 523 884
Variation (%)	18,0%	15,4%	-1,6%	3,7%	-75,2%	35,5%	167,5%

Source: ANA Aeroportos

Prior to 2019, there was a solid increase in the number of processed passengers at Gago Coutinho. The series between 2016 and 2019 peaked, precisely, at 2019 (8,37 million passengers). In 2020, again the pandemic was very taxing on tourism, with numbers dropping to the series lowest (2,1 million passengers), with a step towards recovery – in spite of many travel restrictions being still enforced – in 2021 (2,8 million passengers).

As expected in many official estimates, 2022 translated in a more than adequate response from markets worldwide. Numbers from January to October (7,5 million passengers), in 2022, confirm the expected tendency for the resuming of tourist activity, for as early as 2023.

Figure 6: Evolution of total incoming passengers at Gago Coutinho airport. 2016-22



Source: ANA Aeroportos

The breakdown of this analysis shows that the incoming passengers from The Netherlands have registered the best series result (772 372 passengers), as well as Belgium (258 478 passengers), while the UK, remains the main regional incoming passenger market, with a share of 46.9%, translating into 3.5 million passengers.

The Portuguese citizens represent 10% of the total incoming passengers at Faro Gago Coutinho, with a share of 10% (0.75 million passengers).

2.1.5 Revenue per available room (RevPAR)

According to data provided by Statistics Portugal, the regional RevPAR numbers have been inconsistent since 2015. The 2018-2022 series is no exception to this performance, nevertheless including the period of pandemic induced travel restrictions. This indicator had a low peak in 2020 (29.28 EUR). The released numbers on RevPAR, for 2022, show

that up until October, the total annual RevPAR is at 67,16 EUR, which confirms the recovery scenario for tourism activity, surpassing 2019's final value.

Table 8: Evolution of the revenue per available room. Algarve, 2016-2022

RevPAR	2016	2017	2018	2019	2020	2021	2022
NUTS II - Algarve	46,07	51,97	52,98	54,60	29,28	43,87	64,84

RevPAR NUTS II - Algarve	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AGG
2016	9,90	14,43	22,49	27,21	38,68	58,07	88,81	110,27	67,14	37,24	14,91	11,76	46,07
2017	11,35	16,89	21,08	37,14	43,75	66,21	98,55	123,15	75,16	41,93	16,26	13,39	51,97
2018	12,33	16,95	24,62	34,76	45,78	67,88	99,68	125,61	76,67	43,65	16,46	14,52	52,98
2019	13,76	17,45	22,45	39,18	45,17	69,83	100,85	129,83	78,57	44,23	17,31	15,90	54,60
2020	14,22	19,45	12,70	2,63	3,77	15,08	39,02	81,88	46,46	20,20	6,64	6,87	29,28
2021	4,57	3,09	4,11	7,62	22,86	44,76	58,11	117,95	63,50	44,10	19,48	12,43	43,87
2022	10,39	18,86	23,41	46,28	53,54	82,84	122,53	150,50	87,46	52,54	32,49		64,84

Source: Statistics Portugal (INE); Travel BI.

However, careful consideration must be given to profitability in order to assess if the RevPAR performance can be translated into increasing revenue by units. Again, from 2016 until 2021, and with the exception of 2020, the annual variation of profit has been positive thus indicating the overall positive performance of accommodation units.

In 2020, the RevPAR performance was severely affected, influenced by the confirmed impact that COVID-19 had on travel fluxes worldwide, in spite of lighter government measures during summer and towards the end of the year celebrations.

In 2022, with health improvement measures, traveller confidence slowly gained momentum, allowing a better performance level, although official estimates point to full recovery will probably be achieved by the end of 2023.

2.1.6 Average length of stay

The regional average length of stay (ALS) has been experiencing a slight annual decrease since 2018 (an average of – 0.2 %). In prior years, the indicator had a stabilized run of 4.5 until 2017. In 2020, affected by the international travelling crisis due to the pandemic, the ALS had an oscillating performance throughout the year, with a

remarkable 7.29 in April, July, August and September being the only months where the performance was above 4.0. Although with a year final result just above 2020, the monthly ALS was fairly stable throughout 2021, peaking in August (4,46) to end at 3,98.

Table 9: Average length of stay. Algarve, 2016-2022

AL Stay	2016	2017	2018	2019	2020	2021	2022
NUTS II - Algarve	4,5	4,5	4,3	4,1	4,0	4,0	4,0

AL Stay NUTS II - Algarve	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AGG
2016	4,08	4,32	4,25	3,95	4,34	4,60	4,84	5,09	4,60	4,52	4,24	3,73	4,54
2017	4,17	4,32	4,52	4,02	4,27	4,54	4,84	4,99	4,44	4,40	4,11	3,49	4,47
2018	4,16	4,37	4,21	4,01	4,08	4,35	4,74	4,72	4,20	4,25	4,05	3,46	4,32
2019	3,93	4,06	3,97	3,93	3,81	4,04	4,53	4,43	4,13	4,21	3,89	3,55	4,13
2020	3,70	3,90	4,80	7,29	3,62	3,47	4,11	4,06	4,10	3,51	3,70	3,22	3,96
2021	3,84	4,39	3,78	3,18	3,05	3,74	4,08	4,46	4,05	3,98	3,75	3,55	3,98
2022	3,84	3,74	3,96	3,73	3,76	3,94	4,28	4,53	4,02	3,99			3,96

Source: Statistics Portugal (INE); Travel BI.

The monthly based analysis data reported in Table 9, shows that in 2020, April had an average length stay of 7.29 days, unseen in previous years, that probably can be associated with the COVID-19 outbreak and the traveling restrictions that ensued, leading people to lengthen their stay.

2.1.7 Room and bed occupancy rate

As shown on Table 10, Room Occupancy Rate (ROR) in the region had been steady between 54,6%, in 2018, and 54.3%, verified in 2019 (a negative variation of 0.5%). However, in 2020 there was an expected decrease of 50,8% comparing with 2019, due to COVID-19 related impact on the travel industry, performing at 26.7% of room occupancy rate. There was an expected growth of numbers of Occupancy in 2021 Table 9, the regional Bed Occupancy Rate (BOR) had also been steady between 46,8%, both in 2018 and also in 2019. However, in 2020 there was an expected decrease of 53,4% comparing with 2019, due to COVID-19 related impact on the travel industry, performing at 21.8% of bed occupancy rate. Again, there was an expected growth of

numbers of Occupancy in 2021 (19,2%). As with several other KPI for tourism performance, in October, the BOR is trending in numbers according to values prior to 2019.

Table 10: Bed occupancy rate. Algarve, 2016-2022

Bed Occupancy Rate	2018	2019	2020	2021	2022
NUTS II - Algarve	46,81	46,75	21,77	26,99	43,79

Bed Occupancy Rate NUTS II - Algarve	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AGG
2018	20,30	29,46	35,75	43,76	52,15	62,48	73,29	80,66	64,53	51,35	26,14	21,91	46,81
2019	21,59	28,93	32,67	48,36	50,42	61,73	71,92	80,20	64,03	50,14	27,26	23,76	46,75
2020	21,73	31,30	17,64	5,02	6,50	14,87	29,64	55,76	39,70	20,75	9,00	9,36	21,77
2021	6,85	5,52	6,48	8,60	19,83	35,10	40,09	69,00	49,30	42,40	24,90	15,80	26,99
2022	14,71	25,76	28,80	46,63	48,59	58,58	69,57	76,65	59,22	48,35			43,79

Source: Statistics Portugal (INE); Travel BI.

The analysis of this indicator on a monthly basis, in Table 10, shows that almost every month of 2022 is performing over its counterparts in 20 and 21, however still behind numbers achieved prior to 2019. Estimated ROR and BOR values for 2023, anticipate a recovery of results before COVID-19 pandemic.

2.1.8 Unemployment per Activity

The unemployment within the tourism activity is shown in Table 11, for the last 3 years. 2021 was particularly taxing on economy, on businesses and, therefore, on family income, a reflexion of the unemployment numbers. The first 5 months in evidence, peaking at January's 15 289 persons without af job.

However, the final month of 2021 and the every single one in 2022 were hard indicators of numbers below the first year of COVID-19, results that are coherent with the rest of the KPI in analysis.

Table 11: Unemployment in Accommodation, Food Services and Similar. Algarve, 2020-2022

Unemployment per Activity Accommodation, Food Services and Similar, new job NUTS II - Algarve	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2020	3 965	8 465	9 632	11 637	12 063	10 929	8 832	7 319	7 465	9 137	12 772	14 250
2021	15 289	15 105	15 068	14 241	10 607	6 803	5 643	4 822	4 880	5 570	9 067	10 600
2022	11 078	9 564	6 601	4 532	3 215	2 349	1 873	1 765	2 114	2 972	7 883	10 176
Δ 2021 / 2020	-28%	-37%	-56%	-68%	-70%	-65%	-67%	-63%	-57%	-47%	-13%	-4%
Δ 2021 / 2019	179%	13%	-31%	-61%	-73%	-79%	-79%	-76%	-72%	-67%	-38%	-29%

Source: Statistics Portugal (INE); Travel BI.

3

Measuring and monitoring tourism sustainability dimensions: Research methodologies and sustainability indicators

3. Measuring and monitoring tourism sustainability dimensions: Research methodologies and sustainability indicators

3.1 MONITUR: An instrument to monitoring the Algarve sustainable development

In 2021, the project "Observation and monitoring of the tourist destination Algarve: Contributions to its sustainable development" (MONITUR) was implemented with the goal of consolidating the activity of the Observatory, as well as the creation of an information system centred in monitoring sustainability to offer stakeholders relevant information to support the decision process. Alike the Observatory's objectives, the aims of the project fall in the design of a model to evaluate and monitor tourist activity in the Algarve region, along with the development of an online information system that encourages the transmission of knowledge. This allows stakeholders to access relevant, detailed and updated information, essential to the decision-making process.

The project involves three distinct and complementary activities: the first activity consists on the design of an evaluation model for the Algarve as a main tourist destination in terms of sustainability, which allows the identification of variables and the definition of relevant indicators at the destination. The second activity of the project comprises data collection instances to feed the indicators, including both primary (through surveys to tourists, residents and industry) and secondary information. The third activity involves the implementation of an online decision support system through which the information is made available to the agents, ensuring the transfer of knowledge.

This whole process is dynamic in order to meet the needs of information voiced by tourism stakeholders, which proves the importance of close collaboration between regional stakeholders and the Observatory.

After the initial proposal of indicators, as mentioned in the previous report, a model was chosen with a set of indicators based on their relevance, clarity, feasibility, complementarity, comprehensiveness, credibility, and comparability, and others. The

selection of indicators took into consideration the World Tourism Organization's guidelines, complemented by the guidelines of the European Tourism Indicators System for Sustainable Destination Management, as well as the good practices of the various observatories belonging to the World Tourism Organization's International Network of Sustainable Tourism Observatories.

3.2 Sustainability Indicators

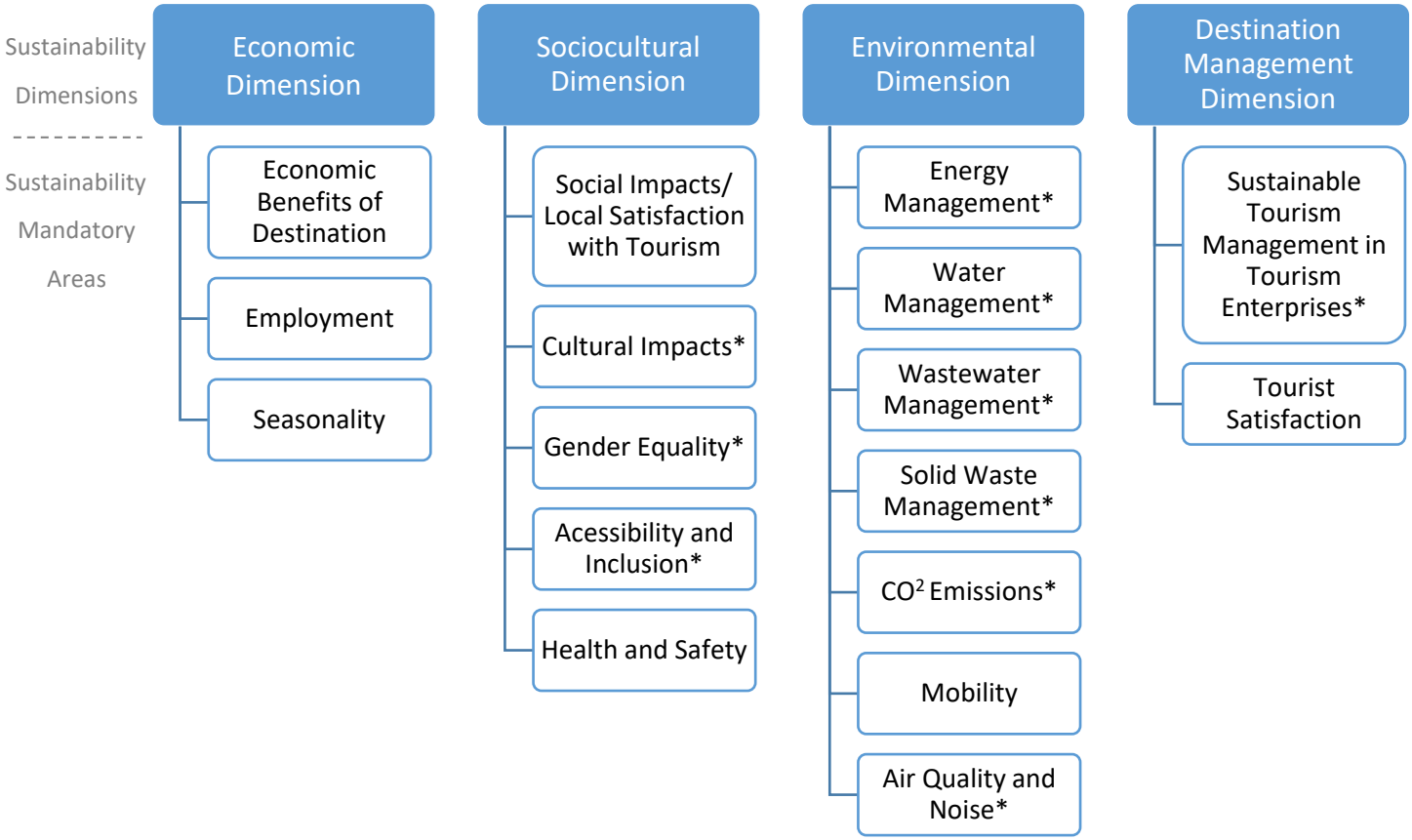
This report considers information based on indicators referenced in the European Tourism Indicators System for Sustainable Destination Management (ETIS)[1] regarding the eleven mandatory sustainability areas of tourism which constitute the AlgSTO's commitment assumed before the UNWTO-INSTO. The areas are: (1) Local satisfaction with tourism; (2) Economic benefits of the destination; (3) Employment; (4) Seasonality; (5) Energy management; (6) Water management; (7) Wastewater management; (8) Solid waste management; (9) Governance; (10) Accessibility and inclusion; (11) CO_2 emissions.

As mentioned in the previous report, the AlgSTO focused on four dimensions of sustainability (Figure 7): sociocultural (due to the impacts of tourism on people and their well-being), economic (given the impacts on economic growth), environmental (attending to tourism impacts on natural resources) and destination management (which encompasses sustainable tourism management and tourists' satisfaction). Furthermore, the present report includes data on residents and tourists' perceptions of sustainable tourism in the destination.

Not all the indicators have been implemented and calculated but further efforts will be developed in the upcoming years to provide detailed information for those indicators and others suggested by the stakeholders.

[1] The European System of Tourism Indicators for Sustainable Destination Management (ETIS) was created by the European Commission in 2013. (https://ec.europa.eu/growth/sectors/tourism/offer/sustainable/indicators_en).

Figure 7: Thematic areas and dimensions of tourism sustainability



Efforts have been developed to gather information for each indicator at the regional and the municipality levels. Yet, for some indicators, it was not possible to get data at the municipality level. Additionally, as the data of some indicators has not been updated in 2022, those indicators were not included in the current report and are marked with an asterisk (*).

Tables 12-15 present detailed information of the indicators for each sustainability area/dimension, as well as information of data availability for the indicators presented in this report, including those for which there is no updated information for 2022.

Further technical information for all indicators is provided in Annex A.

Table 12: Social sustainability: areas and indicators

Dimension	No. of Indicator	Description of Indicator	Information of Data Availability
Sociocultural Dimension	**Social Impacts/Local satisfaction with tourism**		
	I_1	Tourist intensity	Algarve: Monthly (Jan 2019-Nov 2022), Annual (2014-2021) Municipalities: Annual (2014-2021)
	I_2	Percentage of residents satisfied with tourism	Algarve and Municipalities: High Season (2022)
	I_3	Lodging capacity in tourist accommodation establishments, per 1000 inhabitants	Algarve: Annual (2017-2021) Municipalities: (2017-2021)
	I_4	Tourist density	Algarve: Annual (2017-2021)
	I_5	Number of second homes per 100 households	Data not available
	I_6	Value of rents for residential apartments located in areas of strong tourist pressure	Data not available
	Cultural Impacts		
	I_7	Percentage of residents that are satisfied with the impacts of tourism on the destination's identity	Algarve and Municipalities: High Season (2022)
	I_8	Percentage of the destination's events that are focused on traditional/local culture and heritage	Data not available
	Gender Equality		
	I_9	Percentage of men and women employed in the tourism sector	Data not available
	Accessibility and Inclusion		
	I_{10}	Percentage of tourist accommodation establishments that develop information actions on accessibility.	Data not available
	I_{11}	Percentage of public transport that is accessible to people with disabilities and specific access requirements	Data not available
	I_{12}	Percentage of tourist attractions that are accessible to people with disabilities and/or participating in recognized accessibility information schemes	Data not available
	I_{13}	Percentage of rooms in accommodation establishments accessible to people with disabilities	Data not available

	Health and Safety		
	I_{14}	Percentage of tourists who register a complaint with the police	Data not available
	I_{15}	Number of hospital beds, per 1000 inhabitants	Algarve: Annual (2011-2021)

Source: Own elaboration.

As can be seen in Table 12, the sociocultural dimension consists of five areas, two of which are presented in this report: "Local Satisfaction with Tourism" and "Cultural Impacts". The first area contains six indicators, and four of them are considered in this report, and the second includes two indicators, of which one was measured for the report. Information for the indicators "Percentage of Residents Satisfied with Tourism" and "Percentage of residents that are satisfied with the impacts of tourism on the destination's identity" was collected as primary data through the Residents' Perception questionnaire and it is included in this report in chapter 5.

The economic sustainability dimension accounts for three sustainability areas, specifically "Economic Benefits of the Destination", "Employment" and "Seasonality" (Table 13). To assess the "Economic Benefits of the Destination", four indicators are considered in this report out of a set of eleven, namely "Number of Nights in Tourist Accommodation Establishments, per Month", "Relative Contribution of Tourism in the Region to the Regional and National Economy", "Average Stay of Tourists" and "Productivity of Tourism Activity". Data for the remaining indicators was not available. Regarding the effects on "Employment", from a set of four indicators, one was considered in this report: "Direct Employment in Tourism as a Percentage of Total Employment in the Region". Data for all other indicators was not available. Lastly, considering the "Seasonality", one indicator ("Seasonality Rate") is present in the report, from the original four indicators. All the other remaining indicators did not have available data.

Table 13: Economic sustainability: areas and indicators

Dimension	No. of Indicator	Description of Indicator	Information of Data Availability
Economic Dimension	**Economic Benefits of the Destination**		
	I_{16}	Number of nights in tourist accommodation establishments, per month	Algarve: Monthly (Jan 2013–Oct 2022); Municipalities: Annual (2011-2020)
	I_{17}	Number of same-day visitors	Data not available
	I_{18}	Relative contribution of tourism in the region to the regional and national economy	Algarve and Municipalities: Annual (2011 – 2020)
	I_{19}	Average stay of tourists	Algarve: Annual (2007-2021)
	I_{20}	Productivity of tourism activity	Algarve and Municipalities: Annual (2011 – 2020)
	I_{21}	Average daily expenditure per tourist	Algarve: High Season (2022)
	I_{22}	Number of golf rounds	Data not available
	I_{23}	Sales from golf rounds	Data not available
	I_{24}	Sales from hotels and similar establishments	Data not available
	I_{25}	Market share of the main source markets	High Season (2022)
	I_{26}	Diversity of the source markets	High Season (2022)
	Employment		
	I_{27}	Direct employment in tourism as a percentage of total employment in the region	Algarve and Municipalities: Annual (2011 – 2020)
	I_{28}	Qualified employment as a percentage of direct employment in tourism in the region	Data not available
	I_{29}	Seasonal employment as a percentage of direct tourism employment in the region	Available data present in the 2020 report
	I_{30}	Average monthly salary of direct employment in tourism	Data not available
	Seasonality		
	I_{31}	Number of nights spent in the region by tourists, per month	Algarve: Monthly (Jan 2013–Oct 2022) Municipalities: Annual (2013-2022)
	I_{32}	Occupancy rate in tourist accommodation establishments per month	No Updated data; available in the 2021 report
	I_{33}	Seasonality rate	Algarve: Monthly (Jan 2014 – Oct 2022)
	I_{34}	Tourist arrivals by month (or quarter) and market	Data not available
	I_{35}	Average price per room sold, by month	Data not available

Source: Own elaboration.

The environmental sustainability dimension is composed of seven sustainability areas, specifically "Energy Management", "Water Management", "Wastewater

Management", "Solid Waste Management", "CO_2 Emissions", "Mobility" And "Air Quality and Noise", as can be noted in Table 14. Of these, only two indicators from "Mobility" (of a set of three) possess updated data: "Movement of Passengers on Inland Waterways" and "Number of Passengers Boarded and Disembarked at the Faro Airport".

Table 14: Environmental sustainability: areas and indicators

Dimension	No. of Indicator	Description of Indicator	Information of Data Availability
Environmental Dimension	**Energy Management**		
	I_{36}	Daily energy consumption of tourists vs. daily energy consumption of resident population	Data not available
	I_{37}	Establishments that optimise energy consumption	No updated data; in the 2021 report
	I_{38}	Percentage energy consumption produced by renewable sources vs. total energy consumption	Data not available
	I_{39}	Percentage of companies adopting energy efficiency measures	Data not available
	Water Management		
	I_{40}	Daily water consumption by tourists, relative to daily water consumption by the resident population	Data not available
	I_{41}	Establishments that optimise water consumption	No updated data; in the 2021 report
	I_{42}	Percentage of tourist companies using recycled water	Data not available
	I_{43}	Percentage of companies promoting efficient use of water in their operations	Data not available
	Wastewater Management		
	I_{44}	Percentage of sewage treated prior to discharge	No updated data; in the 2020 report
	I_{45}	Urban wastewater discharge compliance rate	Data not available
	I_{46}	Percentage of companies that develop efficient waste management actions	Data not available
	Solid Waste Management		
	I_{47}	Establishments that separate waste	Data not available

Environmental Dimension	I_{48}	Daily waste production by tourists, vs. daily waste production by resident population (Kg)	Data not available
	CO_2 Emissions		
	I_{49}	Percentage of tourists and tourists who use different means of transport to reach their destination	Data not available
	I_{50}	Percentage of tourists and tourists using public transport to reach their destination	Data not available
	I_{51}	Average distance (km) travelled by tourists and tourists between the place of residence and the tourist destination	Data not available
	I_{52}	Percentage of tourist companies involved in climate change mitigation activities - such as reducing CO2 emissions, low energy consumption systems, etc. - and "adaptation" responses and actions	Data not available
	Mobility		
	I_{53}	Movement of passengers on inland waterways	Quarterly (2007-2022 (Q3))
	I_{54}	Number of passengers embarked and disembarked from cruise ships at the Port of Portimão	No updated data; in the 2020 report
	I_{55}	Number of passengers boarded and disembarked at Faro Airport	Quarterly (2007-2022 (Q3))
	Air quality and noise		
	I_{56}	Air quality index	No updated data; in the 2020 report

Source: Own elaboration.

The final dimension, Destination Management (Table 15), consists of the "Sustainable Tourism Management in Tourism Enterprises" and the "Tourists' Satisfaction" areas. Originally, this dimension only had one are "Governance", which no longer exists. The former area is measured by the indicators "Percentage of Companies and Tourist Establishments Using Voluntary Certification of Environmental Sustainability or Corporate Social Responsibility" and "Percentage of Establishments Providing Training on Sustainable Practices", none of which have updated data and were, therefore, not considered in the current report. The information regarding the three indicators from "Tourists' Satisfaction" was collected as primary data through the Tourists' Perception questionnaire and it is included in this report in chapter 5.

Table 15: Destination Management: areas and indicators

Dimension	No. of Indicator	Description of Indicator	Information of Data Availability
Destination Management Dimension	**Sustainable tourism management in tourism enterprises**		
	I_{57}	Percentage of companies and tourist establishments using voluntary certification of environmental sustainability or corporate social responsibility	No updated data; in the 2020 report
	I_{58}	Percentage of establishments providing training on sustainable practices	No updated data; in the 2020 report
	Tourists satisfaction		
	I_{59}	Percentage of tourists that are satisfied with their overall experience in the destination	High Season (2022)
	I_{60}	Indicators intended to measure tourists' experience such as memories of the experience, global perceived quality of the experience, intention to recommend the tourism destination	High Season (2022)
	I_{61}	Percentage of repeat/return visitors (within 5 years)	High Season (2022)

Source: Own elaboration.

In summary, at this stage, several indicators are still not available, but progress has been made, especially regarding the data on residents and tourists' perceptions. This highlights a significant information gap of relevant information about tourist activity in the region and strengthens the AlgSTO's commitment in developing efforts to surpassing it in the future.

4

Sustainability areas and indicators

4. Sustainability areas and indicators

Associated with tourism development, there are sociocultural, economic, environmental and institutional effects whose monitoring and assessment are important tools to guarantee a balanced and sustainable growth of tourism destinations. In the following sections, information on the sustainability indicators for these four sustainability dimensions is presented to assess and diagnose the sustainability of the tourist activity in the Algarve.

4.1 Sociocultural sustainability

The sociocultural sustainability of tourism is about identifying and managing the impacts of this activity on the local population. The tourism sector, being the main engine of the economy of the Algarve, undoubtedly generates, directly or indirectly, effects on resident individuals, whether these are employees, employers or residents. These impacts, in turn, affect tourist activity. Therefore, measuring the impacts on local residents' satisfaction is of crucial importance to guarantee the sustainability of the tourism industry.

4.1.1 Local satisfaction with tourism

This area is assessed by indirect measures of local satisfaction, such as the tourism intensity, the number of beds available in accommodation establishments, and tourist density, as well as by direct measures, later analysed in chapter 5.

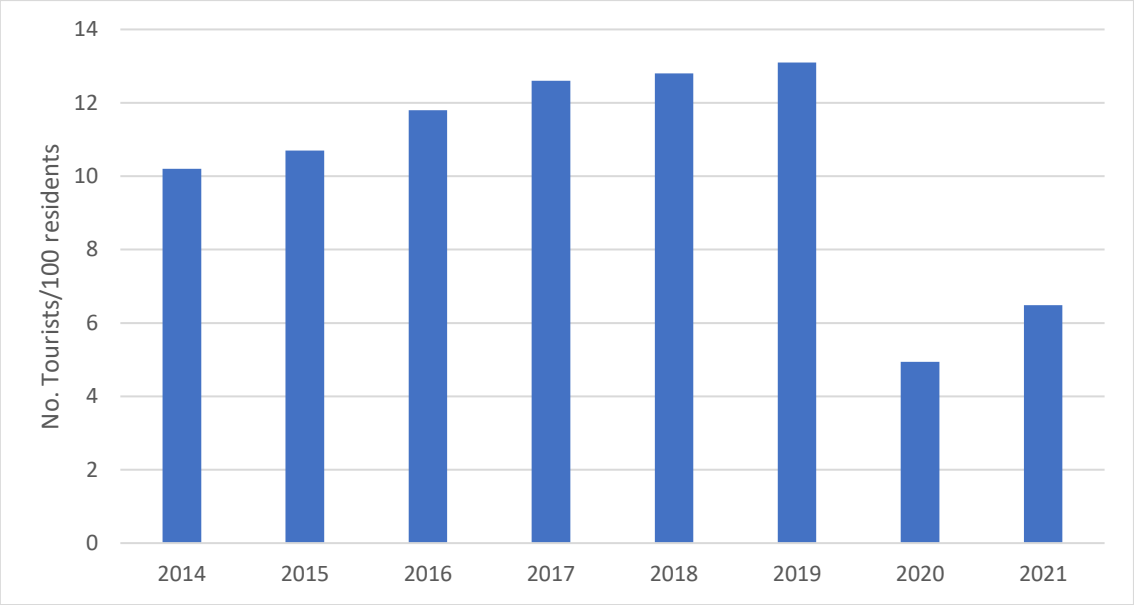
4.1.1.1 Tourist Intensity

Tourist Intensity (TI) aims to quantify the relationship between the number of nights in tourist accommodation establishments and the resident population in the same geographical area and during the same period. The indicator is inherently based on the rationale that the greater the number of tourists *per* resident, the greater the pressure that tourism activity will exert on the 'normal life' of the local population.

The information on this indicator is provided on an annual basis for the whole region of Algarve and for each municipality, over the period 2014-2021 (Figure 8), as well as on a monthly basis, for the entire region, over the period 2019-2022.[2]

As noted in the previous report, this indicator showed an upward trend from 2011 to 2019 and a significant drop due to the COVID-19 pandemic in 2020. In 2021 it was registered a substantial increase compared to 2020 but, in spite of this, it was translated into only approximately half of the figures achieved in 2019.

Figure 8: Tourist Intensity. Algarve, 2014-2021



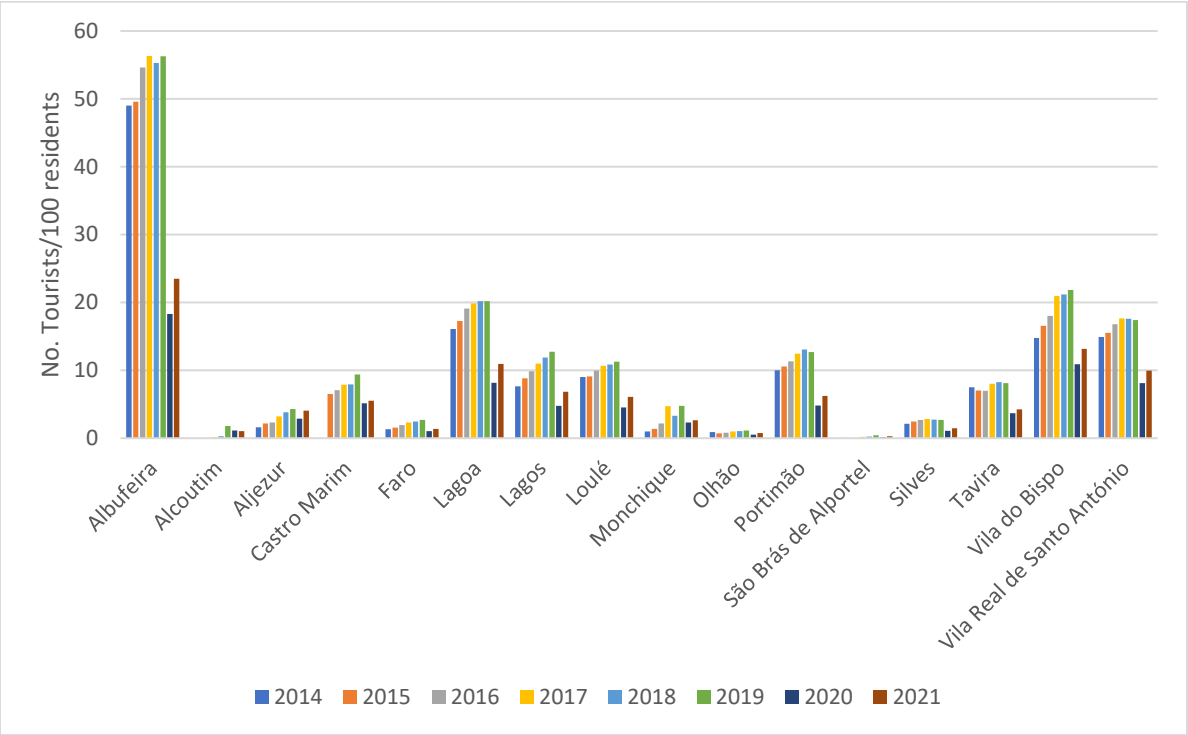
Source: Statistics Portugal (INE); Own calculation.

When observing tourist intensity by geographic location (Figure 9), it is clear that its value is very diverse. For instance, Albufeira stood out by far as the municipality with the highest-pressure level of tourism activity, followed at great distance by Lagoa and Vila do Bispo, both considered as coastal areas. On the other hand, municipalities located on the countryside such as Alcoutim or São Brás de Alportel showed a modest value for this indicator. In the previous report it was noted a significant decrease in 2020

[2] The technical information on this indicator is provided in the Annex A, Table A1.

due to the pandemic, but a recover was observed in 2021, especially in the municipality of Albufeira.

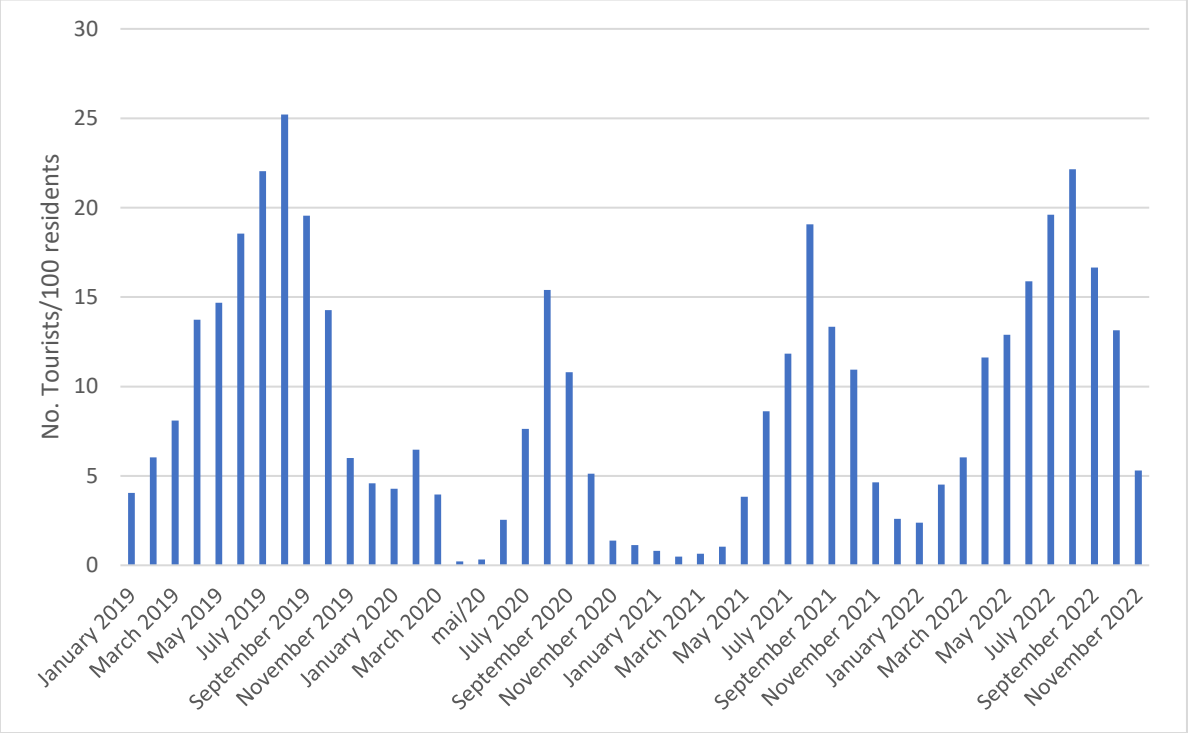
Figure 9: Tourist Intensity. Algarve municipalities, 2014-2021



Source: Statistics Portugal (INE); Own calculation.

The same indicator, but calculated on a monthly basis, illustrated on Figure 10, highlights the peak seasonality effect occurred during the summer months (the peak season) over the period January 2019 to November 2022. August remains the month with the highest pressure, even during the pandemic time as well as the years onwards.

Figure 10: Tourist Intensity. Algarve, January 2019-November 2022



Source: Statistics Portugal (INE); Own calculation.

4.1.1.2 Lodging capacity in tourist accommodation establishments, per 1000 inhabitants

The high level of tourist intensity demands an adequate response by the supply side of the market. This indicator, defined as the number of beds *per* 1000 inhabitants, is highly relevant since it shows the relative importance of tourism lodging supply in relation to the resident population. Therefore, it provides insight about the response capacity of the region to the tourist pressure and, hence, is a way of measuring the potential relative impact of tourism on the residents' quality of life. The information on this indicator is provided for the region of Algarve and the municipalities on an annual basis from 2017-2021.[3]

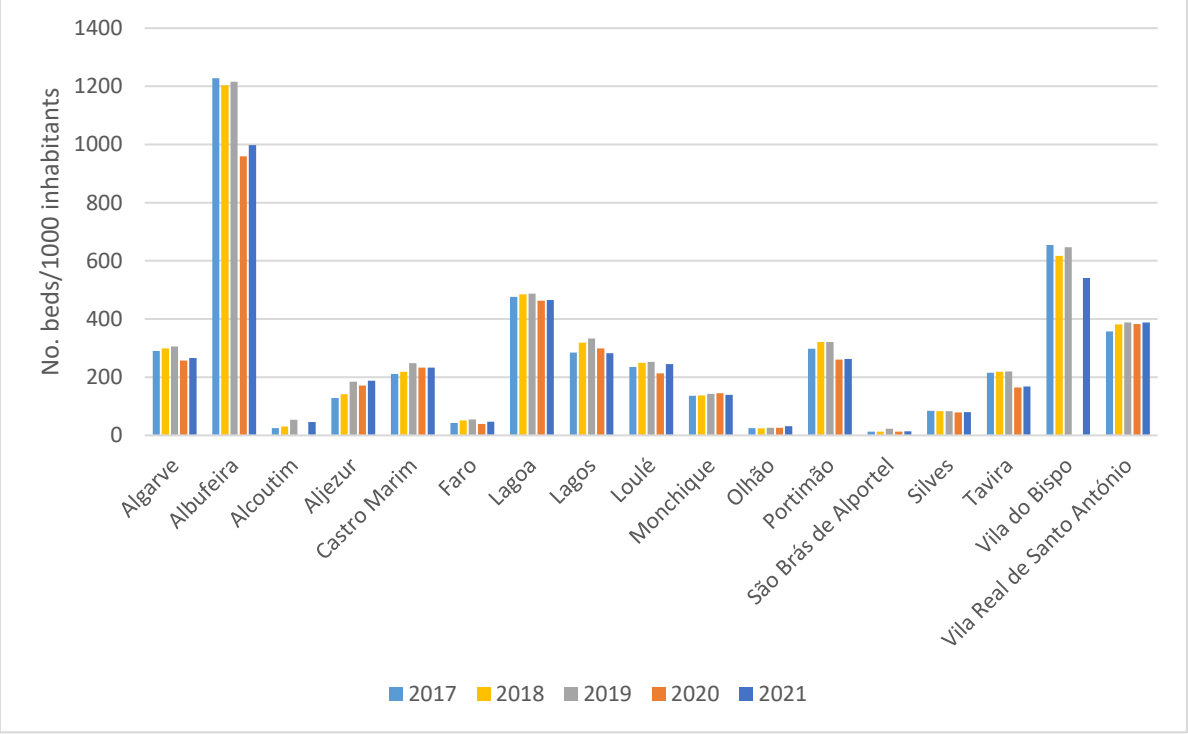
The indicator reports an increasing trend in the Algarve as shown in Figure 11. The number of beds *per* 1000 residents increased from 290.2 in 2017 to 305.7 in 2019 corresponding to a growth rate of 5.3%, followed by a drop in 2020 the indicator

[3] The technical information on this indicator is provided in Annex A, Table A2.

dropped to 257.5. After this, in 2021, there was again an increase to 265.9, which translates into a 3.3% growth rate. Regardless of this increase, it did not reach the pre-pandemic values.

The aggregate figures for the whole region cover regional disparities at the municipality level. Once again, the municipalities with higher tourist intensity ratio– Albufeira, Lagoa, Vila do Bispo and Vila Real de Santo António – tend to reveal higher lodging capacities. The annual lodging capacities *per* 1000 residents in 2021 in these municipalities are 997.7, 465.1, 541 and 387.6 beds, respectively, all of them clearly above the regional average of 305.7 beds, all higher than the ones from 2020. These numbers represent increases of 4.01% in Albufeira, 0.44% in Lagoa, and 1.36% in Vila Real de Santo António. Since Vila do Bispo did not present any data in 2020, it was not possible to compute the difference. However, it decreased 16.39% from 2019 to 2021.

Figure 11: Lodging capacity in tourist accommodation establishments per 1000 inhabitants. Algarve and municipalities, 2016-2020



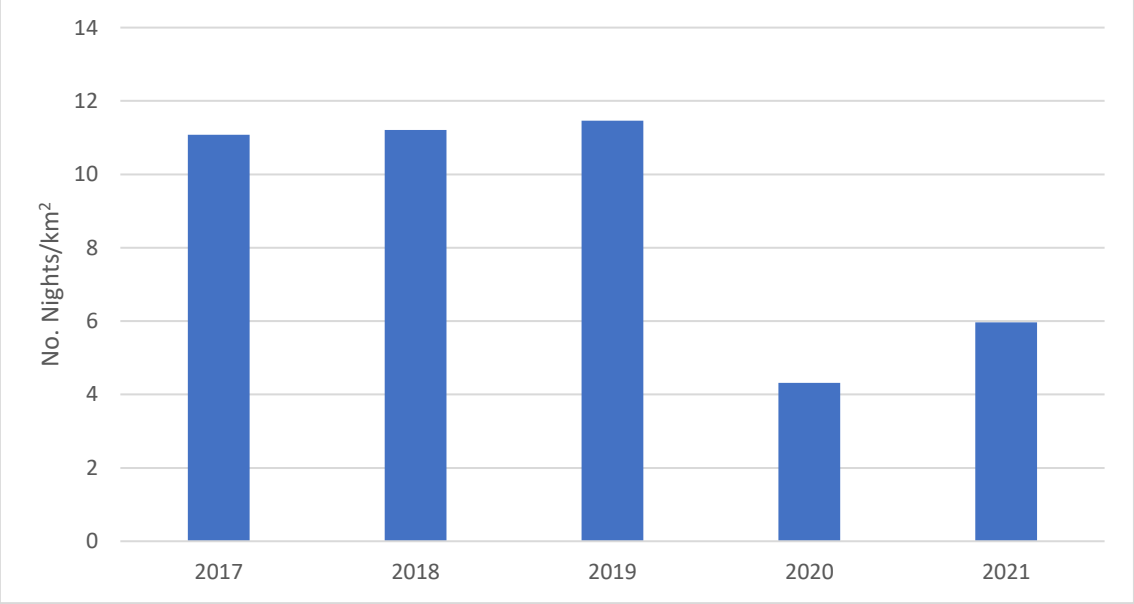
Source: Statistics Portugal (INE); Own calculation.

4.1.1.3 Tourist Density

Tourist Density (*TD*) releases information designed to characterize the sociocultural impact of tourism and, in particular, the possible degree of dissatisfaction of indigenous populations in the face of the most excessive effects of the tourist phenomenon over the territory of the tourist destination. It enables the assessment of tourist pressure on the region through the relationship between the number of overnight stays in tourism accommodation establishments and the area of the region, measured in square kilometres. The information on this indicator is provided on an annual basis for the region of Algarve and for each municipality over the period 2017-2021[4].

In the previous report, it was noted a persisting upward trend in the Algarve over the period 2016-2019 and a decrease in 2020. In 2021, in a post-pandemic time, the number of nights per square kilometres was raised once again, from 4.31 in 2020 to 5.96 in 2021, as seen in Figure 12. However, it did not reach 2019 levels.

Figure 12: Tourist density, Algarve, 2017-2021

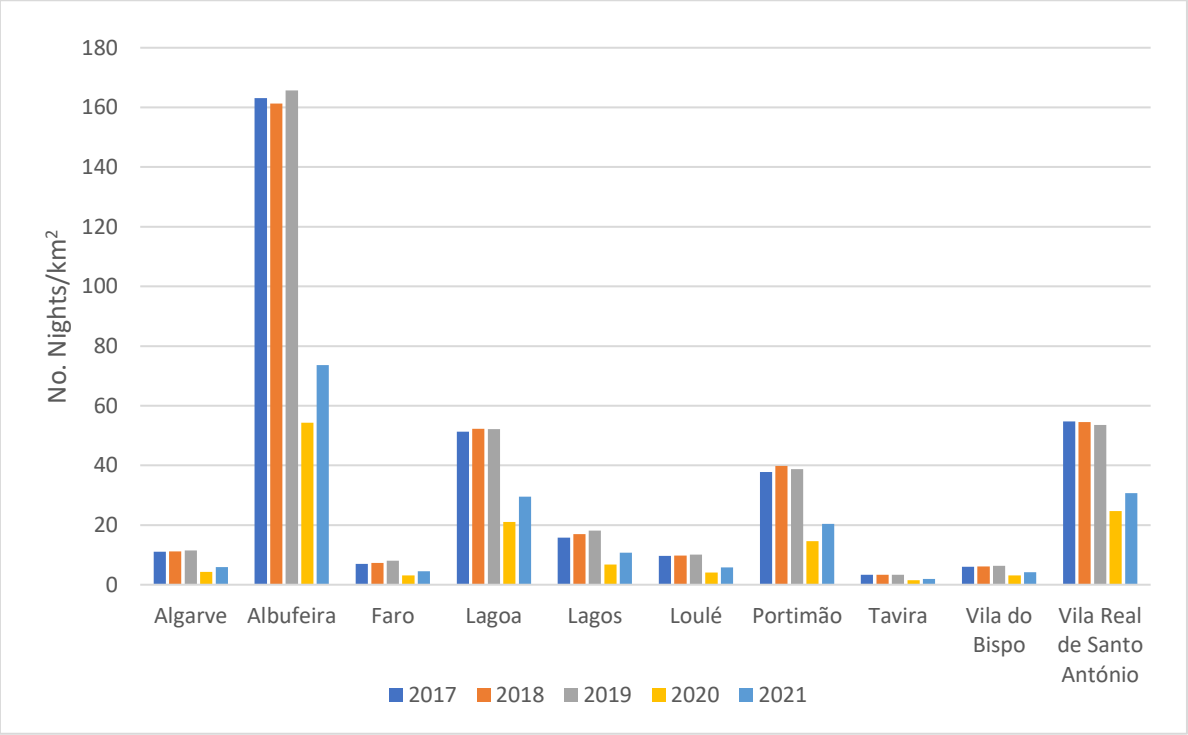


Source: Statistics Portugal (INE); Own calculation.

[4] The technical information on this indicator is provided in Annex A, Table A3.

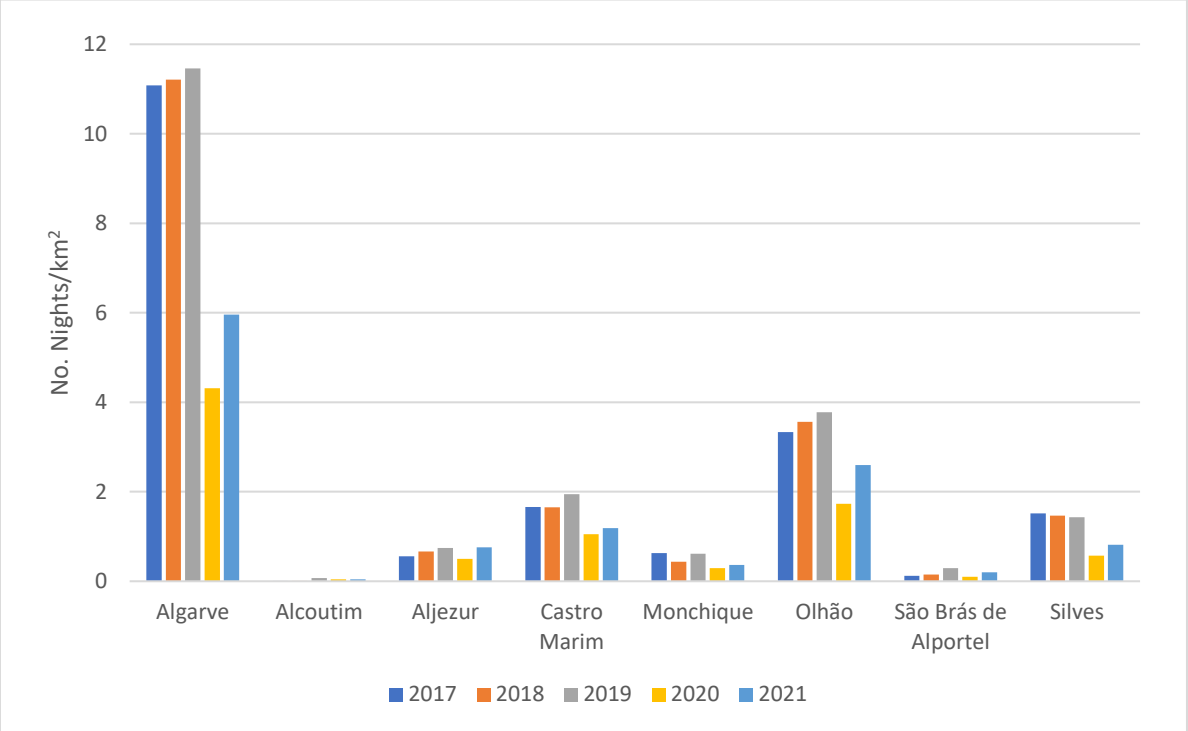
Once again, the aggregate analysis covers pronounced differences at municipality level, as illustrated in Figures 13 and 14. The municipalities close to the coastline, such as Albufeira, Lagoa, Portimão and Vila Real de Santo António, recorded the highest values for the tourist density index, quite above the region average, which reveals a potentially high pressure on the territory and consequentially potential sociocultural impacts. In 2021, the ratio increased in the region as a whole, after the fall in 2020. The municipalities of Albufeira, Vila Real de Santo António, Lagoa and Portimão maintained the highest values, by this order.

Figure 13: Tourist density. Algarve and municipalities, 2017-2021



Source: Tourism of Portugal; Own elaboration.

Figure 14: Tourist density. Algarve and municipalities, 2017-2021 (continuation)



Source: Tourism of Portugal; Own elaboration.

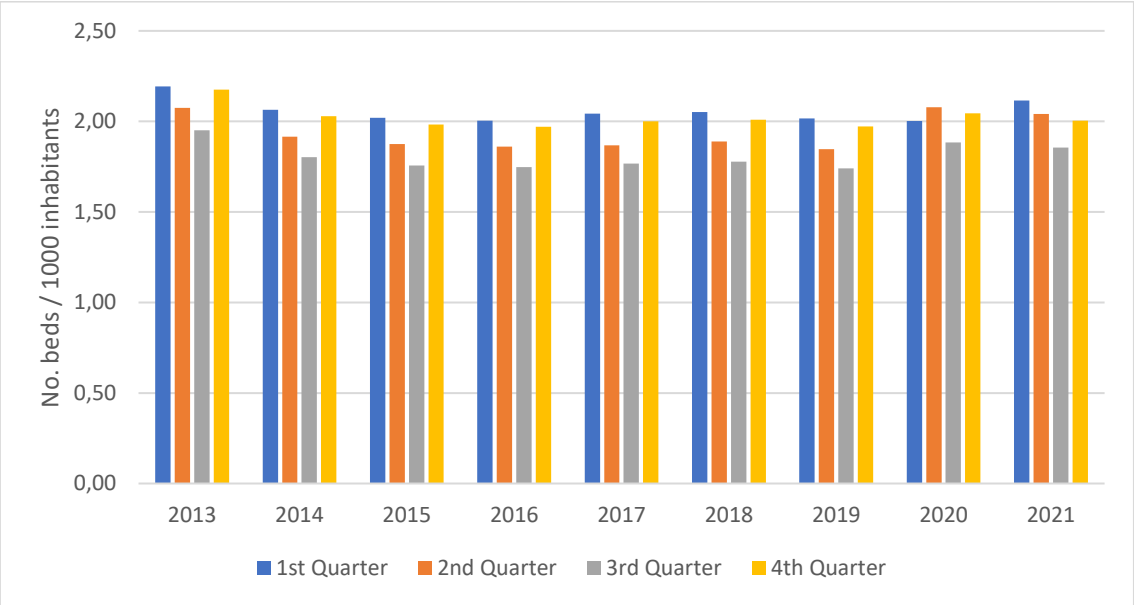
4.1.2 Health and Safety

4.1.2.1 Number of hospital beds, per 1000 inhabitants

This indicator quantifies the number of hospital beds of public hospitals of universal access and hospitals in public-private partnership available per 1000 inhabitants. It is defined by the ratio between the number of available hospital beds and the sum of the average annual resident population with the weighted average of overnight stays, multiplied by 1000. The lowest values of the indicator consistently occur in the third quarter given that during this period there is a greater tourist pressure, even in pandemic times (Figure 15). By examining the components of the indicator in the pre-pandemic period, it is possible to observe that, with an essentially stable resident population, the supply of hospital beds has had difficulty in keeping up with the potential demand provided by significant levels of growth in overnight stays in tourism.[5]

[5] The technical information on this indicator is provided in the Annex A, Table A4.

Figure 15: Beds in hospitals per 1000 inhabitants. Algarve, 2011-2021



Source: Statistics Portugal (INE); Own calculation.

4.2 Economic sustainability

Tourism is an important engine for economic growth and development, hence economic sustainability of tourism is generally considered with respect to a focus on macro-level and objective indicators, such as gross domestic product, employment rate and investment. While useful, macro-level and objective perspective do not capture many other indicators that have significant importance to local stakeholders, who are affected by tourism development strategies and who have their own interpretations of sustainability. For monitoring purposes, economic sustainability is measured through the destinations' economics benefits from tourism, employment effects and tourism seasonality.

4.2.1 Economic benefits of the destination

To measure the economic benefits of tourism in the region, only indicators that constitute indirect measures have been addressed. These are the number of nights in tourist accommodation establishments, *per* month, the relative contribution of tourism in the region to the regional and national economy, the average stay of tourists, and the productivity of tourism.

4.2.1.1 Number of nights in tourist accommodation establishments, per month

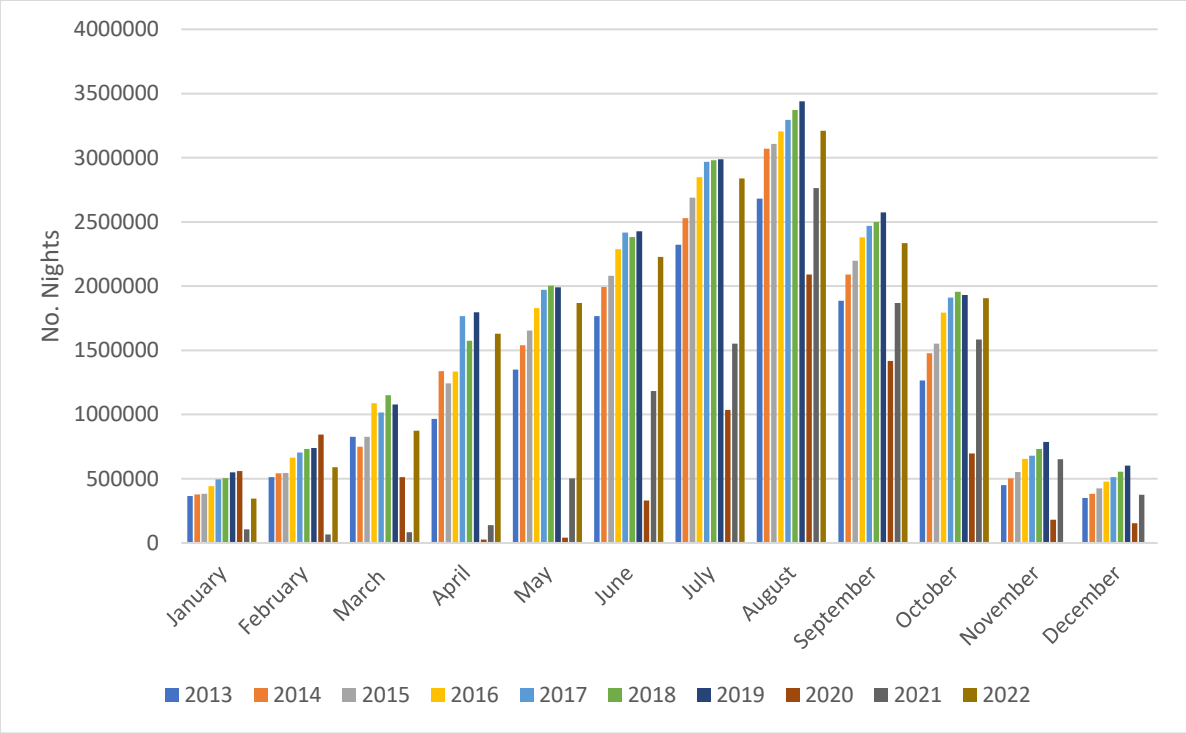
This indicator, considers the total number of night beds in all types of tourist accommodation. Direct use of secondary data has been made to create this indicator, which is available on a monthly basis from 2013 to 2022 for the region and municipalities[6].

Figure 16 shows the increasing pattern of this indicator at the region level in all months over the period 2013-2022, with June, July, August and September accounting for the

[6] The technical information on this indicator is provided in Annex A, Table A5.

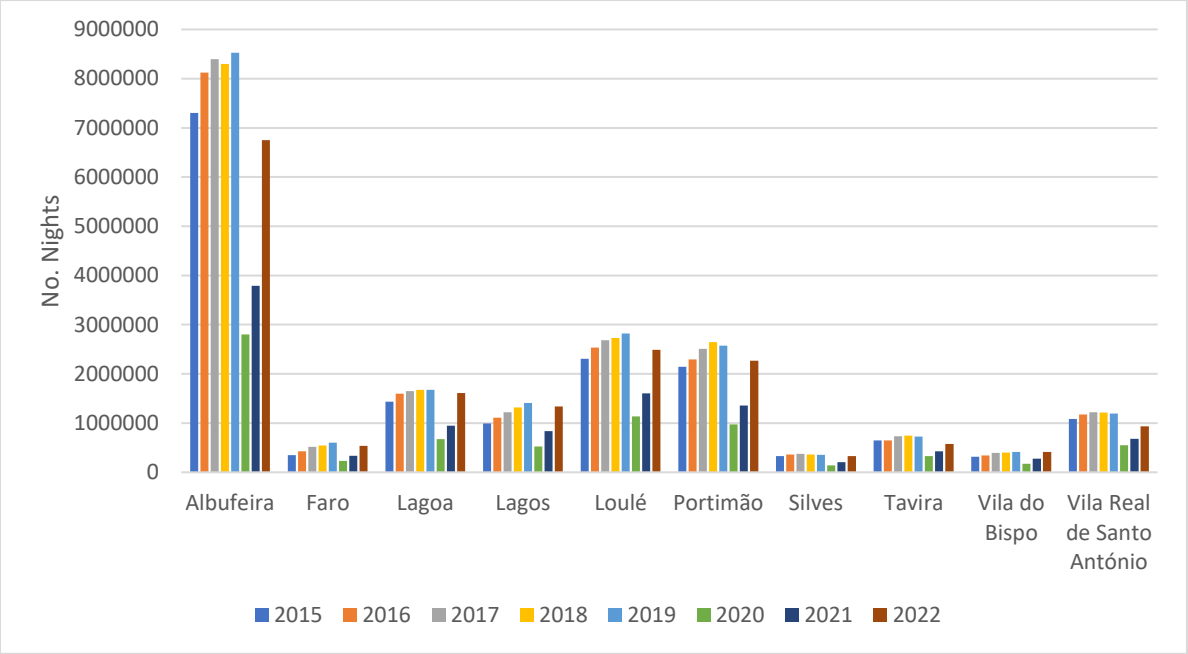
highest number of nights in tourism accommodation. In the previous report, 2020 showed accentuated decreases, but from 2021 to 2022, due to the lifting of health constraints regarding transportation, there was a growth in the number of nights throughout the year, surpassing the values from 2015. This upward trend has been transversal to all municipalities without exceptions, as illustrated in Figures 17 and 18.

Figure 16: Number of nights in tourist accommodation establishments per month. Algarve, 2013-2022



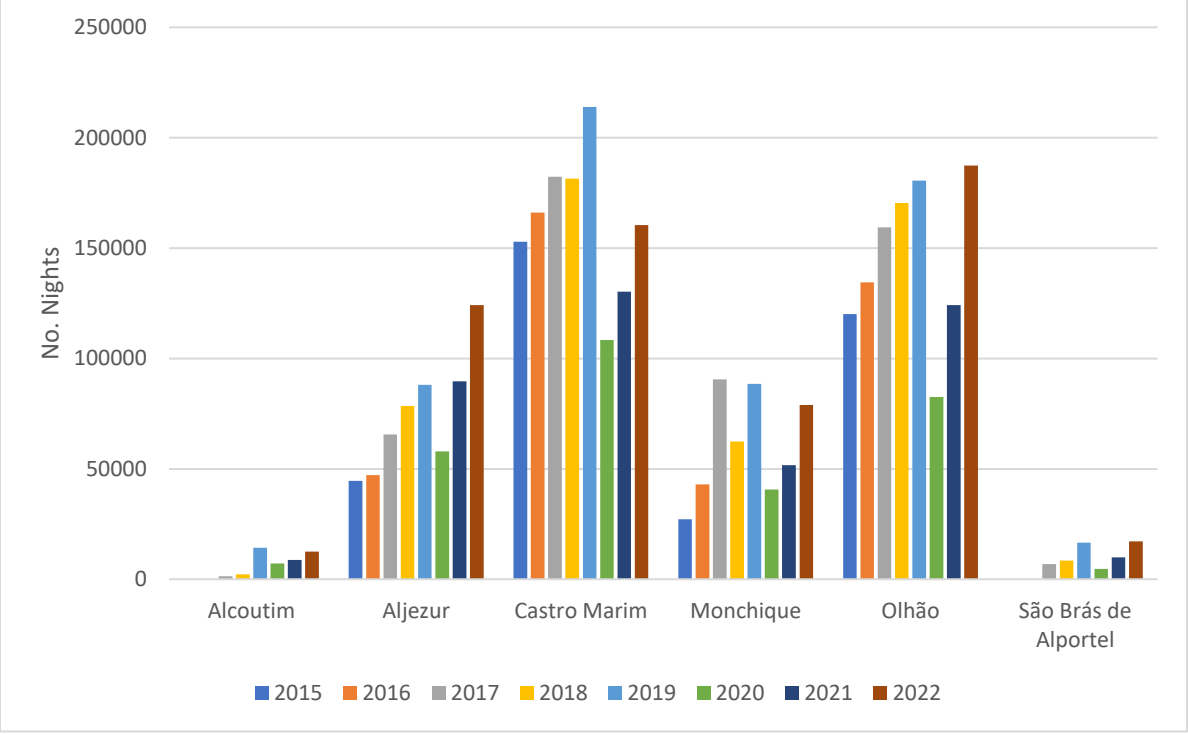
Source: Tourism of Portugal; Own elaboration.

Figure 17: Number of nights in tourist accommodation establishments. Algarve municipalities, 2015-2022



Source: Statistics Portugal (INE); Own calculation.

Figure 18: Number of nights in tourist accommodation establishments. Algarve municipalities, 2015-2022 (Continuation)



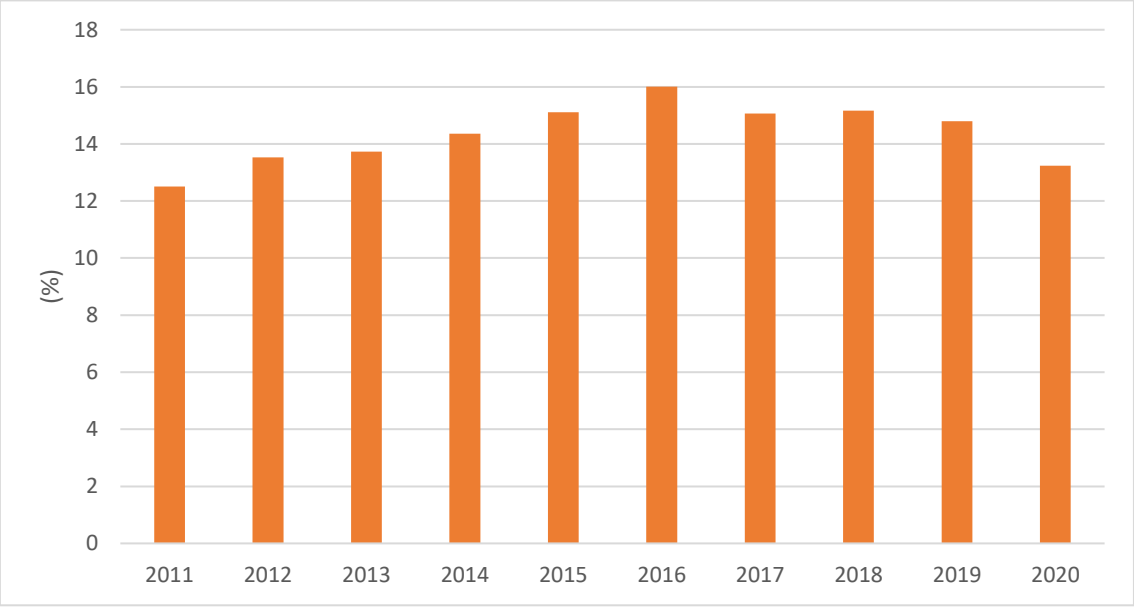
Source: Statistics Portugal (INE); Own calculation.

4.2.1.2 Relative contribution of tourism in the region to the regional and national economy

This indicator aims to gather information about the contribution of tourism in Algarve, in the economy of the region itself and in the national economy by accounting for the proportion of the sector gross value added (GVA) generated in the region on the region's total GVA and the country's GVA in the sector. For the purpose of this analysis, the set of accommodation and the food and beverage services sectors are used as a proxy for the tourist sector. The data on this indicator is available on an annual basis for the Algarve and for the municipalities, over the period 2011-2020[7].

The share of the GVA generated by these sectors in the region in the GVA of the same sectors at the national level is quite expressive, ranging from 12.51% in 2011 to 13.23% in 2020, reaching the maximum value in 2016 (16%). The evolution of the regional share of these sectors in the sectoral GVA at the national level is represented in Figure 19, and it is quite illustrative of the regional importance and the dynamics of these sectors in the country.

Figure 19: Regional share of GVA in accommodation, food and beverage services in Portugal's GVA in the sector. Algarve, 2011-2020

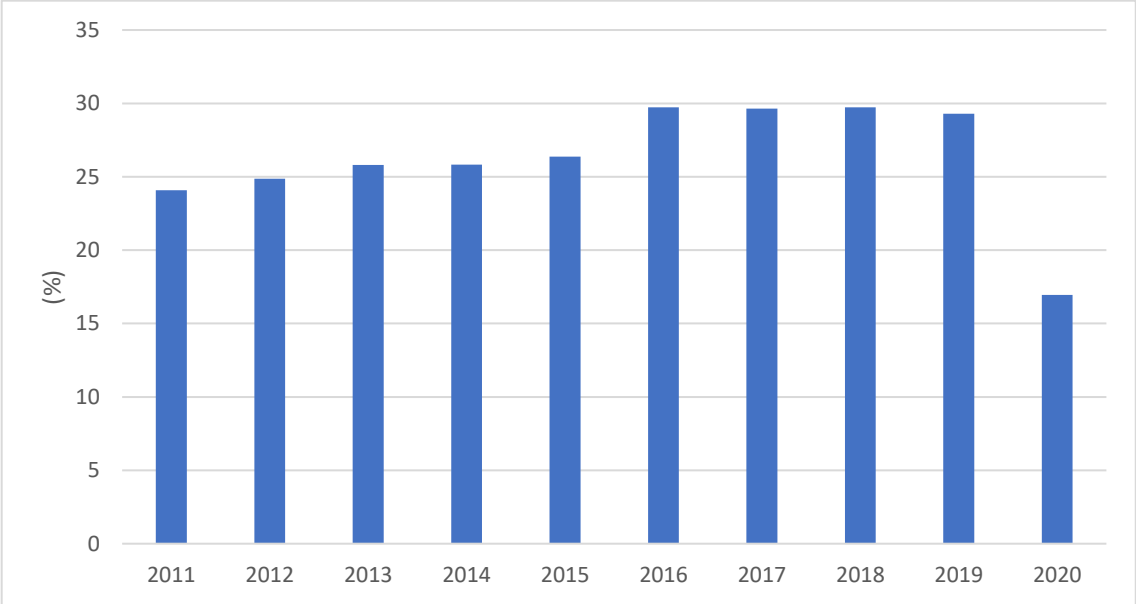


Source: Statistics Portugal (INE); Own calculation.

[7] The technical information on this indicator is provided in Annex A, Table A6.

At the regional level, as can be seen in Figure 20, the GVA of these sectors stabilized around the 29% of the regional GVA in the last four years (2016 to 2019). However, due to the COVID-19 pandemic, there was a clear decrease in 2020 to 16.96%.

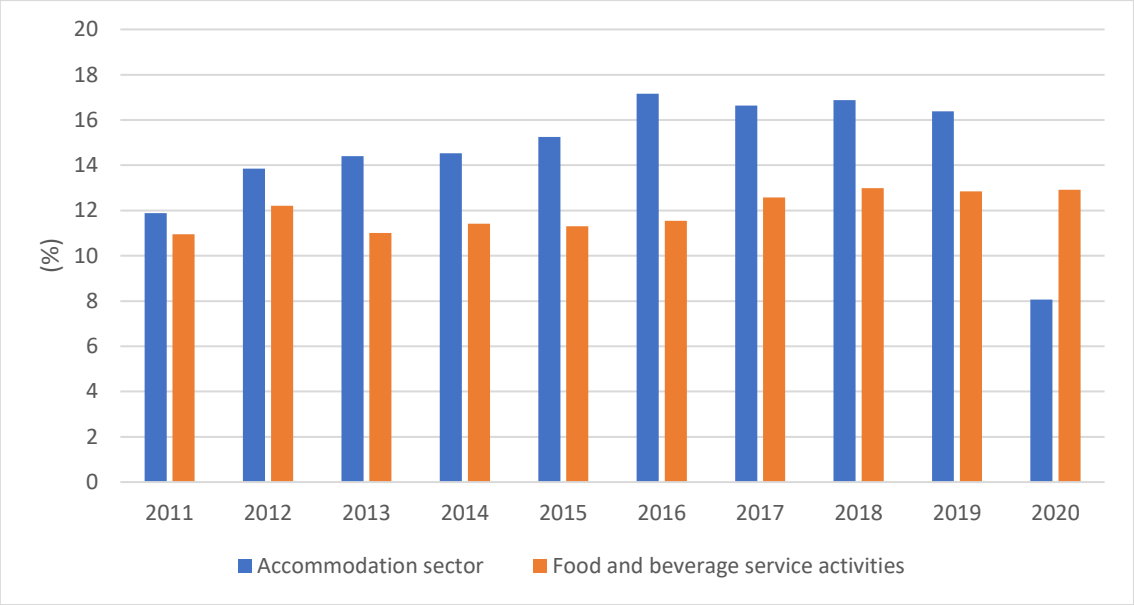
Figure 20: Share of Algarve's GVA in accommodation, food and beverage services in Algarve's total GVA. Algarve, 2011-2020



Source: Statistics Portugal (INE); Own calculation.

As for the contribution of each individual sector to the region's GVA, Figure 21 illustrates their relative weight. An increased dominance of the accommodation sector until 2016 can be noticed; then, its share stabilized at around 16% of the region's GVA (16.4% in 2019). Despite this, it decreased in 2020 to 8.07%. On the other hand, the food and beverage service sector– which has a considerable non-tourist component – compared to the accommodation services sector, maintained roughly the same value showing it was much less affected by the COVID-19 pandemic.

Figure 21: Shares of the GVA in accommodation and food and beverage services in Algarve's total GVA. Algarve, 2011-2020



Source: Statistics Portugal (INE); Own calculation.

The analysis at the municipality level, as illustrated in Figures 22 and 23, suggests the existence of economic vulnerability due to an excessive dependency on tourism. Approximately 60% of the GVA in the accommodation and food catering services in the region originates in three municipalities; namely, Loulé, Faro and Albufeira, and this picture has remained stable over the period 2011-2020.

Figure 22: Share of municipalities GVA in accommodation and food and beverage services in the region´s GVA, in 2011.

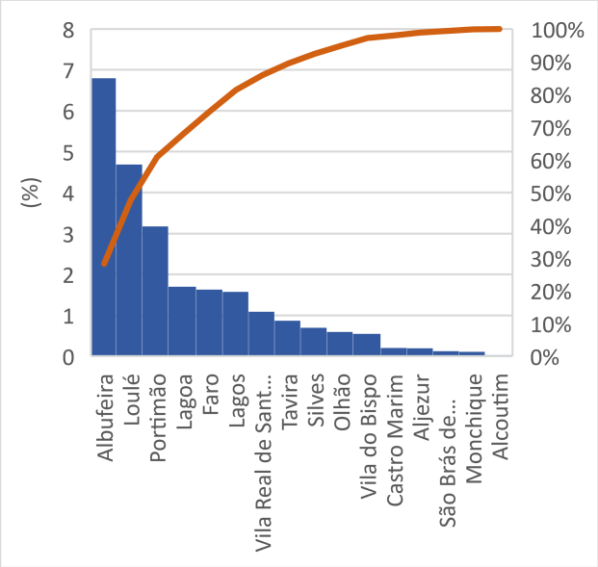
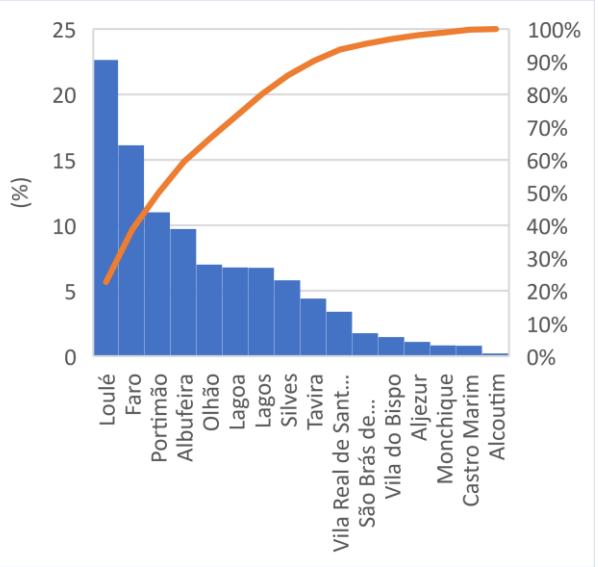


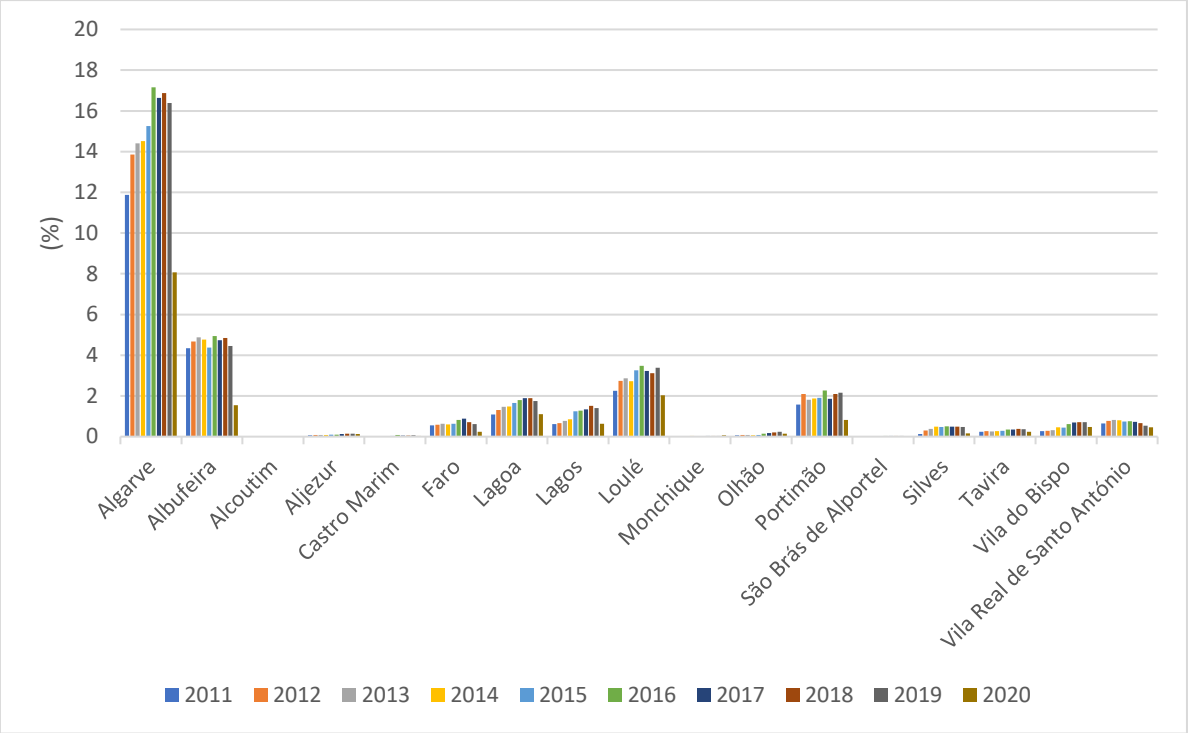
Figure 23: Share of municipalities GVA in accommodation and food and beverage services in the region´s GVA, in 2020.



The analysis by individual sector also reveals spatial asymmetries in the distribution of the relative shares of each sector in the Algarve's GVA, as shown in Figures 24 and 25.

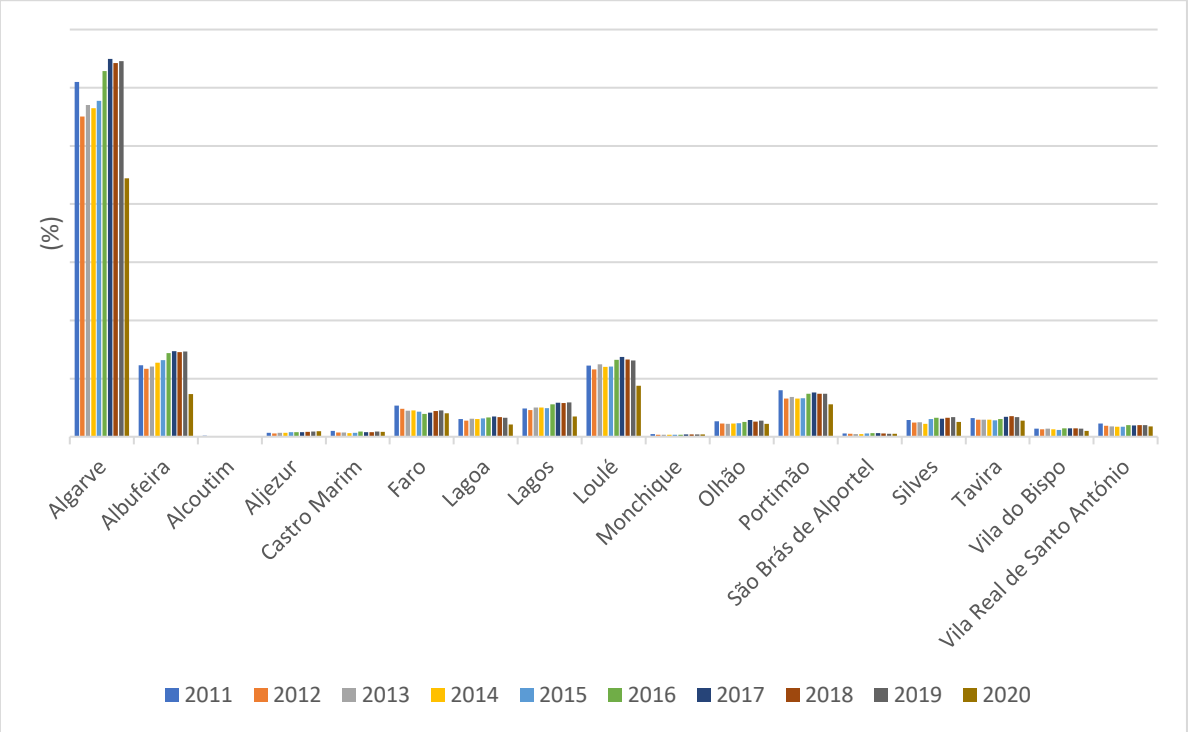
Although an increasing share of both sectors has been observed in all municipalities since 2011, Albufeira, Loulé and Portimão have been the leaders in the accommodation sector. Regarding the food and beverage sector, the municipality of Albufeira also presents values well above the sector's share in the region's GVA, together with the municipalities of Loulé, Portimão and Lagos. Even with the 2020 expected decreases, this tendency remains the same.

Figure 24: Share of the GVA in accommodation sector in Algarve's total GVA. Algarve and municipalities, 2011-2020



Source: Statistics Portugal (INE); Own calculation.

Figure 25: Share of the GVA in food and beverage sector in Algarve's total GVA. Algarve and municipalities, 2011-2020



Source: Statistics Portugal (INE); Own calculation.

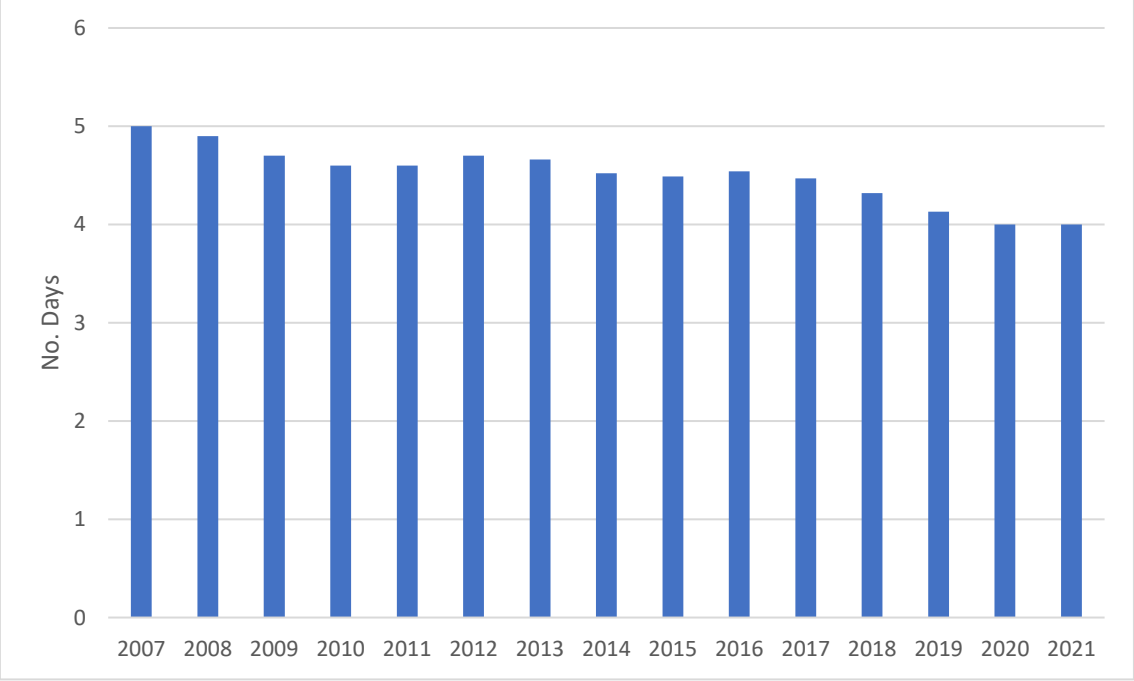
4.2.1.3 Average stay of tourists

This indicator, by relating the number of tourists with the number of overnight stays in tourist accommodation establishments, is an important instrument for analysing economic sustainability and, at the same time, monitoring tourism seasonality and environmental sustainability.

This is a composite indicator based on secondary data and is calculated as the ratio between the number of overnight stays and the number of guests that gave rise to these overnight stays. Information on this indicator is provided for the region of Algarve on an annual basis for the period 2007-2021[8] and reported in Figure 26.

The average stay in tourist accommodation has shown a slight downward movement from 5 nights in 2007 to 4 nights in 2021 *per* guest visiting the region.

Figure 26: Average stay in tourist accommodations. Algarve, 2007-2021



Source: Statistics Portugal (INE), Own calculation.

[8] The technical information on this indicator is provided in Annex A, Table A7.

4.2.1.4 Productivity of Tourism

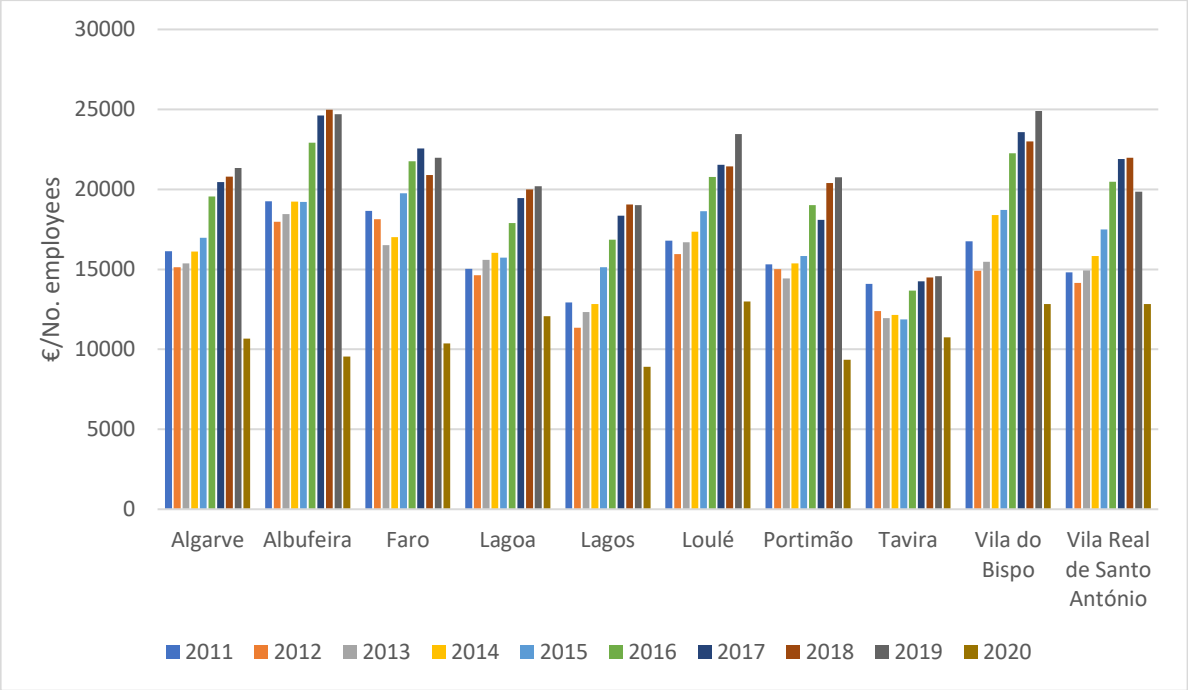
This indicator measures the productivity of the tourist sector by quantifying the relationship between GVA and employment generated in the sectors of accommodation, food and beverage services, travel agencies, tour operators, reservation services and related activities, which were considered representative of the tourism sector in the region. The choice of GVA-based productivity measures reflects the ability of these sectors to convert primary input uses, such as capital and labour, in income. [9]

The information on this indicator for the aforementioned sectors is provided for the region of Algarve and for each municipality, on an annual basis, for the period 2011-2020 and is reported in Figures 27 and 28.

The average productivity in the Algarve, over the period 2011-2020, was €17,252.50. Four municipalities – Albufeira, Vila do Bispo, Faro, Loulé, and Vila Real de Santo António, in that order – reported average productivity values above the region's average. It is also possible to observe a sustained growth of the municipalities' productivity levels, except for the year 2020 which was expected due to the pandemic of COVID-19.

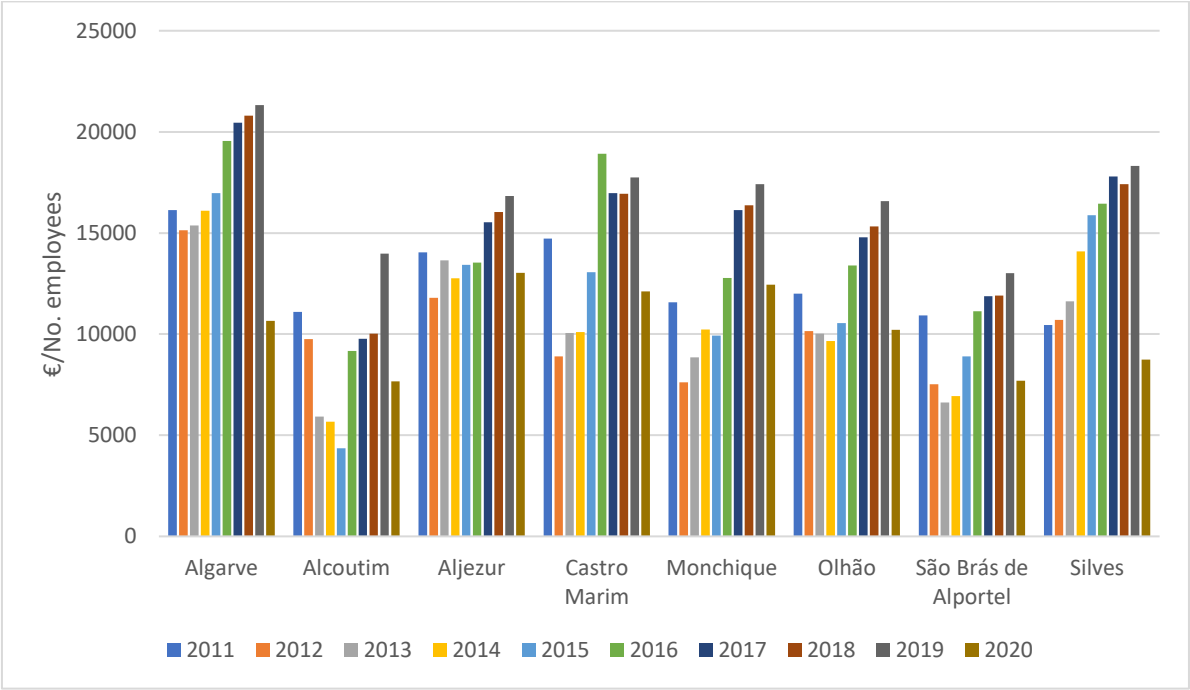
[9] The technical information on this indicator is provided in Annex A, Table A8.

Figure 27: Productivity of accommodation, food and beverage sectors & travel agencies, tour operators, reservation services and related activities. Algarve and municipalities, 2011-2020



Source: Statistics Portugal (INE), Own calculation.

Figure 28: Productivity of accommodation, food and beverage sectors & travel agencies, tour operators, reservation services and related activities. Algarve and municipalities, 2011-2020 (continuation)



Source: Statistics Portugal (INE), Own calculation.

Moreover, as illustrated in Figures 23 and 24, Albufeira, Faro and Loulé were the municipalities with the highest productivity in 2011. However, in 2020, due to the decrease of the gross value added in Albufeira and Faro, Alzejur, Loulé and Vila Real de Santo António became the municipalities with the higher levels of productivity.

Figure 29: Comparison between municipalities' productivity in food and beverage sectors & travel agencies, tour operators, reservation services and agencies, tour operators, reservation services and related activities in 2011.

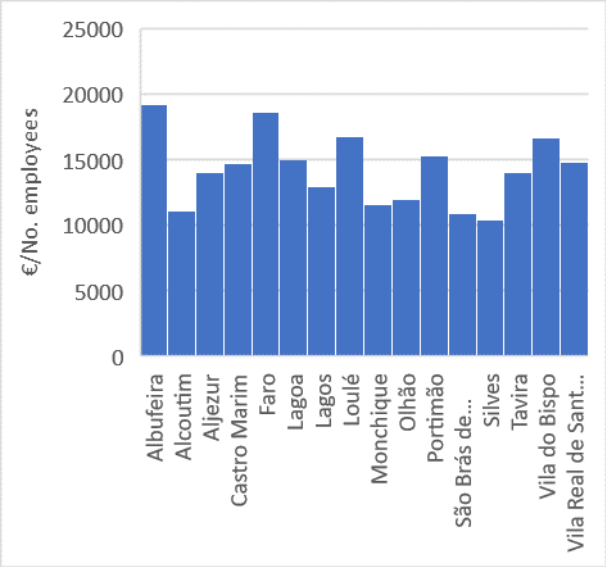
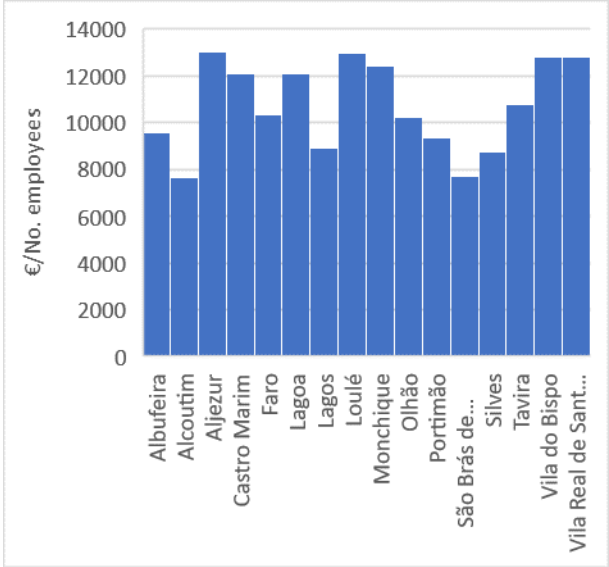


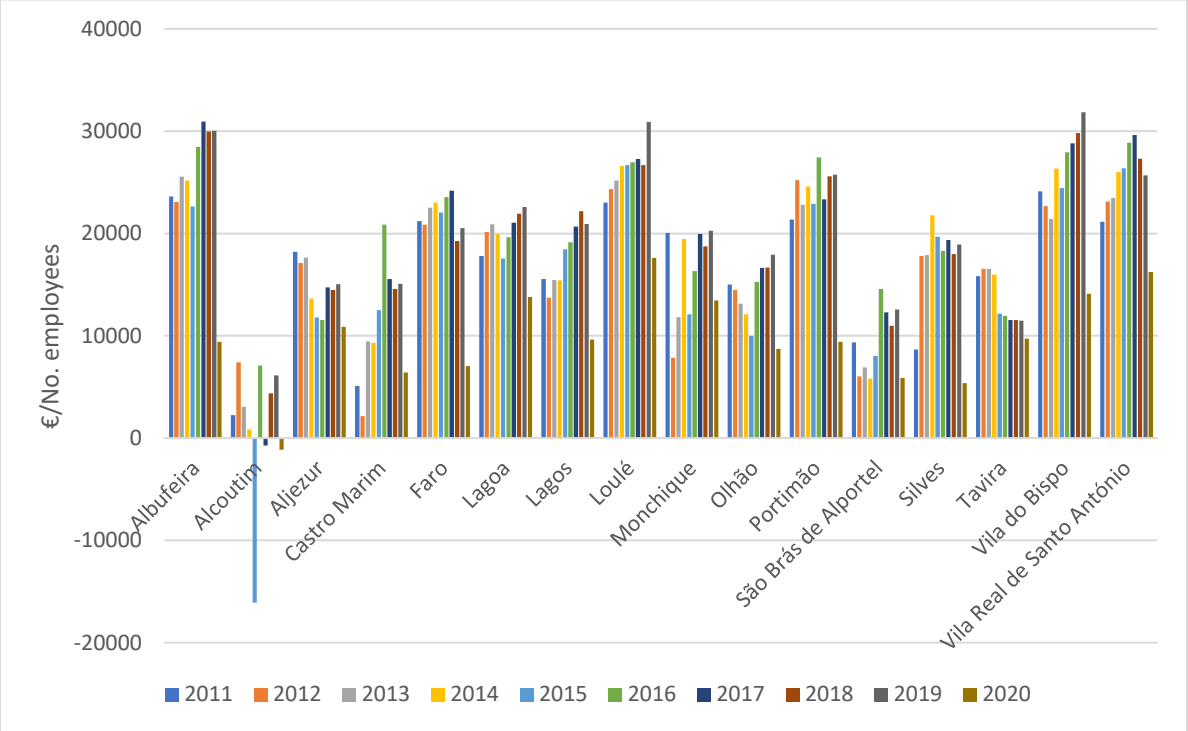
Figure 30: Comparison between municipalities' productivity in food and beverage sectors & travel agencies, tour operators, reservation services and agencies, tour operators, reservation services and related activities in 2020.



Source: Statistics Portugal (INE); Own elaboration.

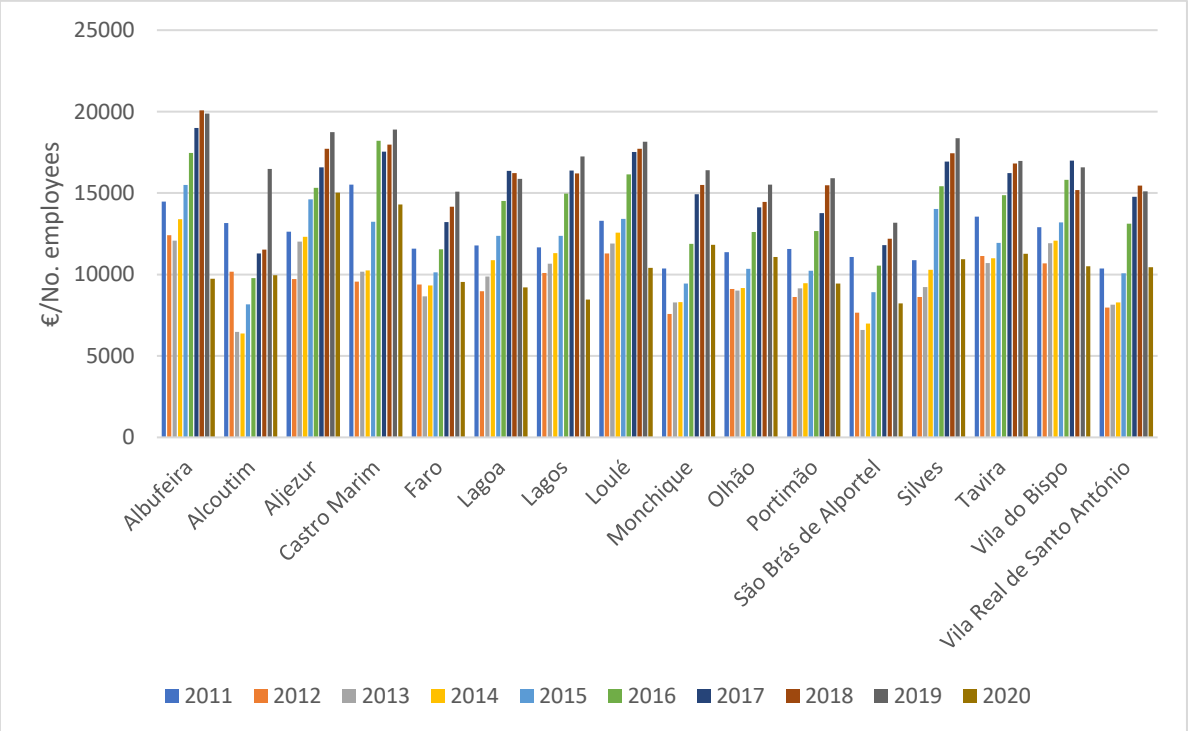
The municipalities with the highest average productivity in the accommodation sector, as illustrated in Figure 31, are Loulé, Vila do Bispo, Albufeira, Vila Real de Santo António and Portimão, in that order, all of them with average values above €22,000. The municipalities of Albufeira, Castro Marim, Aljezur, Loulé and Vila do Bispo are also among those with the highest average values of productivity in the food and beverage sector as all of them show average values above €13,000 (Figure 32). The outlook changes if one focuses at the productivity of travel agencies, tour operators, reservation services and related activities, mostly based in Faro, Portimão and Olhão, which have a greater number of industry and services in general (Figure 33).

Figure 31: Productivity in the accommodation sector. Algarve municipalities, 2011-2020



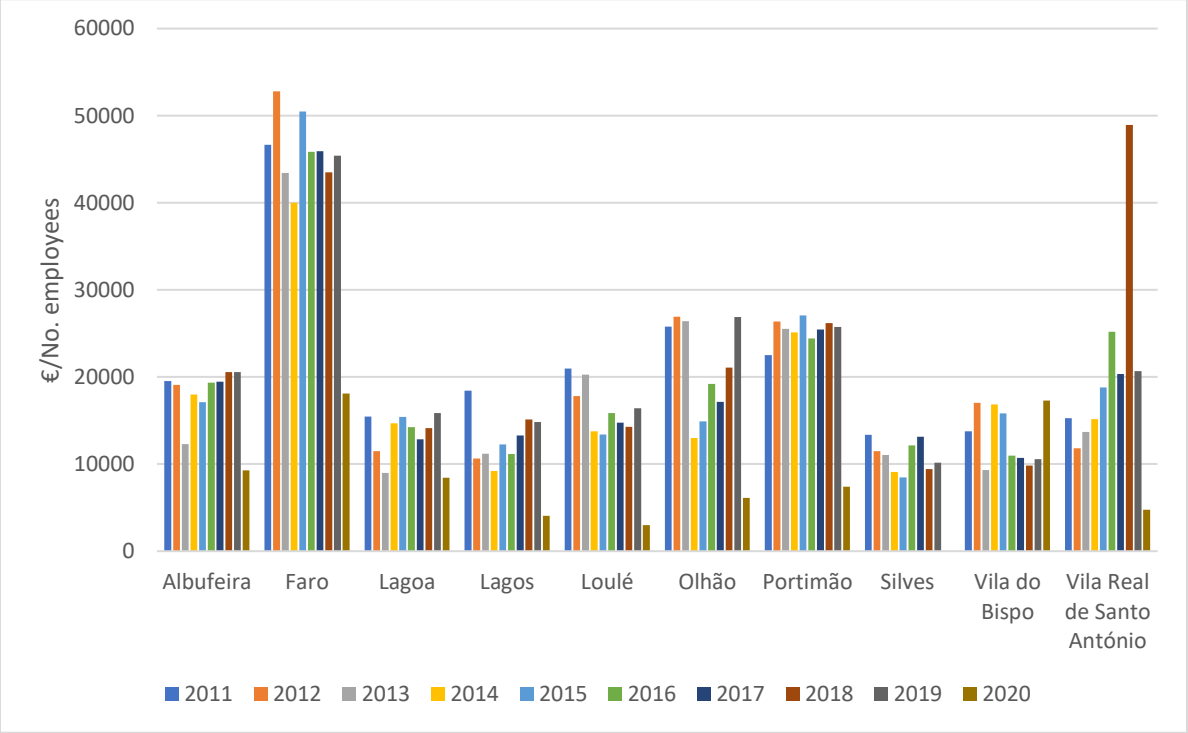
Source: Statistics Portugal (INE); Own elaboration.

Figure 32: Productivity in the food and beverage sector. Algarve municipalities, 2010-2019



Source: Statistics Portugal (INE); Own elaboration.

Figure 33: Productivity in travel agencies, tour operator, reservation services and related activities. Algarve municipalities, 2011-2020



Source: Statistics Portugal (INE); Own elaboration.

4.2.2 Employment

Employment is another area of economic sustainability, as proposed by the World Tourism Organization (UNWTO, 2004), since tourism can be understood as a set of productive activities that serve mainly visitors. As such, tourism is an important source of job creation.

The indicators related to employment here considered are the direct employment in tourism as a percentage of total employment in the region, and the seasonal employment as a percentage of direct employment in tourism in the region.

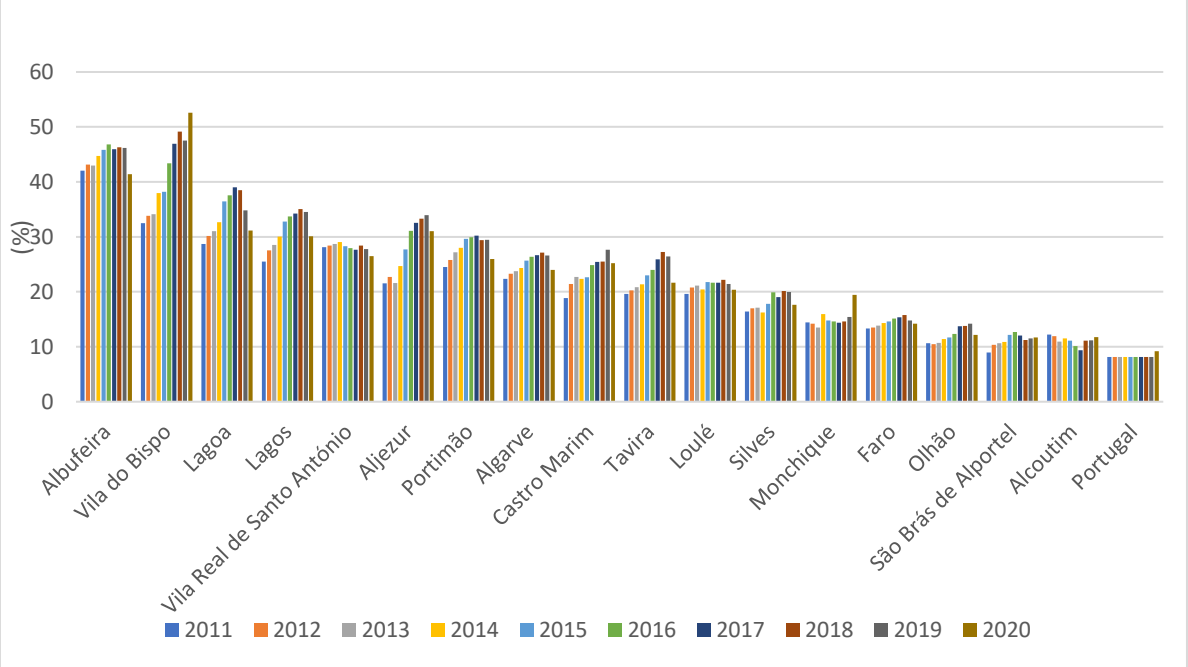
4.2.2.1 Direct employment in tourism as a percentage of total employment in the region

This indicator allows us to understand the relative importance of the tourism sector in terms of job creation in the region. Once again, the set of sectors of accommodation and food service activities has been considered to represent the tourism sector.

The information on this indicator is provided for the region of Algarve and at the municipality level on an annual basis for the period 2011-2020[10].

Data on this indicator at the regional and municipality levels are reported in Figure 34, which illustrates the significant dependency of employment in the Algarve on tourism activity when compared to the corresponding national figures. On average, for the period 2011-2020, direct employment in tourism in the country was 8.2% of the total employment, while for the region this value was 25%. This is quite illustrative of the relevance of the tourism activity in the region. High differences are also identified at the municipality level, the municipality of Albufeira, with a share of 45% approximately, and Vila do Bispo, Lagoa and Lagos all with values above 30%.

Figure 34: Direct employment in tourism as a percentage of total employment. Portugal and Algarve municipalities, 2011-2020



Source: Statistics Portugal (INE); Own calculation.

[10] The technical information on this indicator is provided in Annex A, Table A9.

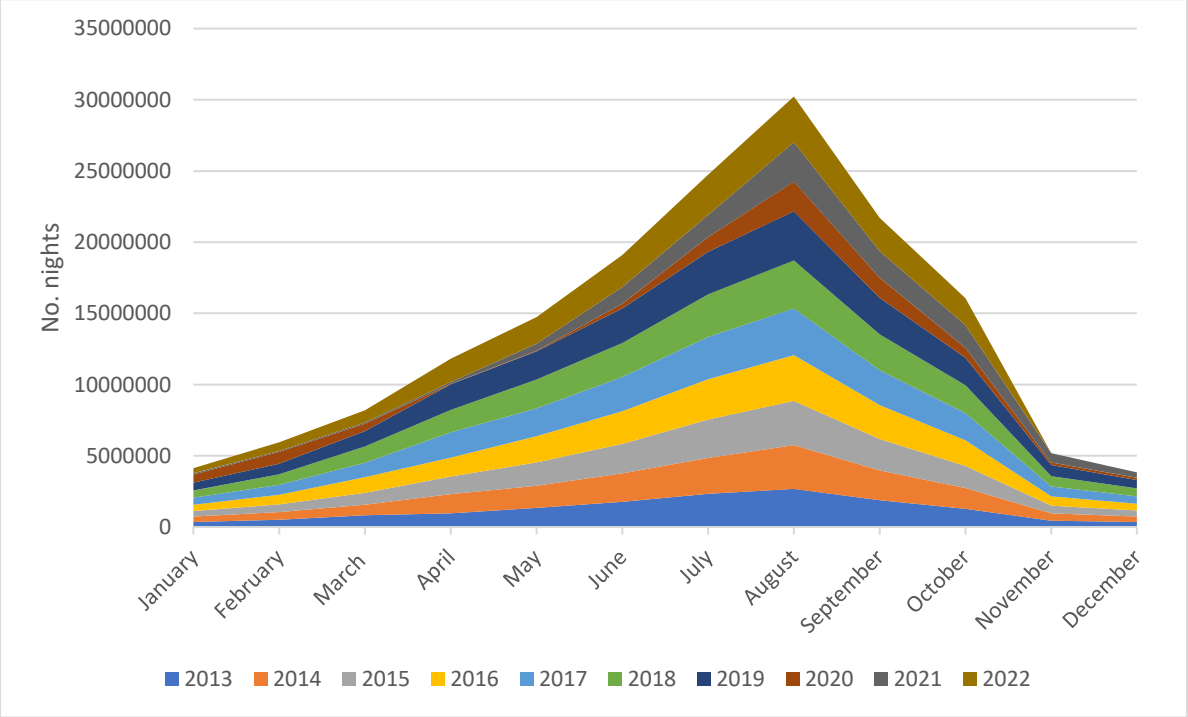
4.2.3 Seasonality

In order to analyse seasonality in the tourism activity in the region, the indicators used are the number of overnight stays by tourists, per month, and the seasonality rate.

4.2.3.1 Number of nights spent in the region by tourists, per month

The information on this indicator is provided for the region of Algarve on an annual basis from 2013-2022[11]. Figure 35 illustrates the high levels of seasonality that characterize the tourist activity in the Algarve. Most of the nights spent by tourists in the region are concentrated in the peak season, which is defined as the period ranging from June to September.

Figure 35: Number of nights in Tourist Accommodation establishments, per month. Algarve, 2013-2022

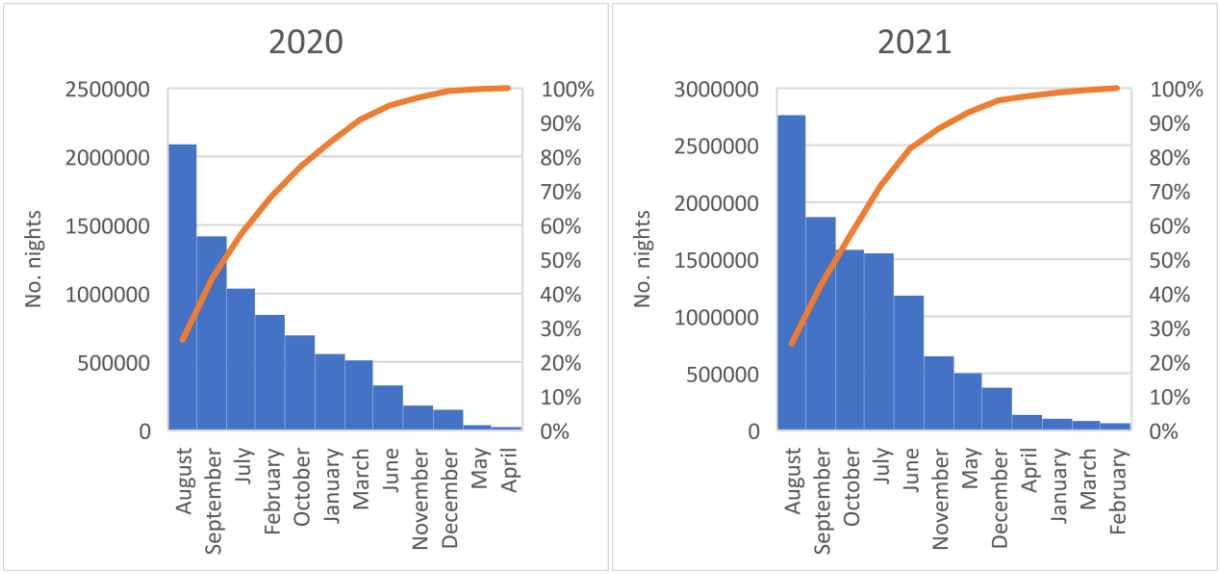


Source: Tourism of Portugal; Own elaboration.

[11] The technical information on this indicator is provided in Annex A, Table A10. 2021 data until September.

In 2020, the pandemic year, about 60% of the nights spent by tourists in the region were concentrated from July to September, as shown in Figure 36. In 2021, the percentage increased to around 70% from July to October. In the same Figure, a comparison is made between the years 2020 and 2021: the number of nights increased in the first post-pandemic year with a roughly half a million nights in August. In addition, the order of the months has changed from 2020 to 2021, which is due to the travel restrictions imposed the pandemic.

Figure 36: Number and monthly share of nights in tourist accommodation establishments. Algarve, 2020 vs 2021



Source: Tourism of Portugal; Own elaboration.

4.2.3.2 Seasonality Rate

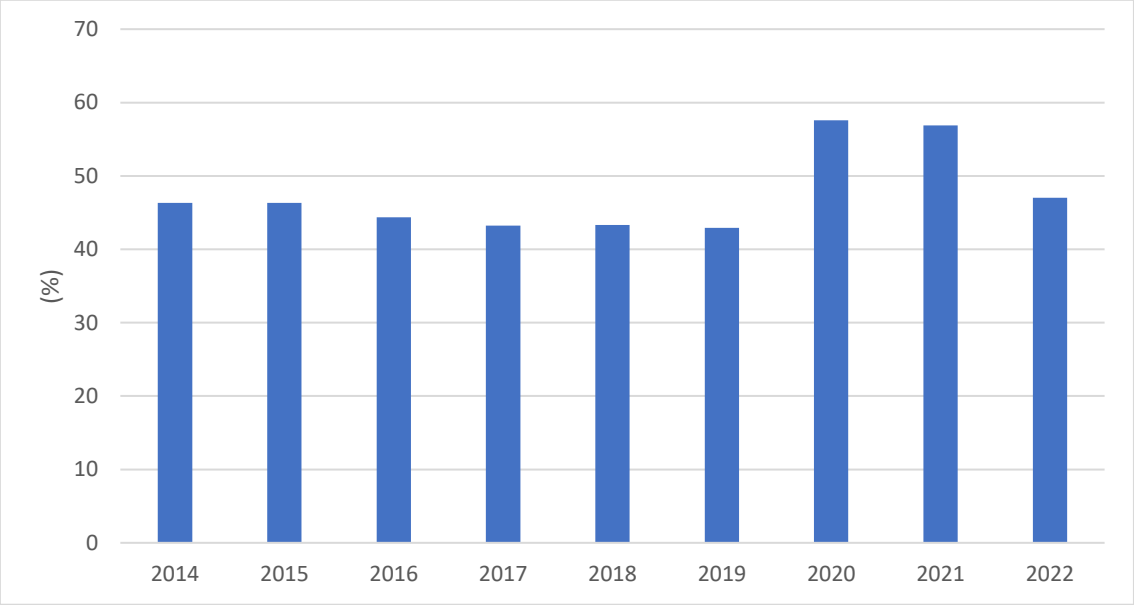
This indicator relates the number of overnight stays that tourists spend in accommodation establishments in the region in just three months of the annual cycle (July; August and September), which defines the high season in each year, with the total number of overnight stays spent by tourists in the entire year.

This is a composite indicator based on secondary data, and it is calculated for the whole region on an annual basis for the period 2014-2022[12].

[12] The technical information on this indicator is provided in Annex A, Table A11.

The evolution of this indicator is described in Figure 37, where it is possible to observe that the percentage of overnight stays spent by tourists in the region during the months of July, August and September decreased by more than three percent in the three years prior to the emergence of the COVID-19 disease. Yet, as noted above, mobility restrictions have conditioned 2020 values, increasing the Seasonality Rate to 57.6%. Additionally, in the post-pandemic years, the seasonality rates decreased again from 57.6% in 2020 to 47% in 2022, just 0.7% above 2014.

Figure 37: Seasonality Rate. Algarve, 2014-2022



Source: Tourism of Portugal; Own calculation.

4.3 Environmental sustainability

Tourism and environment are inter-linked. The environment of a tourist destination, its socio-cultural attributes and resources constitute the basic background for the evolution, growth and development of tourism in the destination area. Increasing tourism activities in a destination often results in overuse and degradation of the natural environment and other resources of tourism, which will eventually lead to a decline in the growth of tourism and loss of tourism value for the destination.

Sustained tourism in a destination depends on the carrying capacity, resilience of the host/destination environment, intensity of tourist activity and sociological attributes of the host society. Hence, the goal of environmental sustainability is to preserve natural resources and to develop alternative sources of power while reducing pollution and harm to the environment. According to the World Tourism Organization, tourism development that meets the needs of present tourists and host regions while protecting and enhancing the tourism opportunities for future generations is sustainable tourism. It respects the fragile environmental balance that characterizes many touristic destinations. Hence, it implies management of all resources in such a way that economic, sociocultural, and aesthetic needs can be fulfilled, while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems. Longevity and sustenance of tourism needs special considerations regarding the sustenance of the host environment. It is based on a long-term perspective (UNWTO, 1998).

For monitoring purposes, environmental sustainability is measured through natural resources management, such as energy and water, waste management, mobility and air quality and noise.

4.3.1 Energy management

To analyse energy management in the region, the indicator used is the percentage of tourist companies taking measures to reduce energy consumption. Since there is no

updated information regarding this indicator, the available data is present in the 2021 report.

4.3.2 Water management

Water is a scarce and finite resource, which is often taken for granted. Population has increased over the last decades, resulting in a stronger pressure on the already scarce water resources. Urbanization has also changed the agrarian nature of many areas. The population expansion and the search for strong economic growth are placing new demands on available water supplies. The temporal and spatial distribution of water is also a major challenge with groundwater resources often overdrawn. For such reasons, reducing, recycling and reusing water is crucial for sustainability.

The monitoring of water consumption that companies make in the context of their operations, and the comparison of this consumption with the consumption made by residents, highlights both the importance of the tourism sector in the use of this resource and the need for preservation measures where and whenever necessary. Likewise, monitoring the involvement of companies in the sector in the rational use of water and in conservation activities helps to assess the success of water conservation initiatives that will result in cost savings for companies. In addition, the use of recycled water to be used in garden irrigation is an effective strategy for reducing water consumption.

The implementation of a policy of optimization of water consumption in a hotel establishment implies that it has developed a policy of quality and environmental management, based on objectives and processes to achieve commitments related to quality and the preservation of the environment. It also implies taking regular actions to improve its performance, in addition to reflecting the level of involvement of establishments in environmental preservation.

The higher the percentage of hotel establishments carrying out policies for optimizing water consumption, the greater the concern shown with environmental preservation and the consequent sustainability of tourism.

The indicator used to monitor the water management (percentage of tourist companies that optimize water consumption) has no updated values, and therefore is present in the previous report.

4.3.3 Mobility

People and goods' mobility are intrinsically associated to economic growth, as it is a necessary condition for economic activity. As the main economic activity in the Algarve, tourism involves the movement of people and goods, which exerts pressure over the territory, which in turn lead to necessity of monitoring.

The indicators used to monitor mobility are the movement of passengers on inland waterways, the number of passengers embarked and disembarked from cruise ships at the Port of Portimão and the number of passengers boarded and disembarked at Faro Airport**.**

4.3.3.1 Movement of Passengers on Inland Waterways

This indicator measures the number of passengers moving on inland waterways. Inland waterway is the regular service performed by public transport, obeying itineraries, schedules or minimum frequencies and pre-fixed rates.

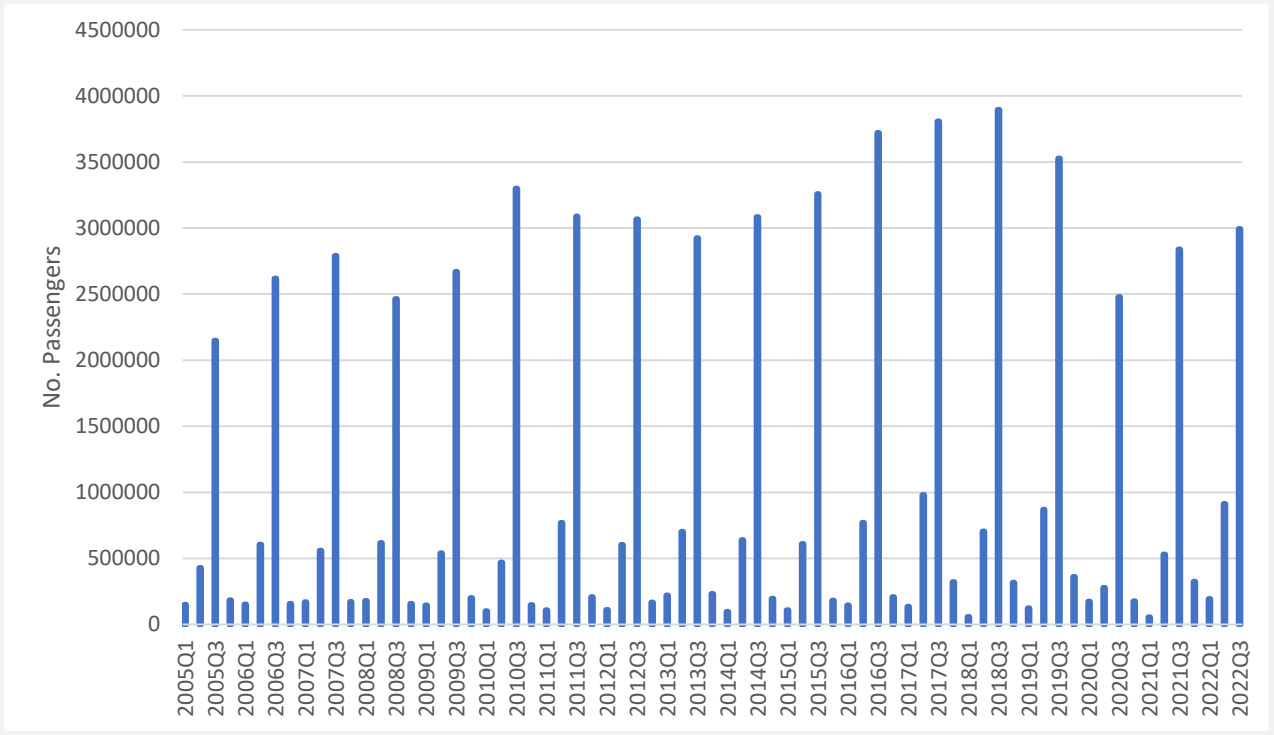
At the regional level, beaches considered for this indicator are Ria Formosa (Faro - Faro island, Deserta Island and Farol island; Olhão - Culatra Island and Armona island; Tavira - Tavira island, Quatro Águas –Tavira island; Fuzeta –Armona island; Sta. Luzia - Terra Estreita; Cabanas – Cabanas island) and beaches located by the Guadiana River (Vila Real de Santo António in Portugal and the beach of Ayamonte, in Spain).

Figure 38 reports quarterly data of the total movement of passengers on the above inland waterways for the period between 2005 and 2022[13]. A seasonal pattern can be readily noticed from the inspection of the Figure 38. Moreover, it is also clear the

[13] The technical information on this indicator is provided in Annex A, Table A12.

increasing trend of the number of passengers in the 3rd quarters, which corresponds to the peak tourist season, as well as a progressive increase of passenger movement, with the exception of 2020 due to the COVID-19 pandemic. This changes again in 2021 and 2022, where an increased is registered again.

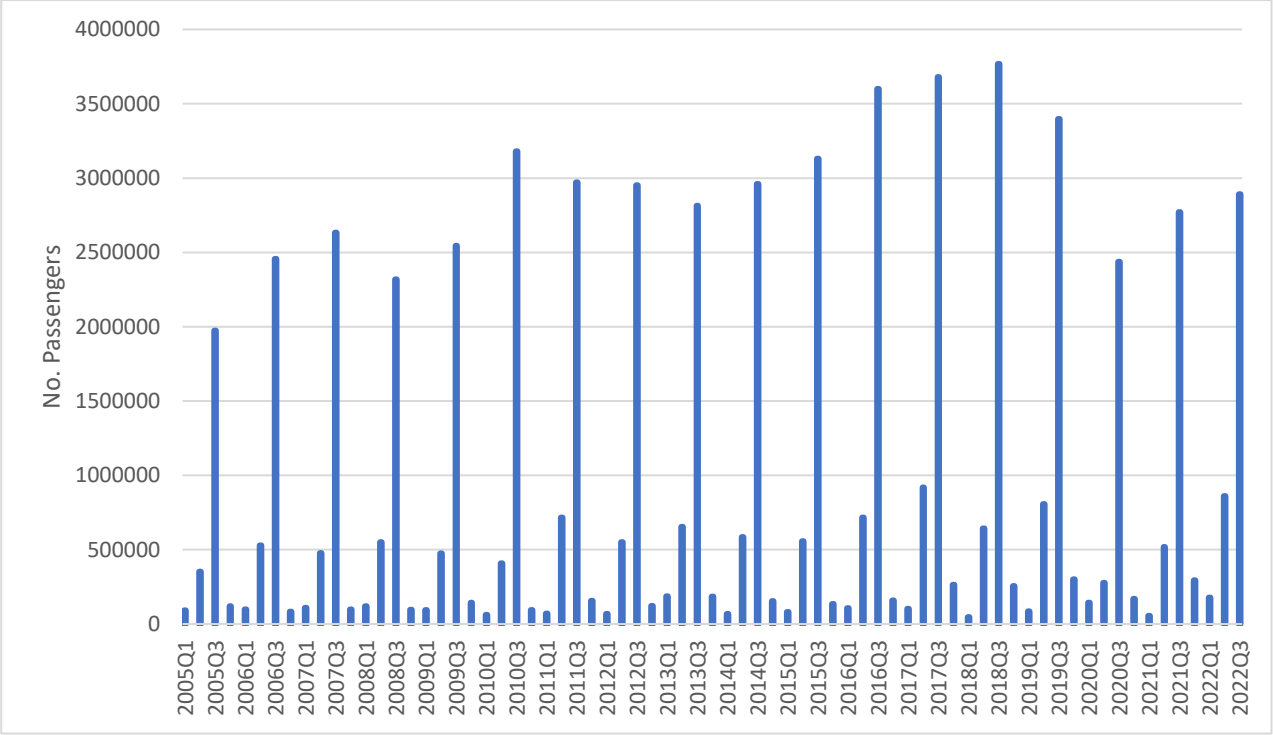
Figure 38: Total movement of passengers on inland waterways. Algarve, Quarterly, 2005-2022 (Q3)



Source: Observe; Own elaboration.

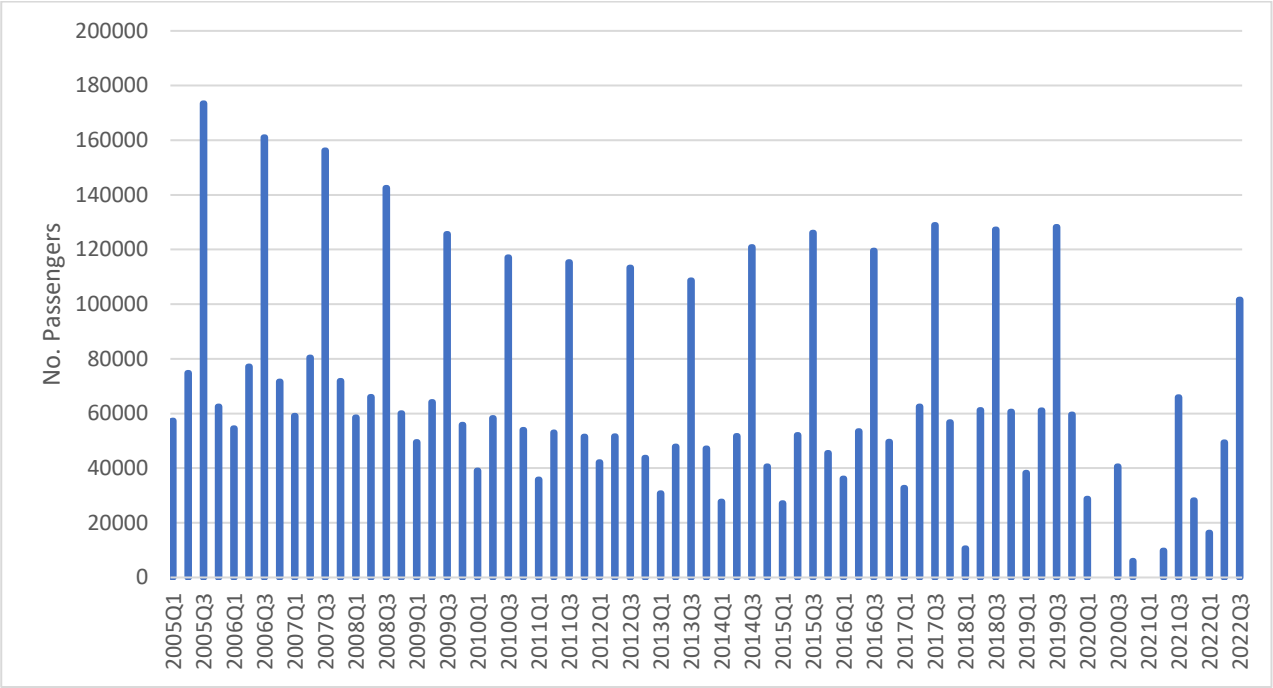
The previous aggregate analysis covers an unbalanced distribution of the passenger's traffic between the Ria Formosa and the Guadiana River. The disaggregated analysis is illustrated in Figures 39 and 40, where it is detected the greater pressure on the Ria Formosa and the surrounding beaches. Besides the seasonal pattern that is shared by both, it is detectable a pronounced increasing trend in peak tourist season in the Ria Formosa, which contrasts with the decreasing trend in the Guadiana River. This is quite informative about the high pressure that the Ria Formosa, which is also a designated Natural Park of over 170 square kilometres.

Figure 39: Movement of passengers on inland waterways. Algarve – Ria Formosa, Quarterly, 2005-2022 (Q3)



Source: Observe; Own elaboration.

Figure 40: Movement of passengers on inland waterways. Algarve – Guadiana River, Quarterly, 2005-2022 (Q3)



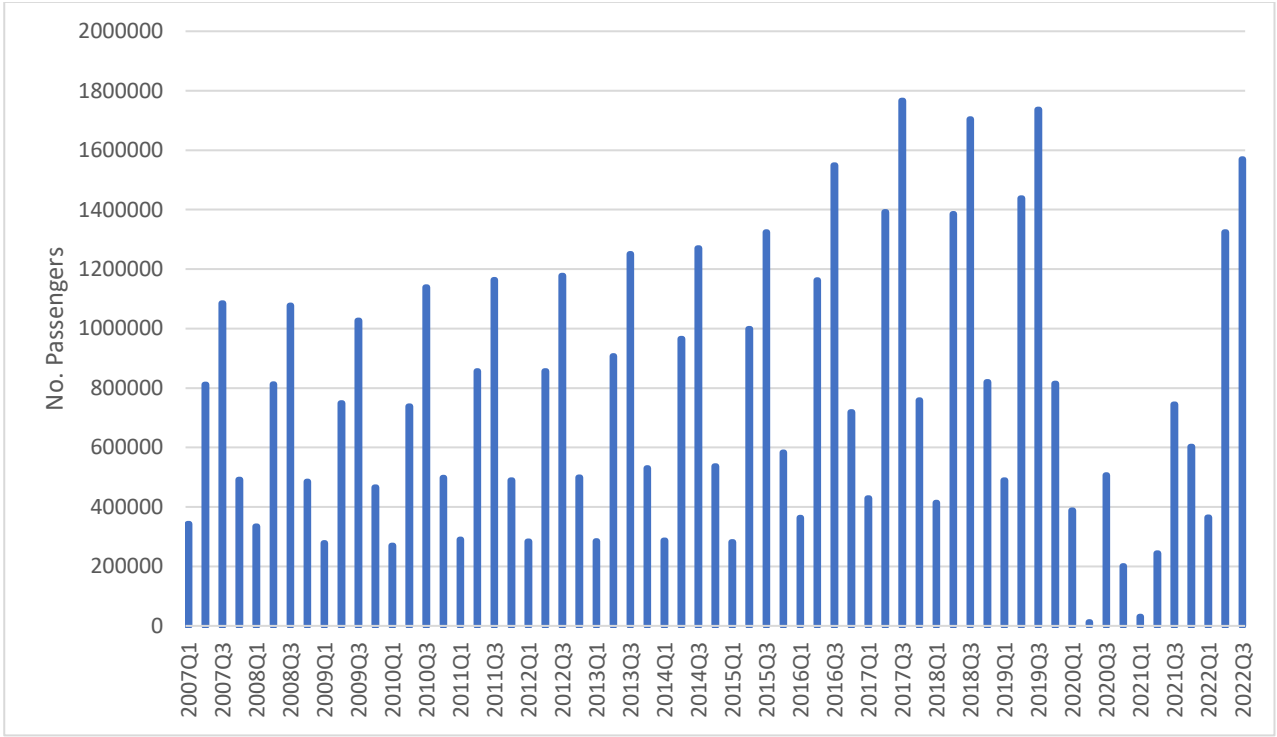
Source: Observe; Own elaboration.

4.3.3.2 Number of passengers boarded and disembarked at Faro Airport

This indicator provides the number of passengers embarked and disembarked at Faro Airport, covering the nature of the traffic (inland, territorial and international) and reported in Figures 41 and 42[14].

The patterns are similar in boarded and disembarked figures. There is a visible increase in volume of travellers over the years, especially the years 2017 to 2019, with the pressure being highest in the third quarters, this confirming once again the strong seasonality of the tourist activity. The pressure expectedly decreases in the year 2020 and rises again in 2021 and 2022, reaching numbers similar to the ones of 2016 in the same quarter.

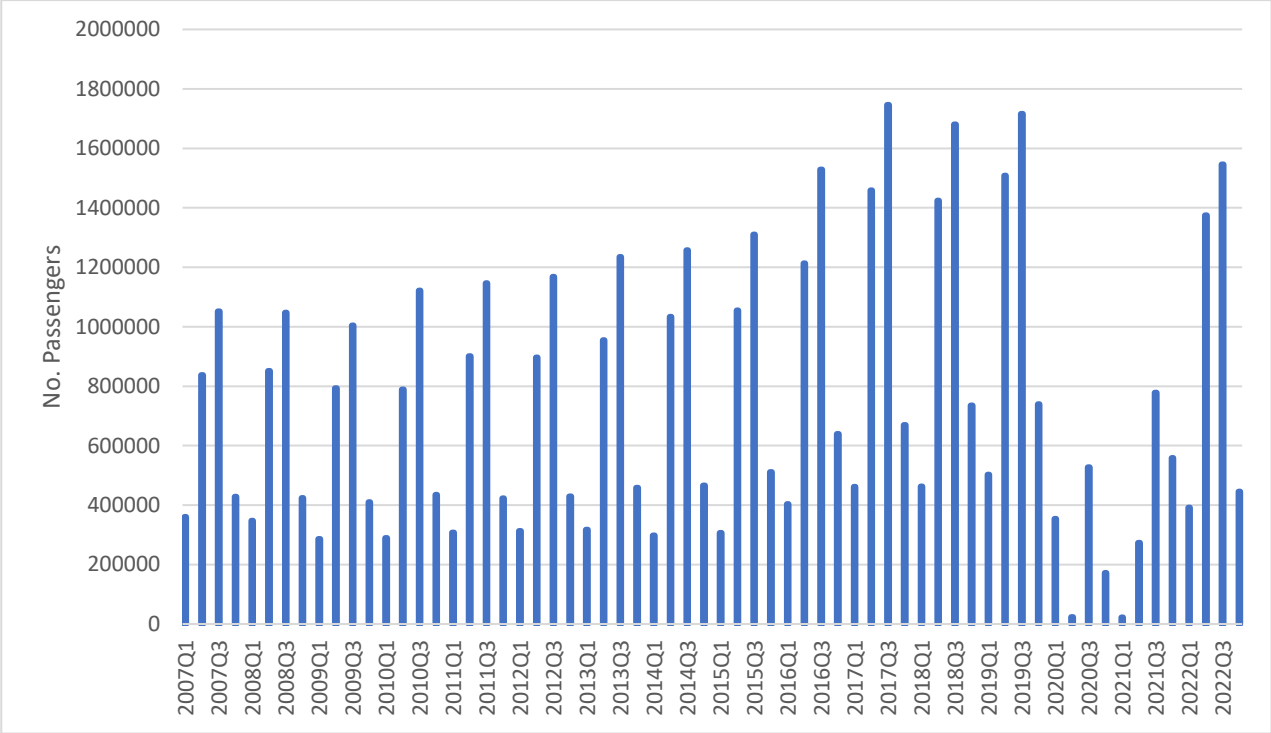
Figure 41: Number of passengers Boarded at Faro Airport. Algarve-Faro, Quarterly, 2007-2022 (Q3)



Source: Observe; Own elaboration.

[14] The technical information on this indicator is provided in Annex A, Table A13.

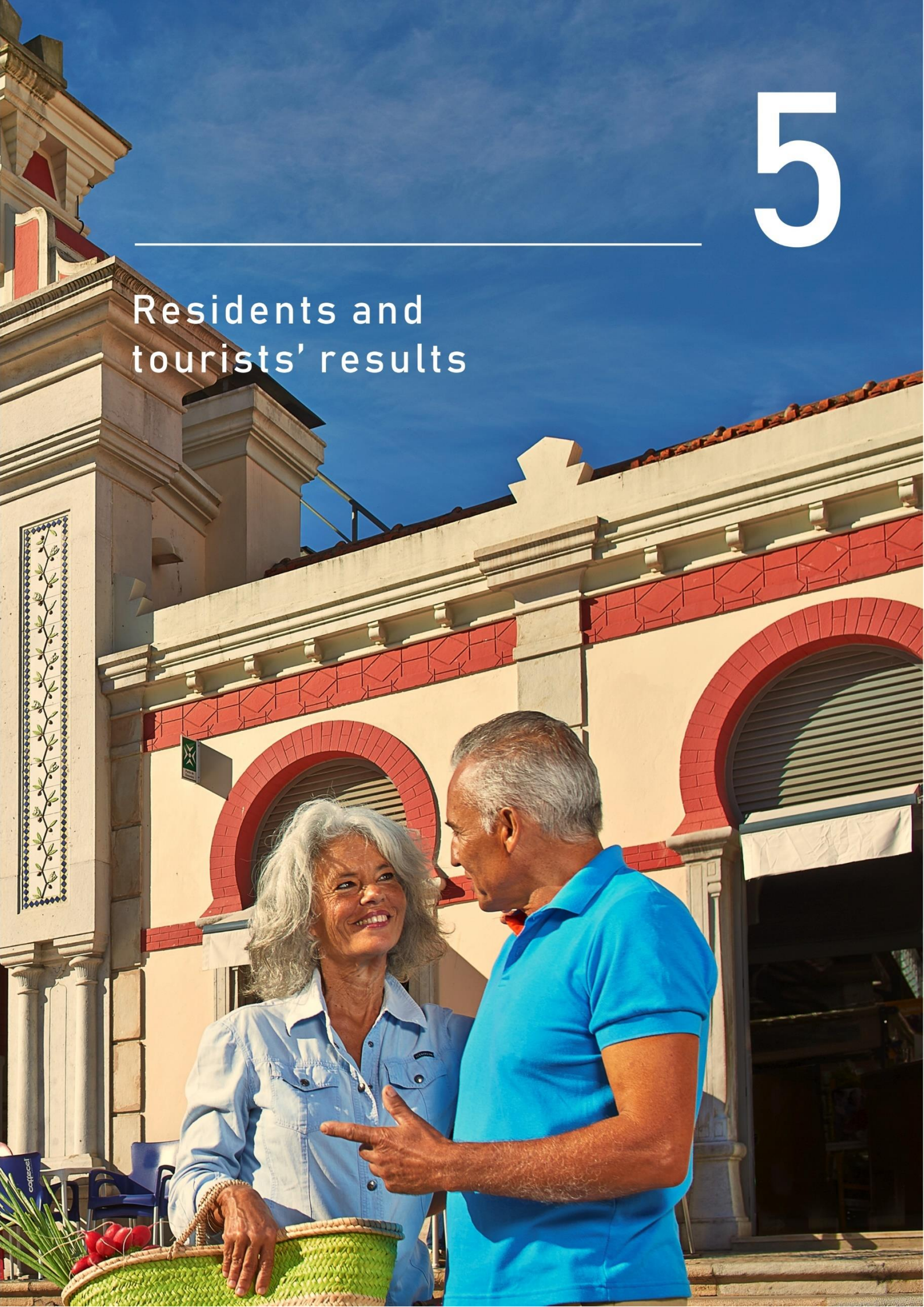
Figure 42: Number of passengers disembarked at Faro Airport. Algarve-Faro, Quarterly, 2007-2022 (Q3)



Source: Observe; Own elaboration.

5

Residents and tourists' results



5. Residents and tourists' results

5.1. Residents' Results

During the high season of 2022, 990 questionnaires to residents in the 16 municipalities of the Algarve region were collected and validated. The sample was stratified based on municipality of residence, gender and age group based on the number of inhabitants in the region in 2018, which was 438,864 (INE, 2019). The sample size was calculated for a 95.0% confidence level and a margin of error of 3.0%. The statistical analysis was conducted with a significance level of 5.0%.

5.1.1 Sample Characterization

Most of the respondents are female (57.1%) and aged between 25 to 64 years old (78.1%). The majority is married/is living together (48.2%) or is single (37.0%). Most of them have the high school level (50.1%) or a university degree (33.3%) and are employed (71.5%) (Table 16).

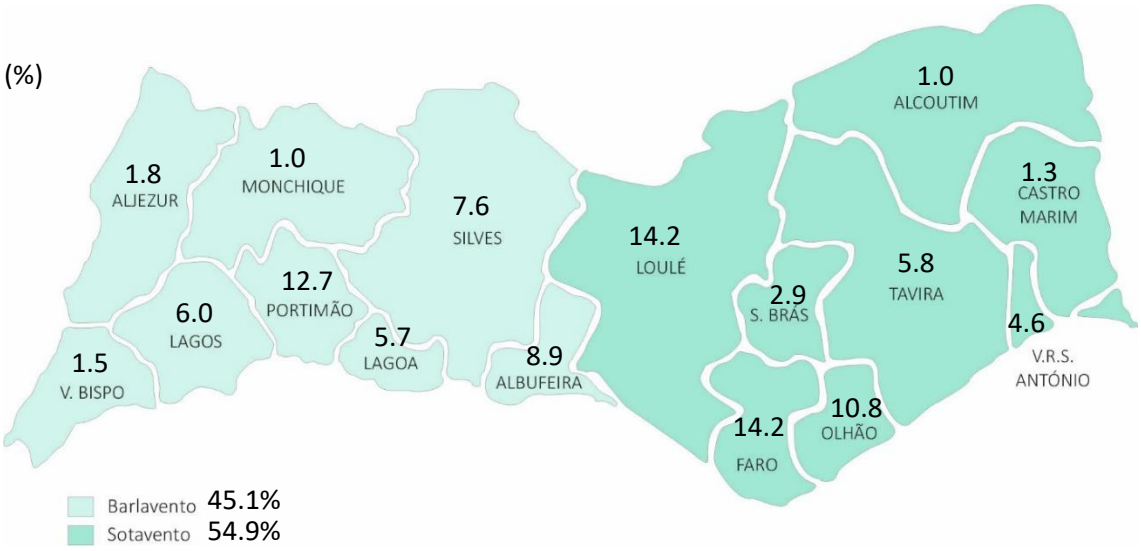
Most of the respondents live in the Sotavento area (54.9%), namely in the municipalities of Faro (14.2%) and Loulé (14.2%). The other part of the respondents lives in the Barlavento area (45.1%), specifically in Portimão (12.7%) and Albufeira (8.9%) (Figure 43), according to residents' distribution in the Algarve. The majority of residents live in the Algarve for a long-term period (16 or more years) (69.7%) and few residents live in the region for a short-term period (until 3 years) (Figure 46). The average time of residence in the Algarve is 26.8 years, with a minimum of 1 year and a maximum of 75 years (Figure 44).

Table 16: Sample Characteristics

Characteristic	N	(%)
Gender		
Male	424	42.8
Female	565	57.1
Other	1	0.1
Age Group		
18-24 years	120	12.1
25-64 years	773	78.1
65 and more	97	9.8
Marital Status		
Single	366	37.0
Married/Living Together	477	48.2
Divorced/Separated	106	10.7
Widowed	25	2.5
DK/DA	16	1.6
Education Level		
Primary School	147	14.8
High School	495	50.1
University	330	33.3
DK/DA	18	1.8
Employment Situation		
Employed	707	71.5
Entrepreneur	155	15.7
Unemployed	9	0.9
Student	46	4.6
Retired	24	2.4
Homemaker	3	0.3
DK/DA	46	4.6
Net Monthly Income		
Until 705€	209	21.1
706€-1000€	434	43.9
1001€-1500€	174	17.6
1501€-2000€	37	3.7
2001€ or more	24	2.4
DK/DA	112	11.3

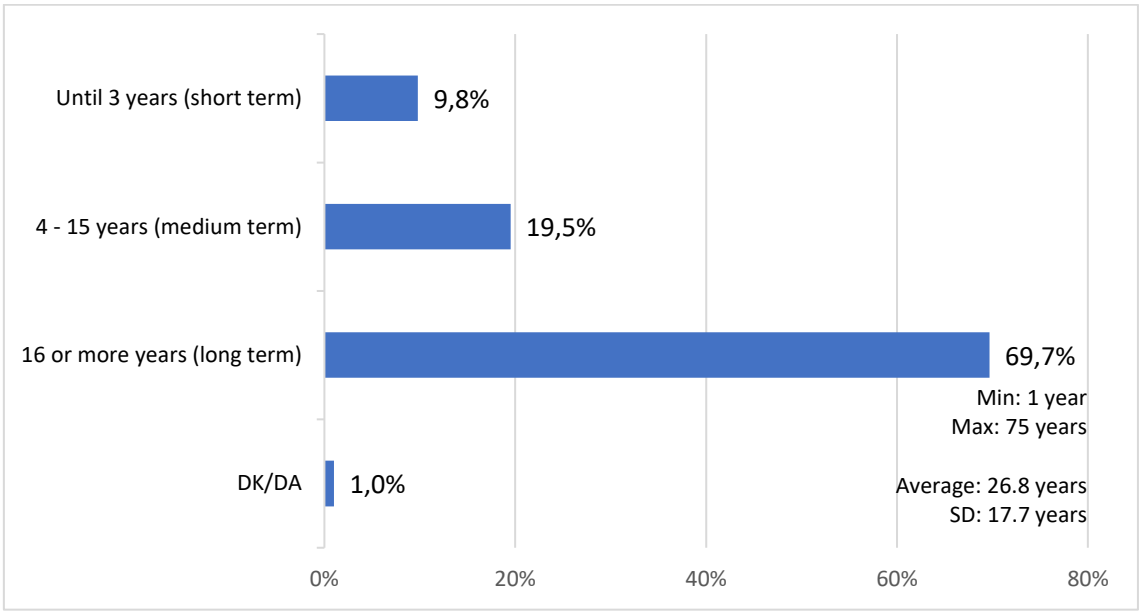
Source: Own elaboration.

Figure 43: Percentage of Respondents across Municipalities



Source: Own elaboration.

Figure 44: Residence Time in the Algarve



Source: Own elaboration.

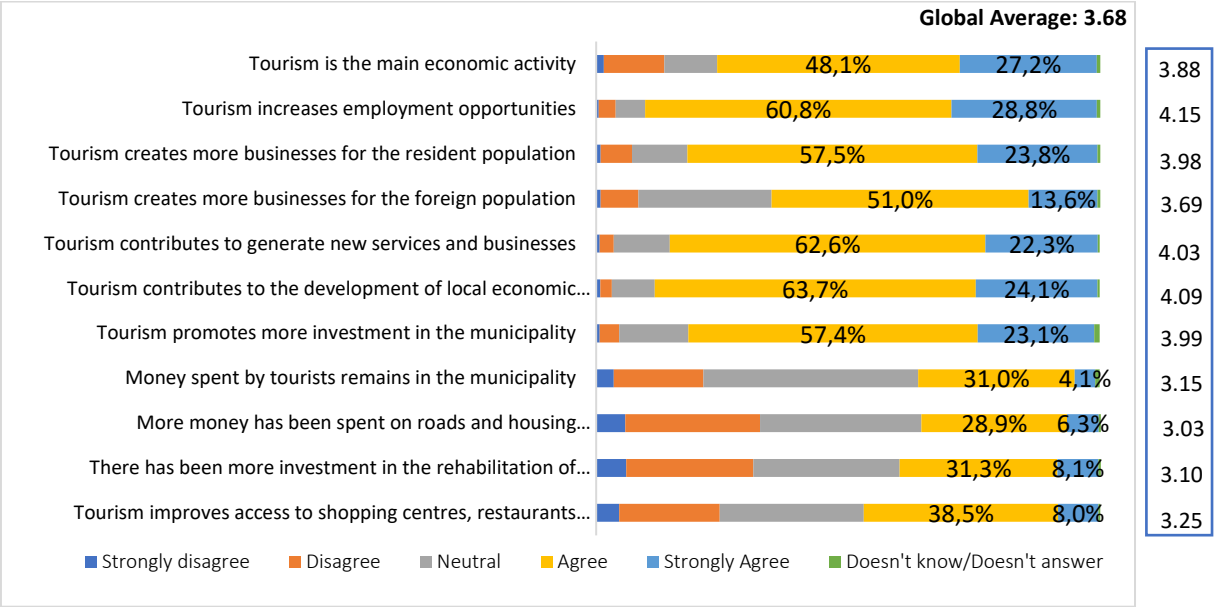
5.1.2 Residents' Perceptions of Tourism Impacts

One of the dimensions analysed in this study is residents' perceptions of positive and negative impacts of tourism in the economic, sociocultural and environmental areas.

5.1.2.1 Perceptions of the Economic Impacts of Tourism

Concerning the economic impacts of tourism, residents perceive different positive and negative aspects. With regard to the positive aspects, they believe that tourism increases employment opportunities (average = 4.15), contributes to the development of local economic activities (average = 4.09) and generates new services and businesses (average = 4.03) (Figure 45). However, residents are more disbelieving concerning the money that has been spent on roads and housing developments due to tourism (average = 3.03). The global average attributed to the positive economic impacts of tourism is 3.68.

Figure 45: Perceived Positive Economic Impacts

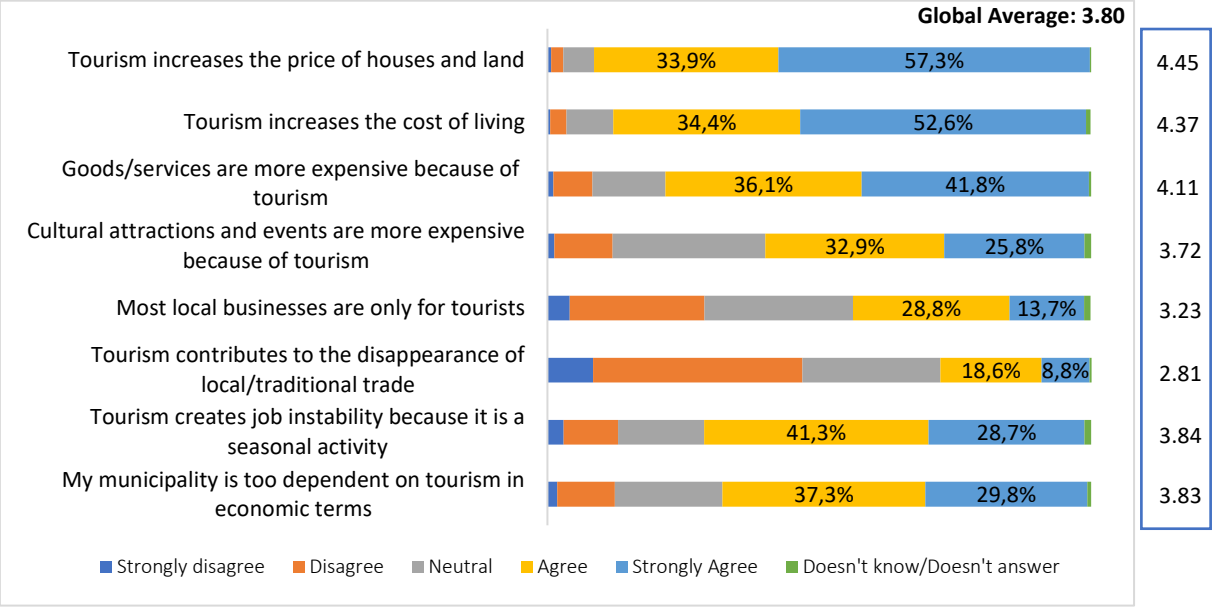


Source: Own elaboration.

With regard to the negative economic impacts, residents believe that tourism increases the price of houses and land (average = 4.45), increases the cost of living (average = 4.37) and creates job instability due to its seasonality feature (average = 3.84) (Figure 46). However, residents do not believe in the idea that tourism contributes to the disappearance of local/traditional trade (average = 2.81). The global average attributed to the negative economic impacts of tourism is 3.80.

Overall, residents agree more with the idea that the negative economic impacts outcomes the positive, demonstrating that the economic benefits generated by tourism do not outweigh the harm they may cause to the population in economic terms.

Figure 46: Perceived Negative Economic Impacts



Source: Own elaboration.

An analysis by sociodemographic characteristics shows that residents' perceptions of the positive economic impacts have statistically significant differences mostly according to residents' place of residence and level of education (Table 17). However, there seems to be no statistically significant difference in the answers regarding time of residence, except in the question "Tourism improves access to shopping centres, restaurants and shopping opportunities".

In the case of the negative economic impacts, results show statistically significant differences mostly according to residents' place of residence and age group (Table 18). Once again, residence time does not show statistically significant differences.

Table 17: Perceived Positive Economic Impacts, by Sociodemographic Characteristics (p-values)

	Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)	Tourism Dependency (U test)
Tourism is the main economic activity	**p<0.001**	p=0.183	**p=0.007**	**p<0.001**	**p<0.001**
Tourism increases employment opportunities	**p<0.001**	p=0.810	p=0.049	**p=0.034**	**p=0.006**
Tourism creates more businesses for the resident population	**p=0.013**	p=0.642	p=0.369	p=0.143	**p=0.039**
Tourism creates more businesses for the foreign population	**p=0.020**	p=0.809	p=0.126	**p=0.003**	p=0.981
Tourism contributes to generate new services and businesses	**p=0.016**	p=0.551	p=0.101	**p=0.031**	**p=0.028**
Tourism contributes to the development of local economic activities	**p=0.010**	p=0.491	**p=0.013**	**p=0.010**	p=0.101
Tourism promotes more investment in the municipality	p=0.900	p=0.717	**p=0.031**	**p=0.014**	p=0.632
Money spent by tourists remains in the municipality	p=0.086	p=0.681	p=0.418	p=0.230	p=0.492
More money has been spent on roads and housing developments because of tourism	p=0.974	p=0.773	p=0.397	p=0.053	p=0.312
There has been more investment in the rehabilitation of historical buildings because of tourism	**p<0.001**	p=0.666	p=0.137	p=0.081	p=0.139
Tourism improves access to shopping centres. restaurants and shopping opportunities	p=0.059	**p=0.005**	p=0.267	p=0.533	p=0.889

Note: Bold values indicate p-values below 4%. Source: Own elaboration.

Table 18: Perceived Negative Economic Impacts, by Sociodemographic Characteristics (p-values)

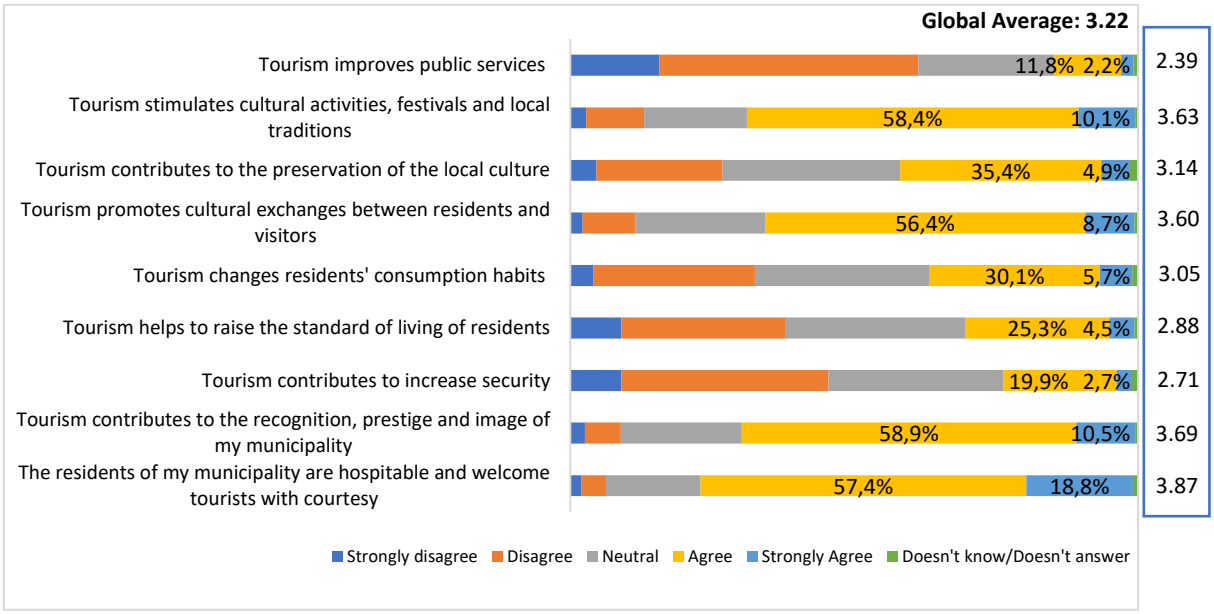
	Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)	Tourism Dependency (U test)
Tourism increases the price of houses and land	p=0.623	p=0.157	**p=0.008**	**p=0.017**	p=0.315
Tourism increases the cost of living	p=0.820	p=0.194	**p=0.003**	**p=0.013**	p=0.040
Goods/services are more expensive because of tourism	p=0.085	p=0.729	**p=0.010**	p=0.140	p=0.511
Cultural attractions and events are more expensive because of tourism	p=0.895	p=0.209	**p=0.003**	p=0.441	p=0.711
Most local businesses are only for tourists	**p=0.004**	p=0.309	p=0.334	p=0.049	**p=0.035**
Tourism contributes to the disappearance of local/traditional trade	**p=0.009**	**p=0.038**	p=0.391	p=0.947	p=0.232
Tourism creates job instability because it is a seasonal activity	**p<0.001**	p=0.246	**p=0.003**	**p<0.001**	p=0.147
My municipality is too dependent on tourism in economic terms	**p<0.001**	p=0.051	p=0.426	p=0.421	**p=0.024**

Note: Bold values indicate p-values below 4%. Source: Own elaboration.

5.1.2.2 Perceptions of the Sociocultural Impacts of Tourism

Regarding the sociocultural impacts of tourism, residents also perceive different positive and negative aspects. About the positive aspects, residents believe they are hospitable and welcome tourists with courtesy (average = 3,87), tourism contributes to the recognition, prestige and image of their municipalities (average = 3,69) and tourism stimulates cultural activities, festivals and local traditions (average = 3,63) (Figure 47). However, residents do not believe that tourism improves public services (average = 2,39), contributes to increase security (average = 2,71) and helps to raise the standard of living of residents (average = 2,88). The global average attributed to the positive sociocultural impacts of tourism is 3,22.

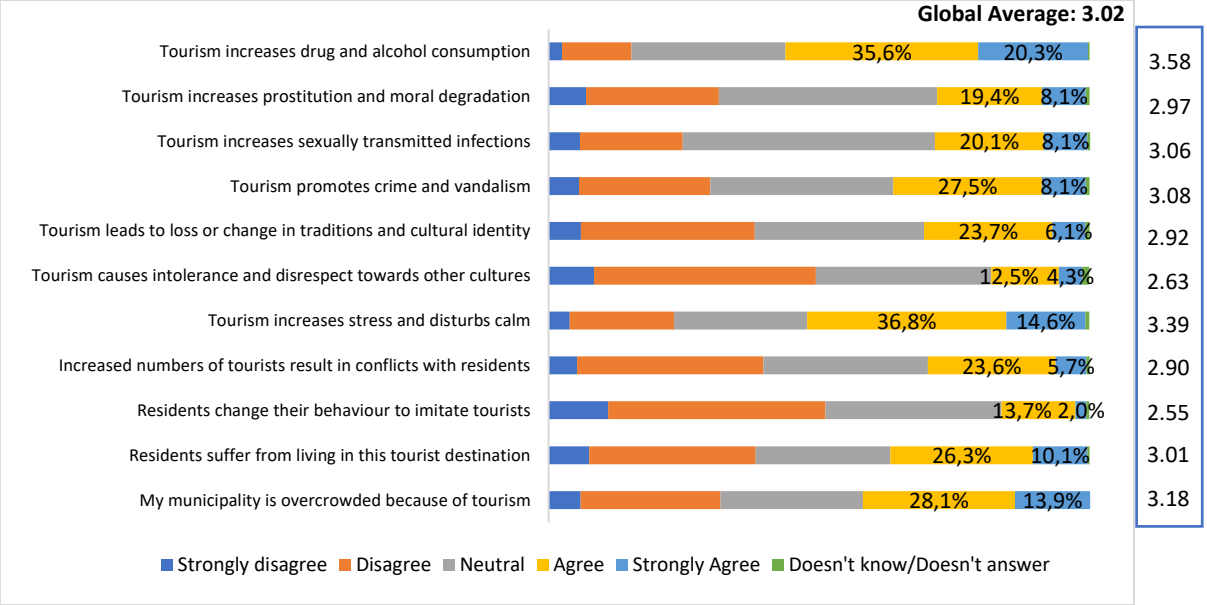
Figure 47: Perceived Positive Sociocultural Impacts



Source: Own elaboration.

Concerning the negative aspects, residents believe that tourism increases drug and alcohol consumption (average = 3.58), contributes to the increasing of stress (average = 3.39) and the municipalities ate overcrowded because of tourism (average = 3.18) (Figure 48). Nevertheless, residents do not believe that tourism contributes to change their behaviours in order to imitate tourists (average = 2.55) and causes intolerance or disrespect towards other cultures (average = 2.63). The global average attributed to the negative sociocultural impacts of tourism is 3.02. Overall, residents perceive more the positive sociocultural impacts of tourism than the negative ones, which means a recognition of the advantages of interacting with different cultures.

Figure 48: Perceived Negative Sociocultural Impacts



Source: Own elaboration.

An analysis by sociodemographic characteristics shows that the perception of the positive sociocultural impacts has statistically significant differences mostly according to residents' level of education and dependency in the tourism sector (Table 19).

In the case of the negative sociocultural impacts, results show statistically significant differences mostly according to the area of residence (Table 20).

Table 19: Perceived Positive Sociocultural Impacts, by Sociodemographic Characteristics (p-values)

	Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)	Tourism Dependency (U test)
Tourism improves public services	p=0.340	p=0.045	**p=0.006**	p=0.385	**p=0.036**
Tourism stimulates cultural activities. festivals and local traditions	p=0.079	p=0.553	p=0.285	**p=0.011**	p=0.484
Tourism contributes to the preservation of the local culture	**p=0.006**	p=0.424	**p=0.024**	p=0.164	**p=0.039**
Tourism promotes cultural exchanges between residents and visitors	p=0.259	p=0.337	p=0.638	**p=0.004**	p=0.044
Tourism changes residents' consumption habits	**p<0.001**	p=0.161	p=0.300	**p=0.004**	**p=0.007**

Tourism helps to raise the standard of living of residents	p=0.145	p=0.733	p=0.080	P=0.165	**p=0.009**
Tourism contributes to increase security	**p<0.001**	**p=0.010**	p=0.648	**p=0.027**	p=0.556
Tourism contributes to the recognition, prestige and image of my municipality	p=0.268	p=0.914	p=0.454	**p=0.005**	p=0.393
The residents of my municipality are hospitable and welcome tourists with courtesy	p=0.889	**p=0.005**	p=0.222	p=0.097	p=0.256

Note: Bold values indicate p-values below 4%. Source: Own elaboration.

Table 20: Perceived Negative Sociocultural Impacts, by Sociodemographic Characteristics (p-values)

	Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)	Tourism Dependency (U test)
Tourism increases drug and alcohol consumption	**p<0.001**	p=0.472	p=0.830	p=0.276	p=0.370
Tourism increases prostitution and moral degradation	**p<0.001**	p=0.047	p=0.591	p=0.470	p=0.151
Tourism increases sexually transmitted infections	**p<0.001**	p=0.118	p=0.454	**p=0.023**	p=0.065
Tourism promotes crime and vandalism	**p<0.001**	p=0.846	p=0.717	p=0.194	p=0.641
Tourism leads to loss or change in traditions and cultural identity	**p<0.001**	p=0.522	p=0.103	p=0.269	p=0.044
Tourism causes intolerance and disrespect towards other cultures	**p=0.018**	p=0.618	p=0.300	**p=0.035**	p=0.079
Tourism increases stress and disturbs calm	**p<0.001**	p=0.189	**p=0.004**	p=0.562	p=0.152
Increased numbers of tourists result in conflicts with residents	**p=0.019**	p=0.633	p=0.077	p=0.261	p=0.210
Residents change their behaviour to imitate tourists	p=0.189	p=0.661	p=0.255	p=0.444	p=0.421
Residents suffer from living in this tourist destination	p=0.083	p=0.698	**p=0.034**	p=0.092	p=0.773
My municipality is overcrowded because of tourism	**p<0.001**	p=0.969	p=0.268	p=0.798	p=0.270

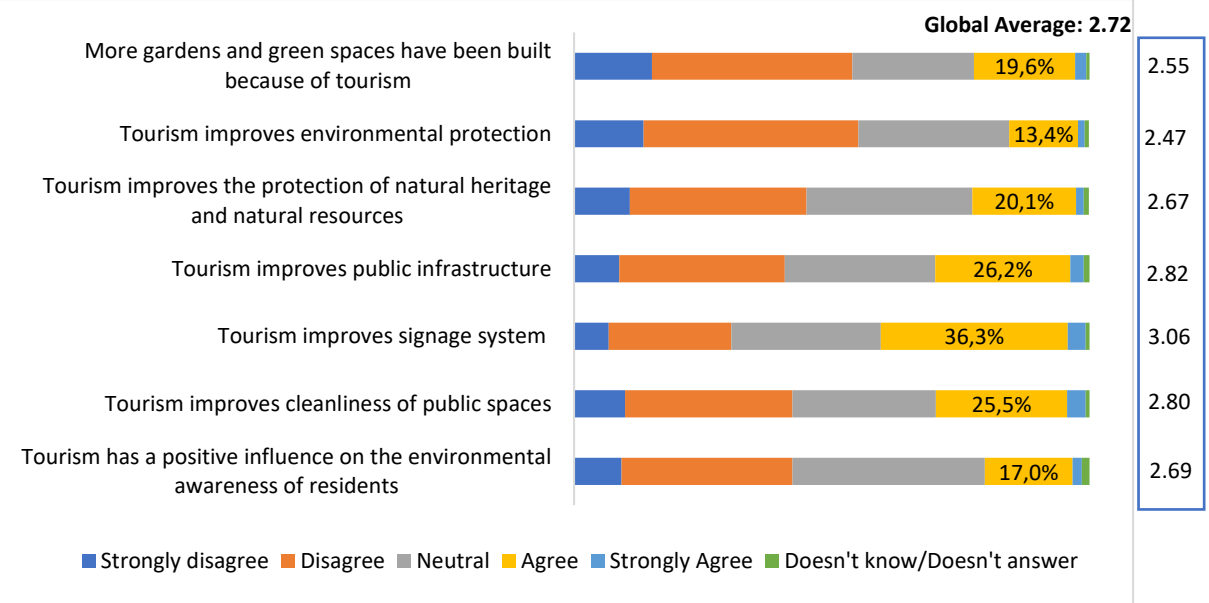
Note: Bold values indicate p-values below 4%. Source: Own elaboration.

5.1.2.3 Perceptions of the Environmental Impacts of Tourism

Regarding the environmental impacts of tourism, residents also perceive different positive and negative characteristics. In relation to the positive characteristics (Figure 49), residents believe that tourism improves the signage system (average = 3,06), the

public infrastructures (average = 2,82) and the cleanliness of the public spaces (average = 2,80). Although these items present the higher scores for the positive environmental impacts, it is necessary to underline that the averages are situated at the level of "neither disagree nor agree". On the contrary, residents do not agree that tourism improves the environmental protection (average = 2,47) and that more gardens or green spaces have been built because of tourism (average = 2,55). The global average attributed to the positive environmental impacts of tourism is 2,72.

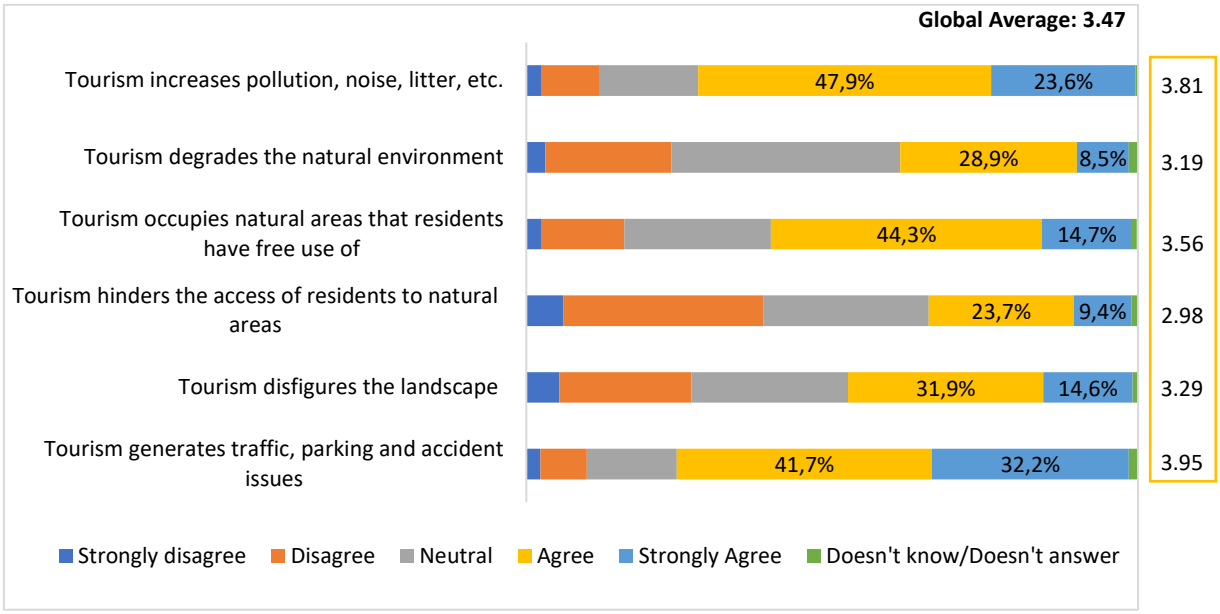
Figure 49: Perceived Positive Environmental Impacts



Source: Own elaboration.

Concerning the negative characteristics (Figure 50), residents believe that tourism generates traffic, parking and accident issues (average = 3.95), increases pollution, noise and litter (average = 3.81) and occupies the natural areas that residents should have free use of (average = 3.56). The global average attributed to the negative environmental impacts of tourism is 3.47. Overall, residents perceive more the negative environmental impacts of tourism than the positive ones, which means a recognition of the disadvantages of the tourism pressure under de local environment.

Figure 50: Perceived Negative Environmental Impacts



Source: Own elaboration.

An analysis by sociodemographic characteristics shows that the perception of the positive environmental impacts has statistically significant differences mostly according to residents' place of residence and level of education (Table 21).

In the case of the negative environmental impacts, results show statistically significant differences according to residents' place of residence, age group and education level (Table 22).

No statistically significant differences were registered in what concerns residence time and the dependency on tourism neither on positive or negative environmental impacts.

Table 21: Perceived Positive Environmental Impacts, by Sociodemographic Characteristics (p-values)

	Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)	Tourism Dependency (U test)
More gardens and green spaces have been built because of tourism	**p<0.001**	p=0.187	**p=0.033**	p=0.044	p=0.326
Tourism improves environmental protection	**p<0.001**	p=0.351	**p=0.011**	p=0.593	p=0.774
Tourism improves the protection of natural heritage and natural resources	**p<0.001**	p=0.734	**p=0.013**	p=0.201	p=0.546
Tourism improves public infrastructure	**p=0.011**	p=0.280	p=0.244	**p=0.017**	p=0.321
Tourism improves signage system	**p=0.022**	p=0.646	p=0.837	**p<0.001**	p=0.730
Tourism improves cleanliness of public spaces	**p<0.001**	p=0.240	p=0.486	**p<0.001**	p=0.398
Tourism has a positive influence on the environmental awareness of residents	**p=0.002**	p=0.945	p=0.221	p=0.091	p=0.089

Note: Bold values indicate p-values below 4%. Source: Own elaboration.

Table 22: Perceived Negative Environmental Impacts, by Sociodemographic Characteristics (p-values)

	Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)	Tourism Dependency (U test)
Tourism increases pollution, noise, litter, etc.	**p<0.001**	p=0.143	p=0.059	p=0.429	p=0.679
Tourism degrades the natural environment	**p<0.001**	p=0.091	**p=0.005**	p=0.121	p=0.554
Tourism occupies natural areas that residents have free use of	p=0.446	p=0.445	**p=0.007**	**p<0.001**	p=0.857
Tourism hinders the access of residents to natural areas	p=0.882	p=0.366	p=0.069	**p=0.024**	p=0.693
Tourism disfigures the landscape	**p=0.002**	p=0.947	p=0.156	**p=0.003**	p=0.465
Tourism generates traffic, parking and accident issues	**p<0.001**	p=0.187	**p<0.001**	**p<0.001**	p=0.145

Note: Bold values indicate p-values below 4%. Source: Own elaboration.

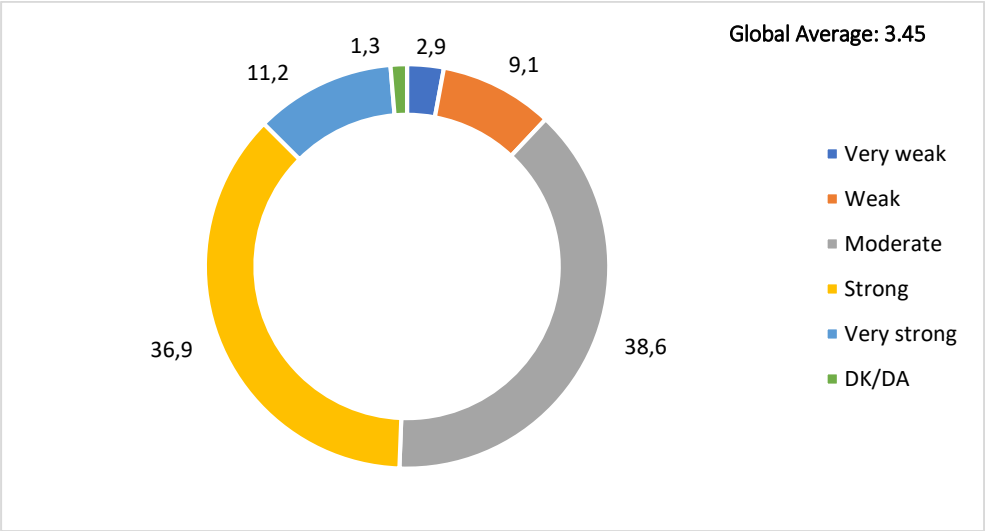
5.1.3 Residents' Evaluation of Tourism Development

Beyond residents' perceptions of tourism impacts, this study intends to access residents' evaluation of tourism development in the Algarve through the evaluation of the current state of tourism development, the evaluation of tourists' behaviours and the support to tourism growth.

5.1.3.1 Evaluation of the Current State of Tourism Development

Globally, residents assess the current state of tourism development in the Algarve as moderate (38.6%) or strong (36.9%). Still, there is a significant percentage of residents who consider the current state of tourism development in the Algarve as weak or very weak (12.0%). The overall rating average corresponds to 3.45, which is equivalent to moderate (Figure 51). By segments, there are statistically significant differences according to residents' age group, level of education and dependency in the tourism sector (Table 23).

Figure 51: Evaluation of the Current State of Tourism Development



Source: Own elaboration.

Table 23: Evaluation of the Current State of Tourism Development, by Sociodemographic Characteristics (p-values)

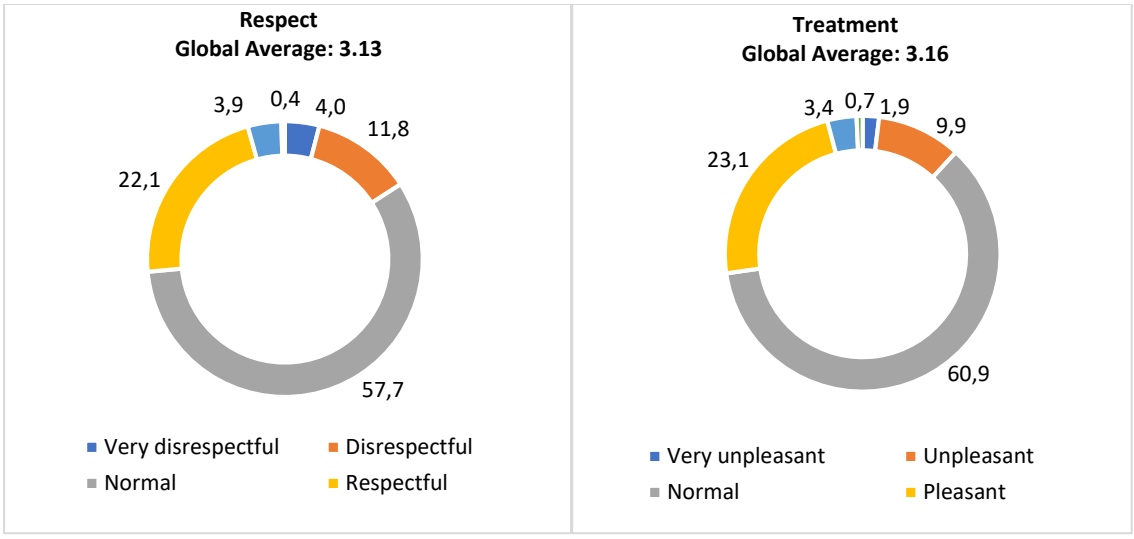
	Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)	Tourism Dependency (U test)
Evaluation of the current state of tourism development	p=0.984	p=0.895	**p<0.001**	**p<0.001**	**p=0.009**

Note: Bold values indicate p-values below 4%. Source: Own elaboration.

5.1.3.2 Evaluation of Tourists' Behaviours

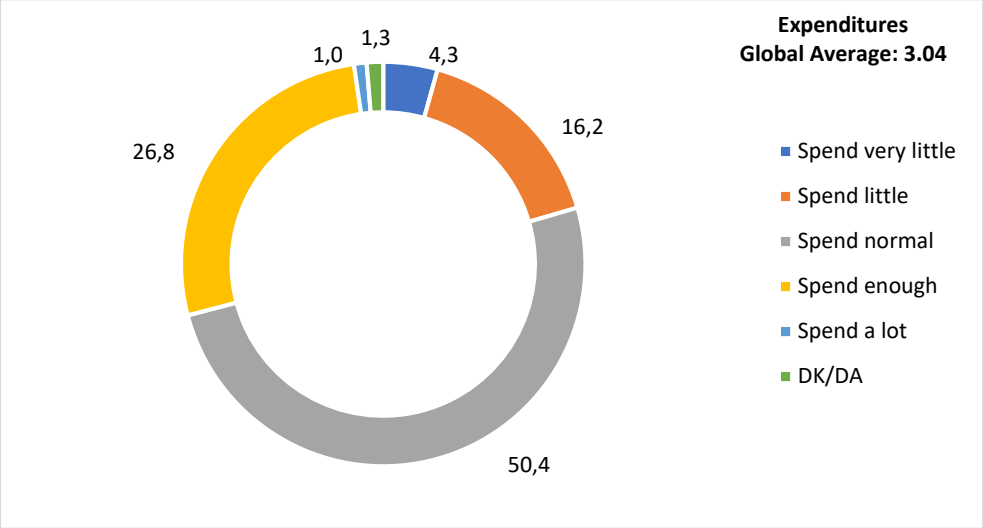
Concerning the assessment of tourists' behaviours (Figures 52 and 53), residents' rate better the way tourists treat residents (average = 3.16), considering they treat residents in a «normal» (60.9%) or «pleasant» (23.1%) way. Some residents consider that tourists treat them in an «unpleasant» way (9.9%). Concerning respect, the global average is slightly lower (average = 3.13), with the great part of residents considering tourists to be «normal» (57.7%) or «respectful» (22.1%) with the local population. With regard to the expenditures at the destination, the global average is even lower (average = 3.04). Half of residents consider that tourists «spend the normal» (50.4%) in the Algarve. A significant percentage of residents believe that tourists «spend enough money» in the region (26.8%), although 20.5% consider they spend «little» or «very little». There is no consensus among residents about tourists' expenditures in the Algarve, even though most claim they spend the «normal».

Figure 52: Evaluation of Tourists' Behaviours in Terms of Respect, Treatment and Expenditures



Note: Values in percentage. Source: Own elaboration.

Figure 53: Evaluation of Tourists' Behaviours in Terms of Respect, Treatment and Expenditures (continuation)



Note: Values in percentage. Source: Own elaboration.

An analysis by sociodemographic characteristics shows that the evaluation of tourists' behaviours has statistically significant differences mostly according to residents' place and time of residence in the Algarve (Table 24). No statistically significant differences were found regarding the resident's dependency on tourism.

Table 24: Evaluation of Tourists' Behaviours in Terms of Respect, Treatment and Expenditures, by Sociodemographic Characteristics (p-values

	Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)	Tourism Dependency (U test)
Evaluation of tourists' behaviors in terms of respect	**p<0.001**	**p=0.008**	p=0.153	**p=0.026**	p=0.306
Evaluation of tourists' behaviors in terms of treatment	**p=0.003**	**p=0.002**	p=0.310	p=0.215	p=0.709
Evaluation of tourists' behaviors in terms of expenditures	**p=0.010**	**p<0.001**	**p<0.001**	**p=0.014**	p=0.095

Note: Bold values indicate p-values below 4%. Source: Own elaboration.

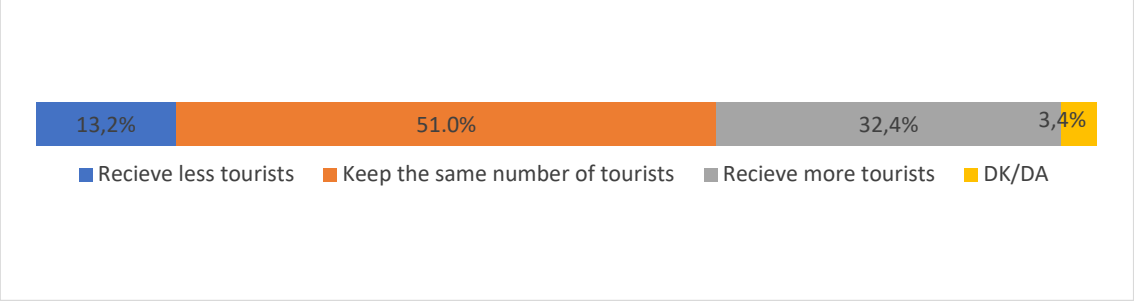
5.1.3.3 Positioning about Tourism Growth

Residents' positioning about tourism growth was assessed through their opinion about what should the municipalities in the Algarve do in relation to receive tourists in the

future (Figure 54). Results show that half of residents prefer to keep the same number of tourists in their municipalities (51.0%), while 32.4% prefer to receive more tourists in the future. Only 13.2% of residents would like their municipalities to receive less tourists.

A segment analysis shows that residents' positioning about tourism growth in the Algarve has statistically significant differences mostly according to residents' place of residence and education level (Table 25).

Figure 54: Positioning about Tourism Growth in the Algarve



Source: Own elaboration.

Table 25: Positioning about Tourism Growth in the Algarve, by Sociodemographic Characteristics (p-values)

	Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)	Tourism Dependency (U test)
Positioning about tourism growth in the Algarve	**p=0.024**	p=0.790	p=0.147	**p<0.001**	p=0.589

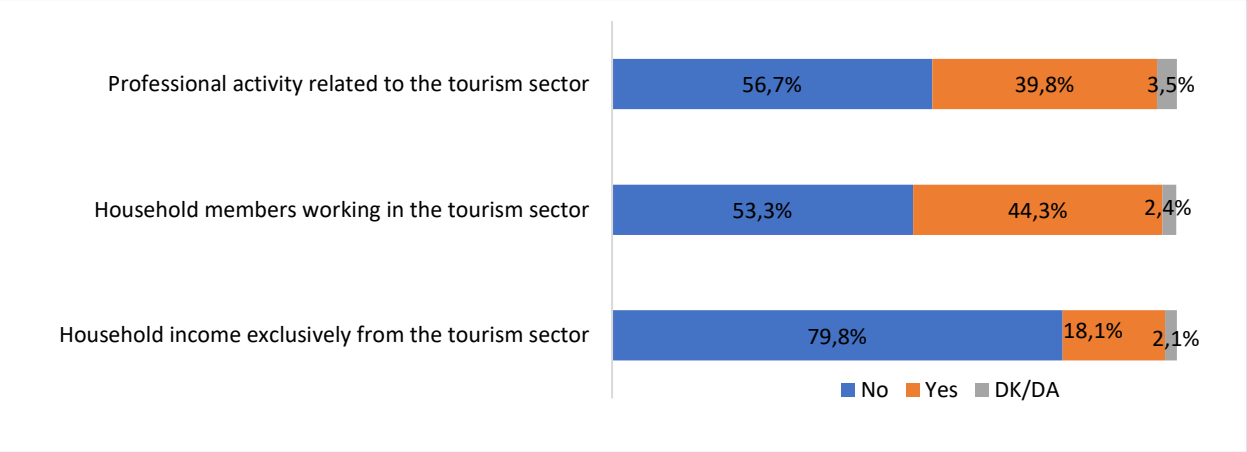
Note: Bold values indicate p-values below 4%. Source: Own elaboration.

5.1.4 Residents' Dependency in the Tourism Sector

Another important subject in this study is the assessment of residents' dependency in the tourism sector, which is evaluated through residents' professional activity related to the tourism sector, residents' household members working in the tourism sector and residents' household income from the tourism sector.

Regarding professional activity, many residents in the Algarve declare to work in the tourism sector (39.8%). Many residents also state they have household members working in the tourism sector (44.3%). However, only 18.1% affirm that the household income comes exclusively from the tourism sector (Figure 55). Although many residents have professional activities related to tourism, results demonstrate the household incomes are not exclusively from tourism, which probably means the necessity of residents to accumulate different activities in order to increase their family incomes.

Figure 55: Residents' Dependency in the Tourism Sector



Source: Own elaboration.

An analysis by sociodemographic characteristics shows that residents' dependency in the tourism sector has statistically significant differences according to residents' place of residence, residence time in the Algarve and age group (Table 26).

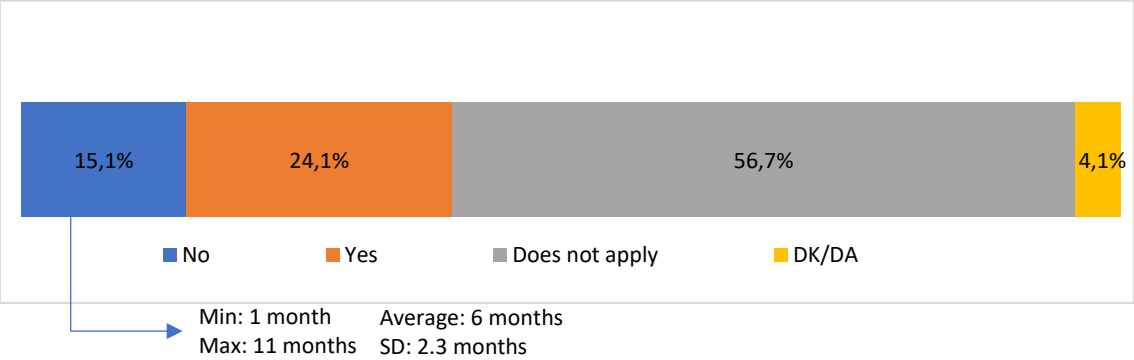
Table 26: Residents' Dependency in the Tourism Sector, by Sociodemographic Characteristics (p-values)

	Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)
Professional activity related to the tourism sector	**p<0.001**	**p=0.037**	**p=0.009**	p=0.821
Household members working in the tourism sector	**p<0.001**	p=0.758	p=0.899	p=0.299
Household income exclusively from the tourism sector	**p<0.001**	p=0.378	p=0.176	p=0.720

Note: Bold values indicate p-values below 4%. Source: Own elaboration.

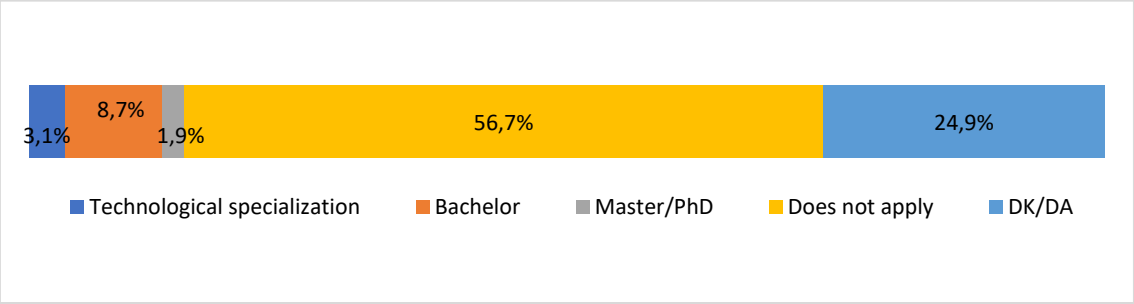
Regarding residents who have their professional activities related to the tourism sector (39.8%), it is important to highlight that the majority works all year around in those activities (24.1%). However, for 15.1% of the respondents it seems to be a seasonal activity (Figure 56). For those who do not work in the tourism sector all year around, the average is 6 months working in tourism activities. For those who work in the tourism sector all year around, 8.7% have a bachelor, 3.1% a technological specialization and 1.9% a Master or Doctoral degree related to tourism (Figure 57).

Figure 56: Residents' Working in the Tourism Sector All Year Around



Source: Own elaboration.

Figure 57: Residents' Working in the Tourism Sector with Specific Training



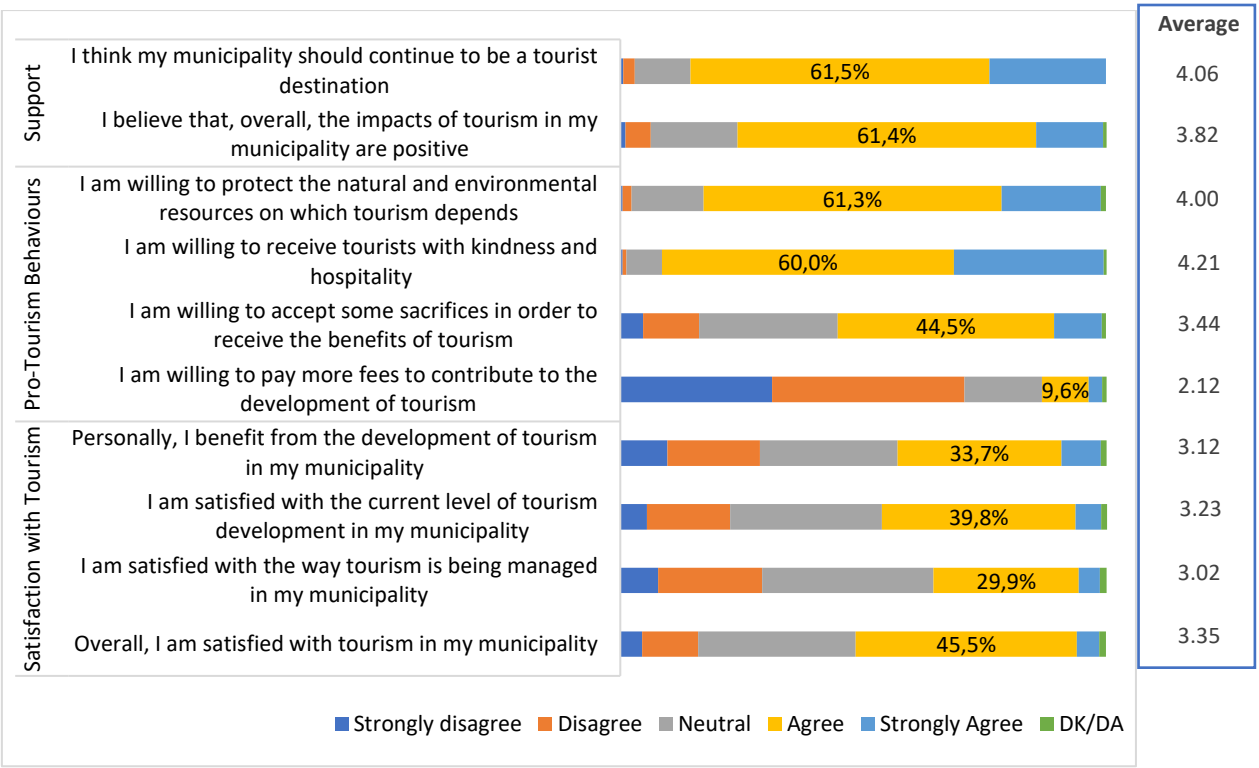
Source: Own elaboration.

5.1.5 Residents' Support, Pro-Tourism Behaviours and Satisfaction with Tourism

An additional way to understand sustainable tourism development from residents' perspectives is by considering residents' support to tourism activity, residents' pro-tourism behaviours and residents' satisfaction with tourism activity (Figure 58).

Regarding residents' support to tourism activity, results show that residents agree their municipalities should continue to be a tourist destination (average = 4.06) and, overall, the impacts of tourism are positive (average = 3.82). In what concerns pro-tourism behaviours, residents are willing to receive tourists with kindness and hospitality (average = 4.21) and are willing to protect the natural and environmental resources (average = 4.00). However, they are not willing to pay more taxes in order to contribute to tourism development (average = 2.12). In relation to satisfaction with tourism activity, residents are neutral, showing an agreement level situated at "neither disagree nor agree".

Figure 58: Residents' Support, Pro-Tourism Behaviours and Satisfaction with Tourism



Source: Own elaboration.

An analysis by sociodemographic characteristics shows that residents' support to tourism activity has statistically significant differences according to residents' dependency in the tourism sector (Table 27).

Regarding residents' pro-tourism behaviours, results show statistically significant differences mostly according to residents' dependency in the tourism sector, place of residence and education level.

Concerning satisfaction with tourism activity, results show statistically significant differences mostly according to residents' place of residence and age group.

Table 27: Residents' Support, Pro-Tourism Behaviours and Satisfaction with Tourism, by Sociodemographic Characteristics (p-values)

		Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)	Tourism Dependency (U test)
Support to tourism activity	I think my municipality should continue to be a tourist destination	p=0.076	p=0.844	p=0.757	p=0.349	**p=0.009**
	I believe that. overall. the impacts of tourism in my municipality are positive	p=0.088	p=0.878	p=0.568	p=0.499	p=0.299
Pro-tourism behaviours	I am willing to protect the natural and environmental resources on which tourism depends	p=0.443	p=0.569	p=0.919	p=0.229	p=0.274
	I am willing to receive tourists with kindness and hospitality	**p=0.015**	p=0.278	p=0.105	**p=0.012**	**p<0.001**
	I am willing to accept some sacrifices in order to receive the benefits of tourism	**p=0.004**	p=0.743	p=0.144	**p=0.005**	**p=0.003**
	I am willing to pay more fees to contribute to the development of tourism	p=0.513	p=0.331	**p=0.009**	p=0.663	**p=0.001**
Satisfaction with tourism activity	Personally, I benefit from the development of tourism in my municipality	p=0.064	p=0.476	p=0.668	p=0.581	**p<0.001**
	I am satisfied with the current level of tourism development in my municipality	**p<0.001**	p=0.364	**p=0.014**	**p=0.038**	p=0.743
	I am satisfied with the way tourism is being managed in my municipality	**p<0.001**	p=0.091	**p<0.001**	p=0.219	p=0.727
	Overall, I am satisfied with tourism in my municipality	**p=0.001**	p=0.882	**p=0.020**	p=0.221	p=0.565

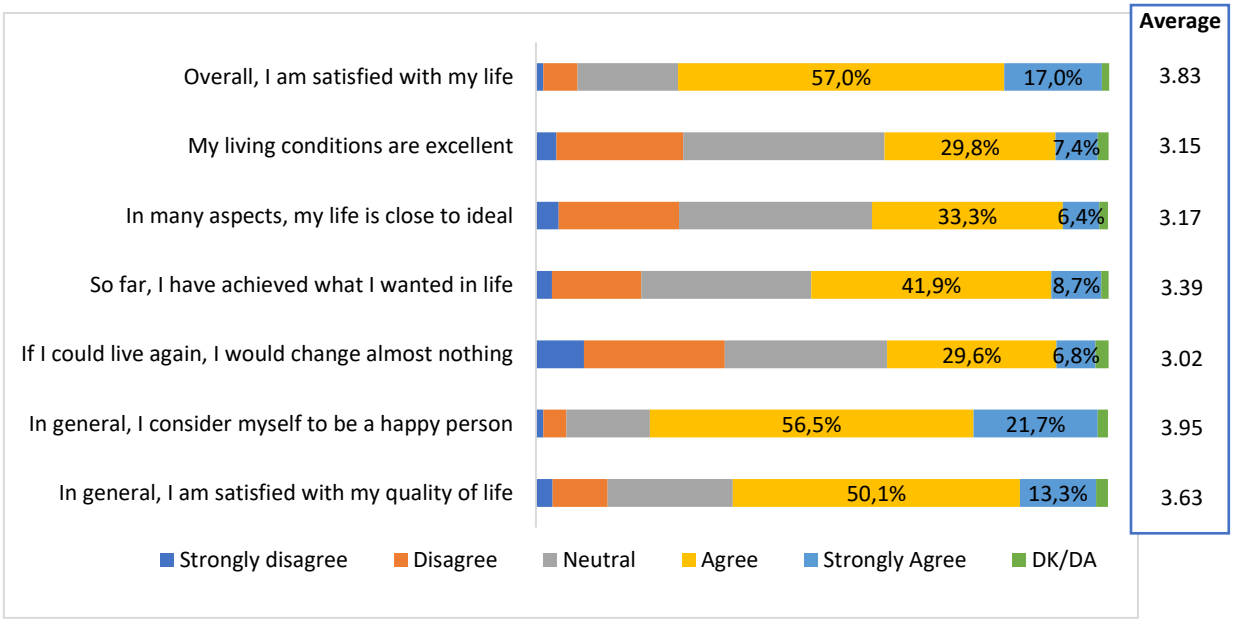
Note: Bold values indicate p-values below 4%. Source: Own elaboration.

5.1.6 Residents' Quality of Life and Individual Happiness

The perceived tourism impacts, the evaluation of tourists' behaviours, the support for tourism activity, the willingness to adopt pro-tourism behaviours and the satisfaction with the tourism activity can affect residents' perceptions of their own quality of life and individual happiness. This point therefore intends to assess residents' quality of life and individual happiness.

In general, residents in the Algarve are satisfied with their quality of life (average = 3.63) (Figure 59). However, in what concerns individual happiness, the average of responses indicates a moderate happiness (average = 3.42). Even if residents claim they are satisfied with their life (average = 3.83) and they consider themselves to be happy people (average = 3.95), they are "neutral" about considering their life conditions as excellent (average = 3.15) or about the possibility of living again and not having to change a thing (average = 3.02).

Figure 59: Residents' Quality of Life and Individual Happiness



Source: Own elaboration.

An analysis by sociodemographic characteristics shows that residents' quality of life and individual happiness have statistically significant differences mostly according to residents' education level and dependency in the tourism sector (Table 28).

Table 28: Residents' Quality of Life and Individual Happiness, by Sociodemographic Characteristics (p-values)

	Algarve Area (U test)	Residence Time (χ2 test)	Age Group (χ2 test)	Education Level (χ2 test)	Tourism Dependency (U test)
Overall, I am satisfied with my life	p=0.110	p=0.513	**p=0.025**	**p=0.001**	p=0.167
My living conditions are excellent	p=0.155	**p=0.036**	**p=0.023**	**p<0.001**	p=0.757
In many aspects, my life is close to ideal	p=0.438	p=0.275	p=0.297	**p<0.001**	p=0.040
So far, I have achieved what I wanted in life	p=0,404	p=0,255	p=0,115	**p<0,001**	**p=0,025**
If I could live again, I would change almost nothing	p=0,157	p=0,592	p=0,996	p=0,101	**p=0,010**
In general, I consider myself to be a happy person	p=0,712	p=0,308	p=0,067	**p=0,003**	p=0,959
In general, I am satisfied with my quality of life	p=0,065	p=0,172	p=0,144	**p<0,001**	p=0,076

Note: Bold values indicate p-values below 4%. Source: Own elaboration.

5.2. Tourists' Results

During the high season of 2022, 974 questionnaires to tourists in the Algarve were collected and validated. The sample was stratified by country of origin according to guests in the Algarve in 2018 (INE, 2019). The sample size was calculated for a 95.0% confidence level and a margin of error of 3.0%.

5.2.1 Sample Characterization

The gender distribution among participants shows a slightly higher response rate among people identifying as females (53.8%) compared to the male representing (45.3%) and non-binary ones (0.2%). Most participants are aged between 25-64 years (68.7%), and the smallest age group is over 65 years (2.57%), followed by 18-24-year-olds (16.7%). The majority of the respondents is married, living with a partner (55.5%) or is single

(35.1%). They hold a university degree (54.8%) or have completed high school education (35.1%). Respondents indicate being employed (64.8%), entrepreneurs (15.2%) or students (10.6%), with a net monthly income of 1.000 € to 2.000 € (25.9%) or 2.000 € to 3.000 € (24%) (Table 29).

Table 29: Sample Characteristics

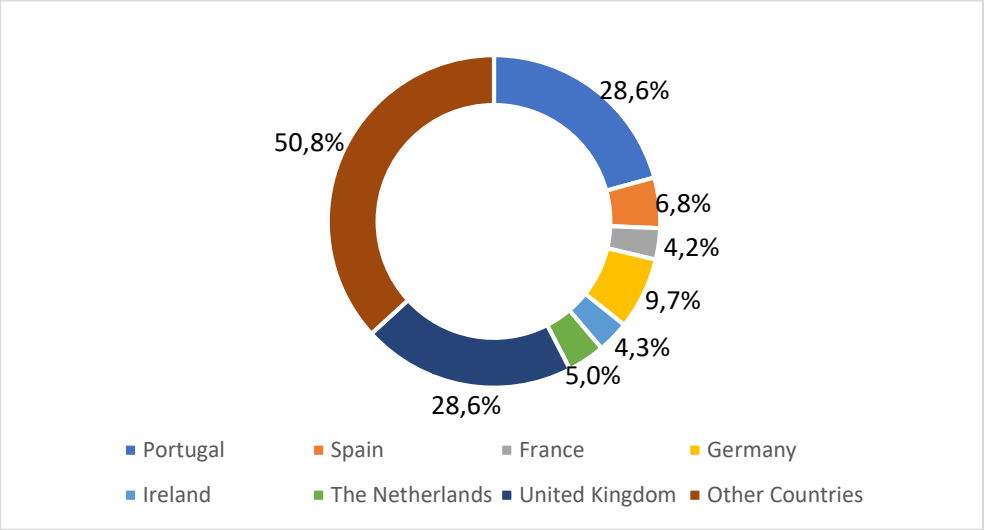
Characteristic	N	(%)
Gender		
Female	524	53.80%
Male	442	45.38%
Other	2	0.21%
Age Group		
18-24 years	163	16.74%
25-64 years	670	68.79%
65 and older	25	2.57%
NR	116	11.91%
Marital Status		
Single	342	35.11%
Married/Living Together	541	55.54%
Divorced/Separated	64	6.57%
Widowed	8	0.82%
NR	19	1.95%
Education Level		
Primary School	45	4.62%
High School	342	35.11$%
University	534	54.83%
NR	53	5.44%
Employment Situation		
Employed	632	64.89%
Entrepreneur	148	15.20%
Unemployed	23	2.36%
Student	103	10.57%
Retired	34	3.49%
Homemaker	5	0.51%
NR	29	2.98%
Net Monthly Income		

Up to and including €705	136	13.96%
€706-€1000	253	25.98%
€1001-€1500	234	24.02%
1501-€2000	128	13.14%
Over €2000	99	10.16%
NR/	124	12.73%

Source: Own elaboration.

Fifty-eight nationalities' views are included in the survey conducted for this. The data is presented by the participants' country of origin and closely reflects the distribution of origin markets closely reflects the statistics of priority markets of the Algarve Tourism Board. Most participants originate from Portugal (32.8%), the UK (32.8%) and Germany (11.1%) (Figure 60).

Figure 60: Country of Origin, Key Markets



Source: Own elaboration.

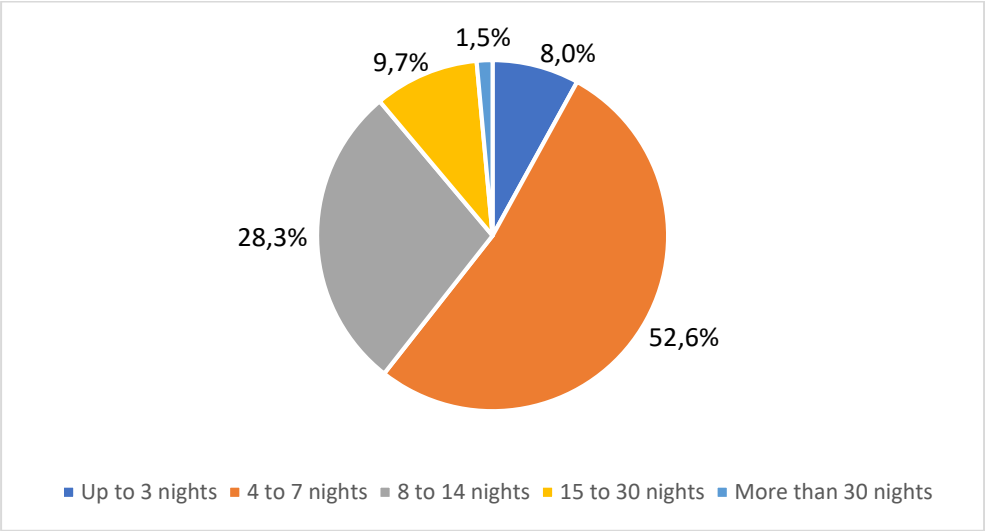
5.2.2 Travel Logistics

This subsection discusses the travel logistics, such as transportation utilised to reach the Algarve, chosen accommodation and means of booking for specific parts of the itinerary.

Of the surveyed individuals, 59.3% had not visited the Algarve before. Of the 40.6% who have visited Algarve before, most have been to the region twice or three times in the past five years.

The majority of respondents spent 4-7 nights (51.9%) or 8-15 nights (27.9%) in the Algarve, with some staying for an extended period of 15-30 days (9.5%) (Figure 61).

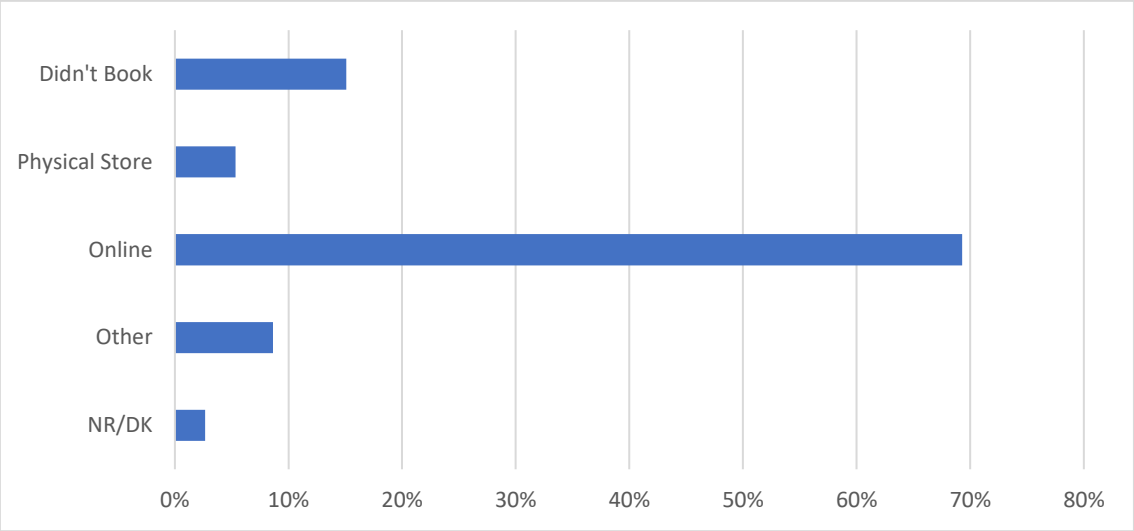
Figure 61: Number of Nights Spent



Source: Own elaboration.

Bookings are primarily executed online (70.5%), compared to a small section purchased at a travel agency (5.4%) (Figure 62).

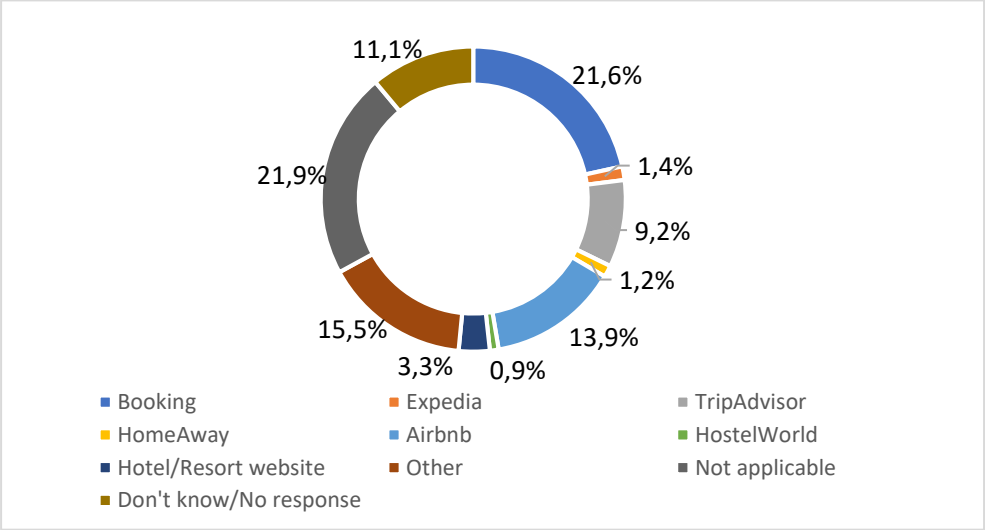
Figure 62: Mode of Booking



Source: Own elaboration.

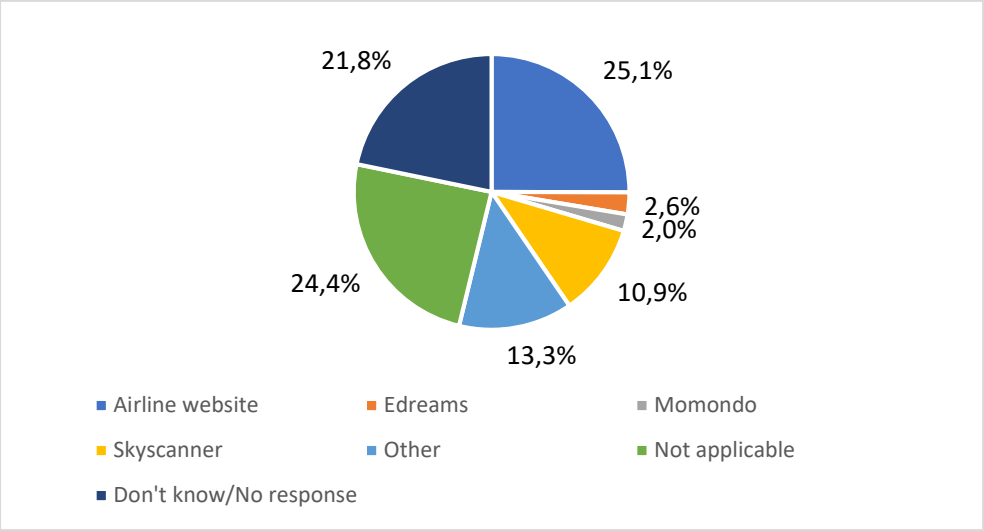
Individuals that booked accommodation online utilised Booking.com (24.2%), Airbnb (15.6%) and TripAdvisor (10.4%). A significant number of respondents, 15.5% for accommodation and 13.3% for transportation bookings, chose country-specific sites. As these differ per language and region, the accumulated percentages per website are not significant enough to be individually mentioned in Figures 63 and 64.

Figure 63: Accommodation Websites



Source: Own elaboration.

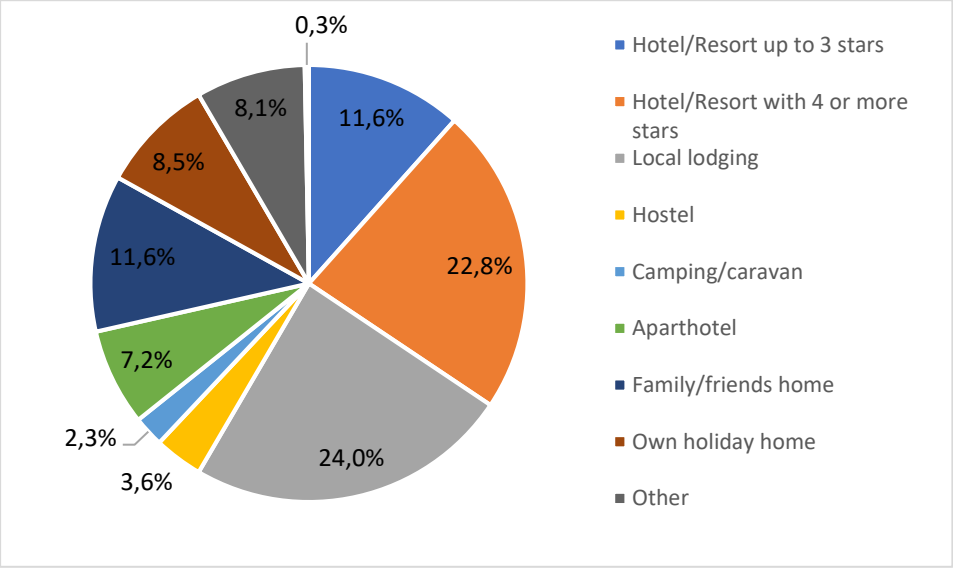
Figure 64: Transport Websites



Source: Own elaboration.

Hotels or Resorts with four or more stars (22.8%) and local lodging (24.0%) are the primary accommodation choices, followed by a tie between hotels of up to three starts (11.6%) and being housed by friends or family (11.6%) (Figure 65).

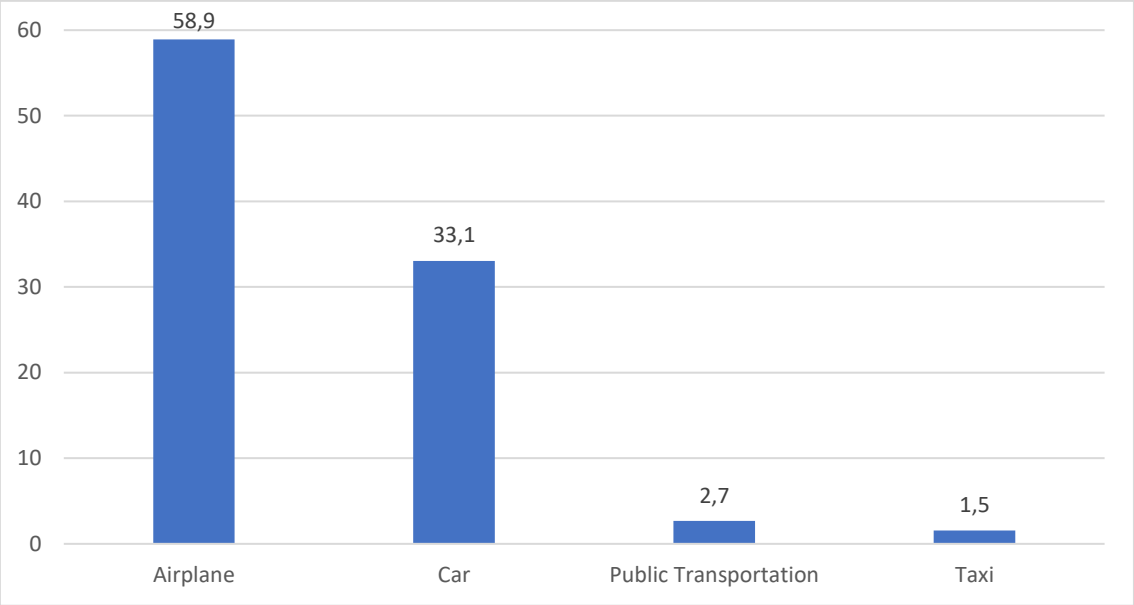
Figure 65: Type of Accommodation



Source: Own elaboration.

Arrival by airplane (58.9%) and car (33.0%) are the primary travel choice to reach the Algarve, followed by public bus and train transportation (2.7%) (Figure 66).

Figure 66: Means of transportation to the Algarve



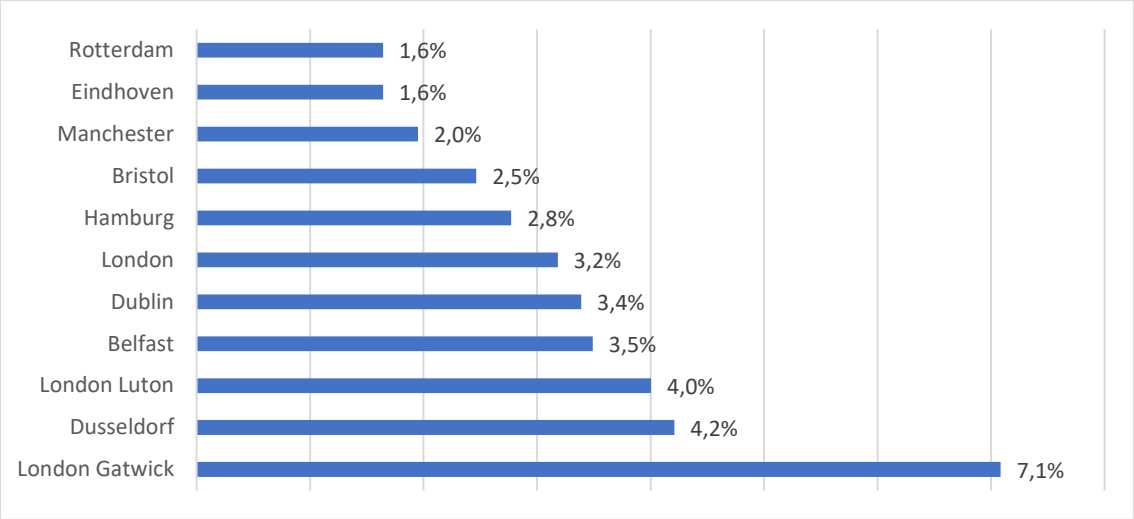
Source: Own elaboration.

The main transport choices correlate with the origin of respondents, as highlighted previously in Figure 62. Some visitors from Portugal and neighbouring countries are expected to travel to the Algarve by car. In contrast, most choose plane travel due to longer distances between their origin-destination and the Algarve. The taxi as a transport choice to reach the Algarve may have been indicated due to the utilisation from the airport or train station to respondents' accommodation. A taxi is not expected to be feasible for the targeted group to travel to the Algarve as most origin destinations are too far away. Tourists often use taxis at the destination when no car or rental is available. It is not expected that many Portuguese or Spanish from close to the Algarve travel by taxi due to the high cost involved and the possibility of choosing their vehicle. Additional transportation includes campervans 0.7%), motorhomes (0.3%), motorbikes (0.2%) and hitchhiking (0.2%).

An overview of the primary origin airports (Figure 67) shows that most individuals arriving by airplane come from the UK, Germany and the Netherlands, which reflects the findings of the respondent's country of residence. Due to the proximity, many

Portuguese and Spanish visitors are expected to be included in the car and public transportation arrivals.

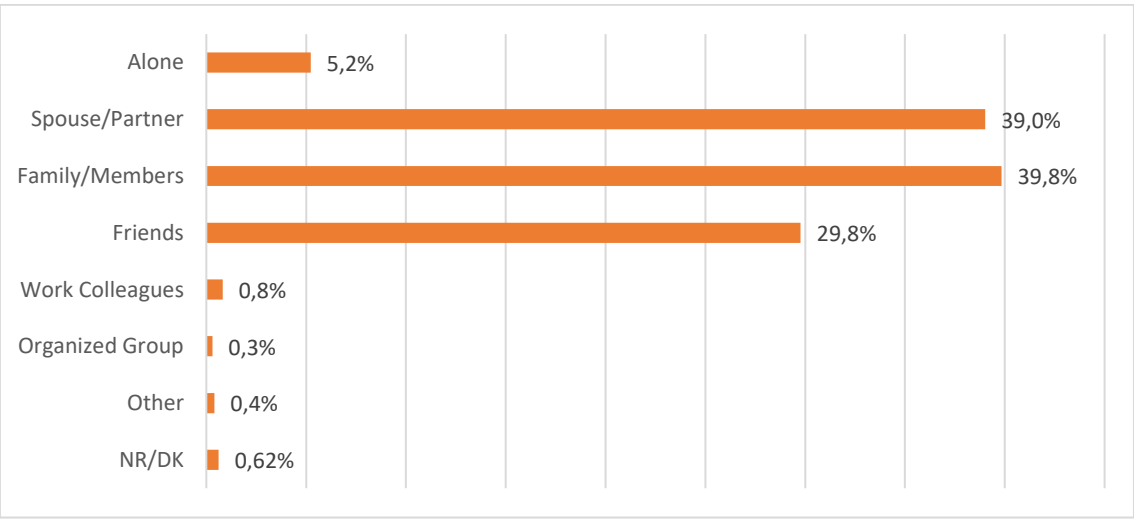
Figure 67: Airport of Origin



Source: Own elaboration.

Participants spend their time at the Algarve with family members (24.6%), a partner or spouse (33.8%) or friends (25.8%). Only a tiny portion of the surveyed group travelled solo (4.5%) (Figure 68).

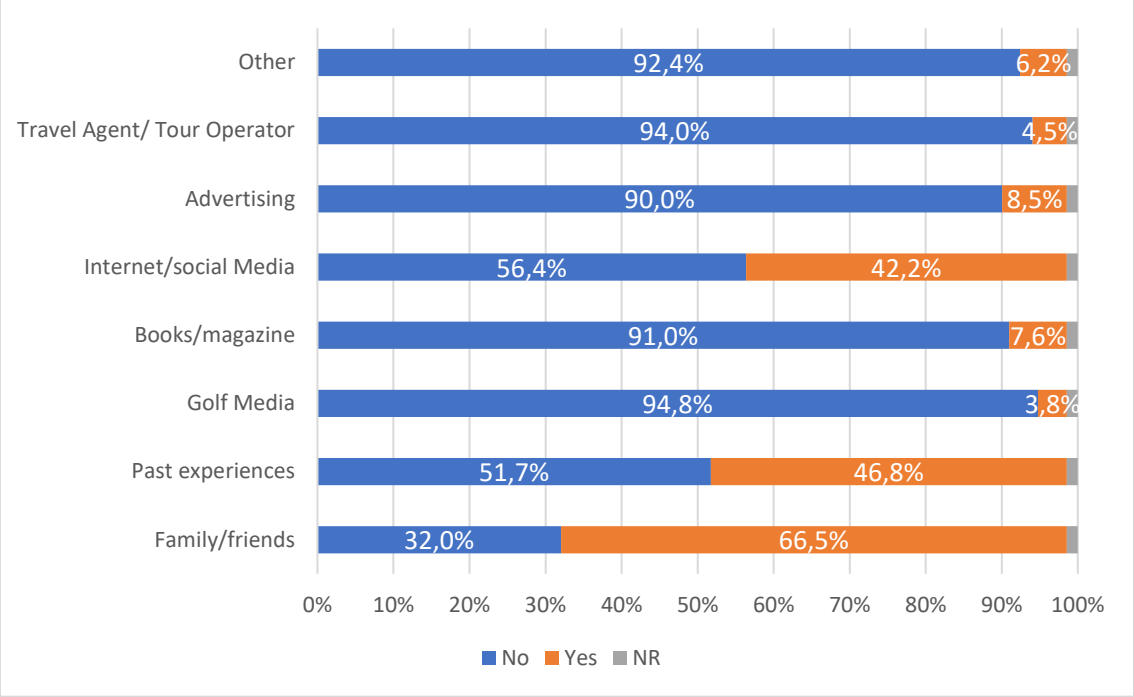
Figure 68: Travel Party



Source: Own elaboration.

Family and friends (66.5%) are indicated as the primary information source for recommendation on the Algarve, followed by past experiences (46.8%) and Internet and social media (42.2%) (Figure 69).

Figure 69: Information Sources



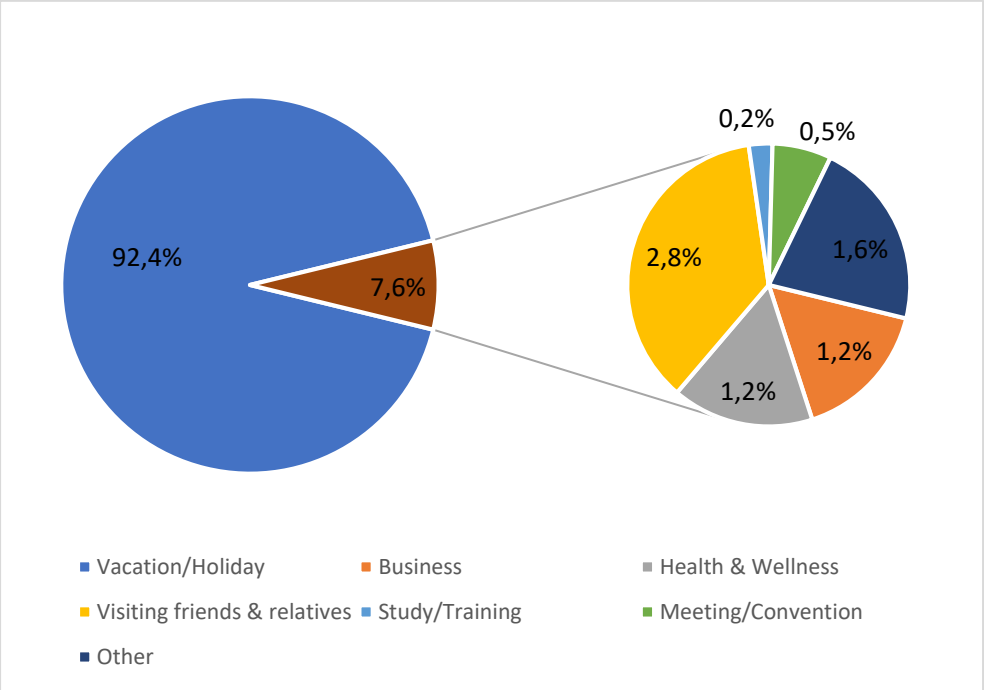
Source: Own elaboration.

5.2.3 Motivations to Visit the Algarve

Undertaking a holiday (92.3%) is the main reason for respondents' journey to the Algarve, with visiting family and friends (2.7%) taking the highest portion of the remaining motivational factors (Figure 70).

It is concluded that most visitors during the summer high season travel to the Algarve for leisure and holiday purposes.

Figure 70: Motivations to Visit the Algarve



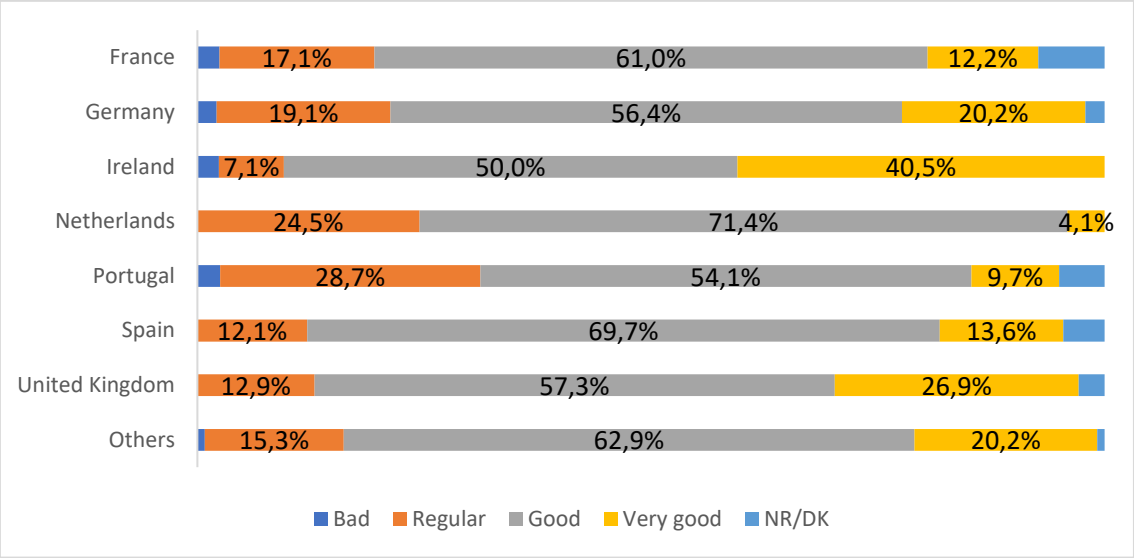
Source: Own elaboration.

5.2.4 Assessment of Services Quality, Accessibility and Price Levels

After discussing the travel logistics and primary reasons for visiting the Algarve, the following section highlights the quality assessment of several tourism features.

The service quality in the Algarve in terms of accommodation, restaurants, local trade stores and shopping centres is considered of high quality. The overall quality of tourist services was regarded as very good (18.4%) and good (58.4%) by an overwhelming majority of respondents (Figure 71). Accommodations Services received the most significant number of positive quality ratings, and traditional stores the lowest (very good, 13.5%).

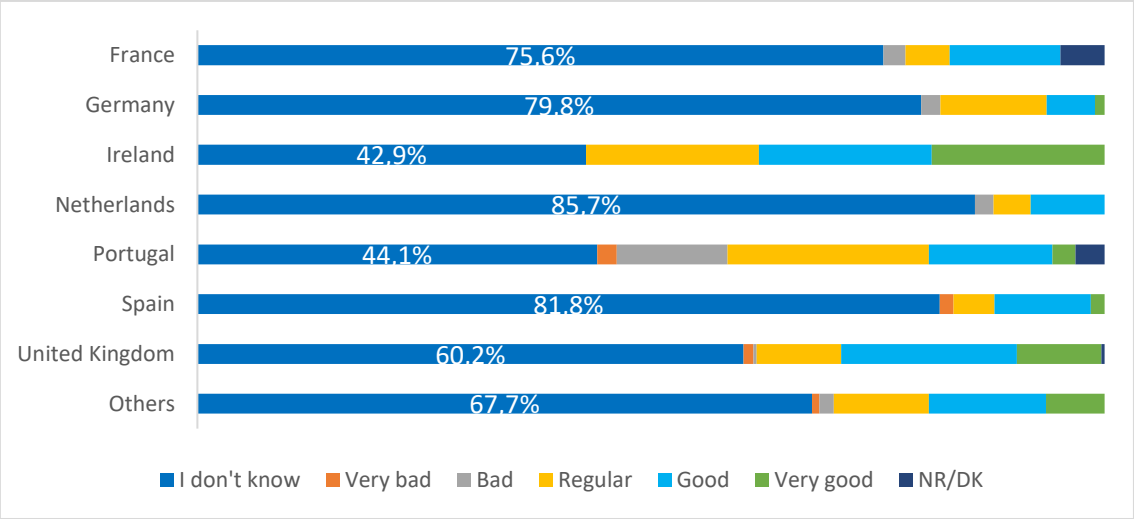
Figure 71: Quality of Tourism Services and Offer



Source: Own elaboration.

The high number of unsure respondents about the quality of Health Services in the Algarve can be explained by having not encountered those during yet to experienced individuals that could form an opinion of the health services, the majority rated them as good (14.0%) and regular (13.0%) compared to their standards (Figure 72).

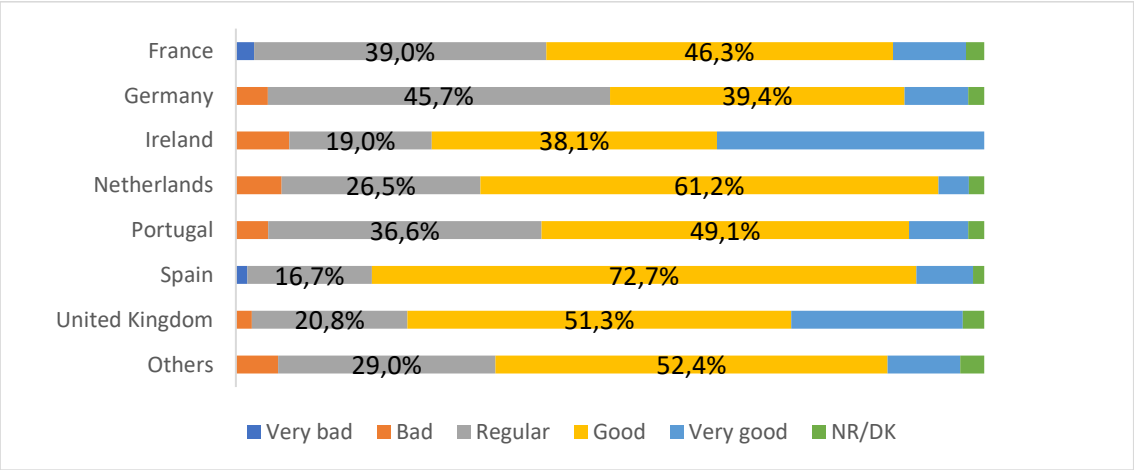
Figure 72: Quality of Health Services



Source: Own elaboration.

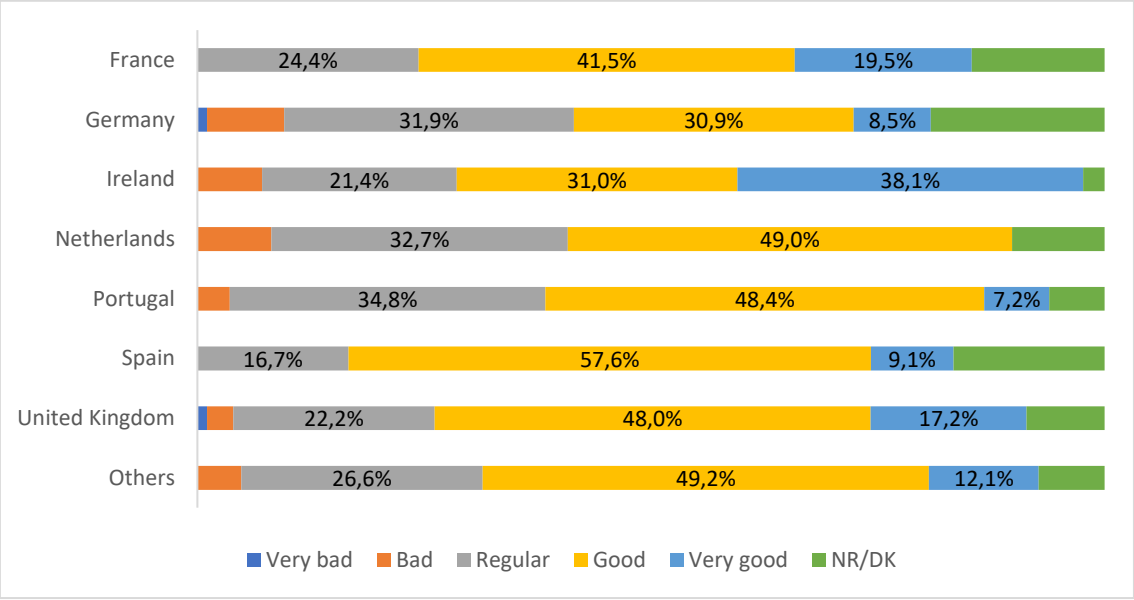
Local trade and traditional stores are assessed the highest by visitors from Spain and the Netherlands, whereas Irish and German visitors rated the quality lower (Figures 73 and 74). The pairwise comparisons between countries have been tested for significant differences by applying the Dunn-Bonferroni method.

Figure 73: Quality of Local Trade/ Traditional Stores



Source: Own elaboration.

Figure 74: Quality of Shopping Centres

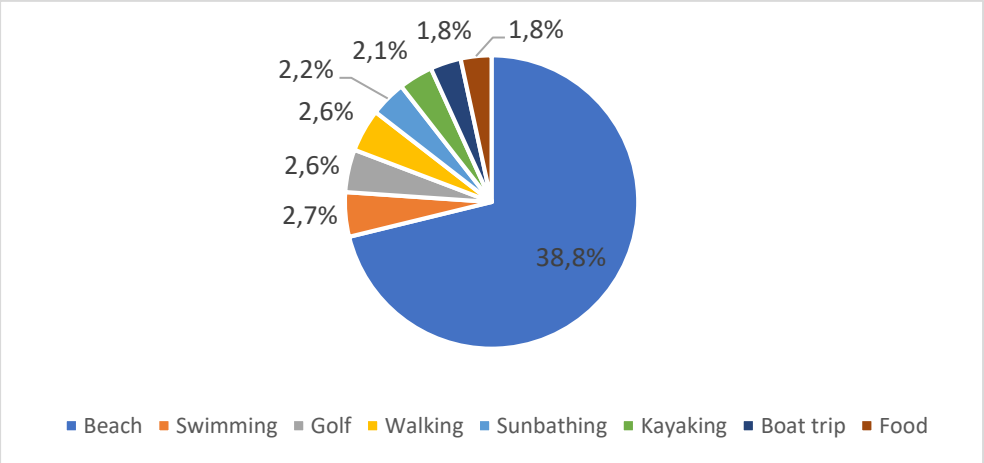


Source: Own elaboration.

5.2.5 Activities in the Algarve

The main activities in the Algarve in the summer are outdoor experiences, such as visiting the beach, swimming, sunbathing, or kayaking. Further, participants indicated food and visiting restaurants to be key activities (Figure 75).

Figure 75: Activities in the Algarve

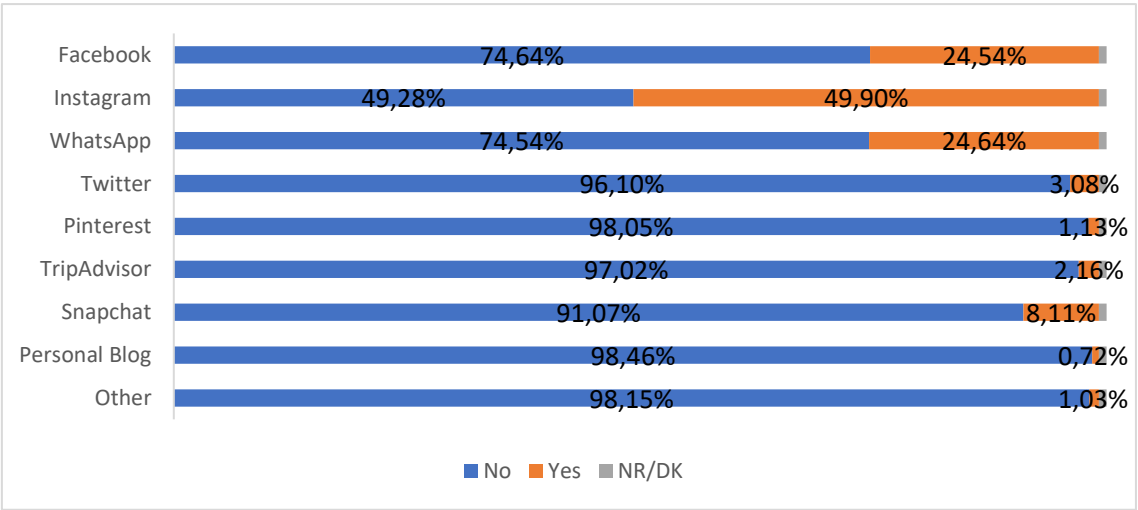


Source: Own elaboration.

5.2.6 Tourist Experience on Social Media

Most respondents (61.7%) share their travel experiences in the Algarve on social media and the platforms most utilised for trip sharing are Instagram (49.9%), WhatsApp (24.6%) and Facebook (24.5%) (Figure 76).

Figure 76: Social Media Utilised



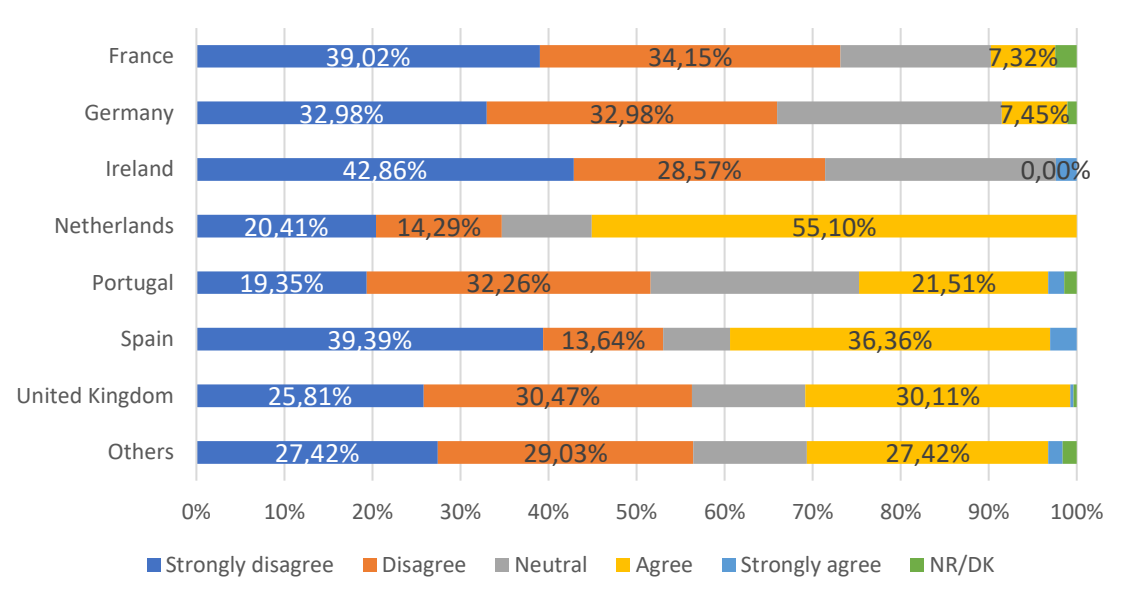
Source: Own elaboration.

5.2.7 Safety Concerns

This section focuses on the safety concerns of visitors during the trip to the Algarve and their influence on choosing a destination to visit.

Crime and violence are not a primary concern for most visitors during their holiday at the Algarve. However, the Dutch respondents indicate a more significant problem than other main origin markets (Figure 77).

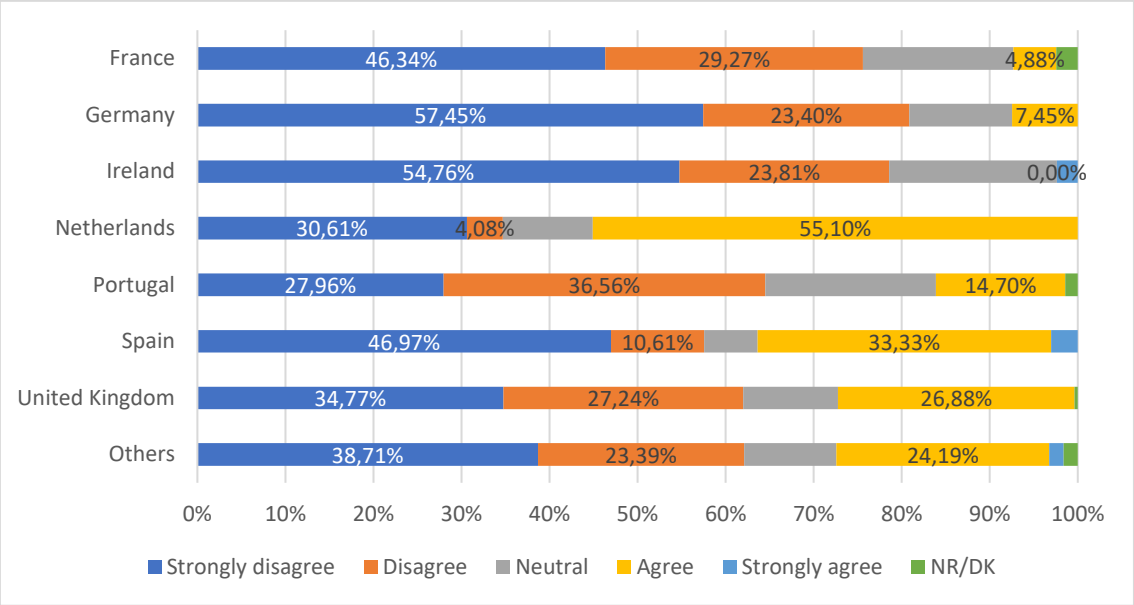
Figure 77: Existence of Crime and Violence



Source: Own elaboration.

Global threats, such as Terrorist attacks, are of low consideration for most surveyed individuals during their stay at the Algarve, with the Netherlands showing the most significant concern (Figure 78).

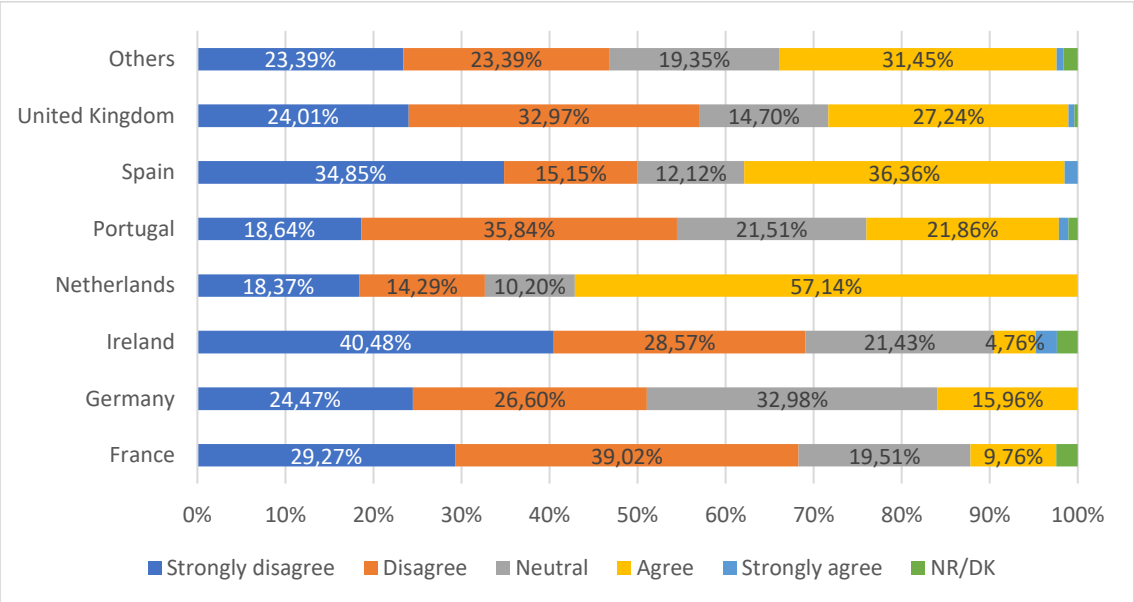
Figure 78: Global Threats



Source: Own elaboration.

An epidemic outbreak is of the lowest concern to Irish visitors, whereas Dutch respondents show higher consideration rates (Figure 79).

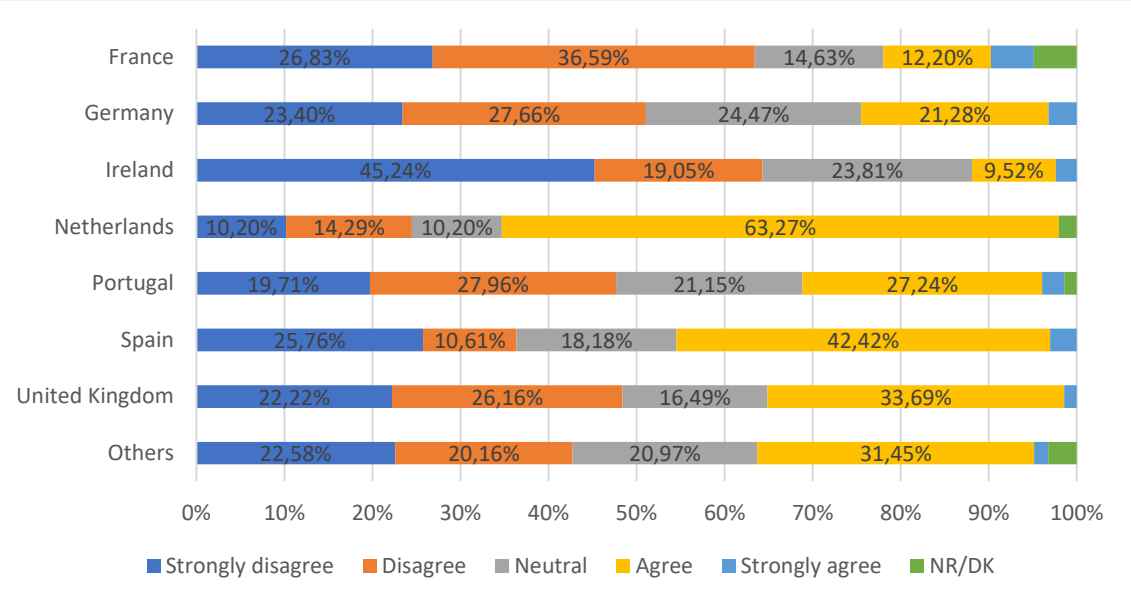
Figure 79: Epidemics



Source: Own elaboration.

Lastly, similar to previous results, Dutch respondents mention epidemics occurrence to influence their trip choice strongly. Irish visitors, however, showed little concern about such when choosing their tourism destination (Figure 80).

Figure 80: Epidemic Influence on Travel Choice

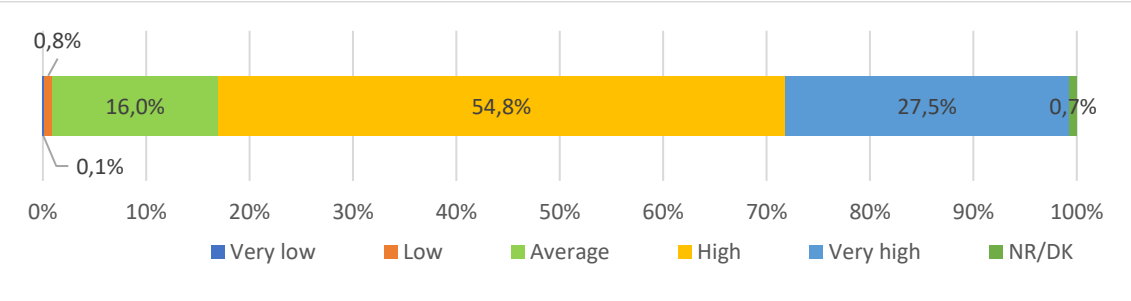


Source: Own elaboration.

5.2.8 Destination Evaluation

The overall satisfaction of visitors with the Algarve is high (60%) or very high (27%), with 16.1% rating it as average (Figure 81).

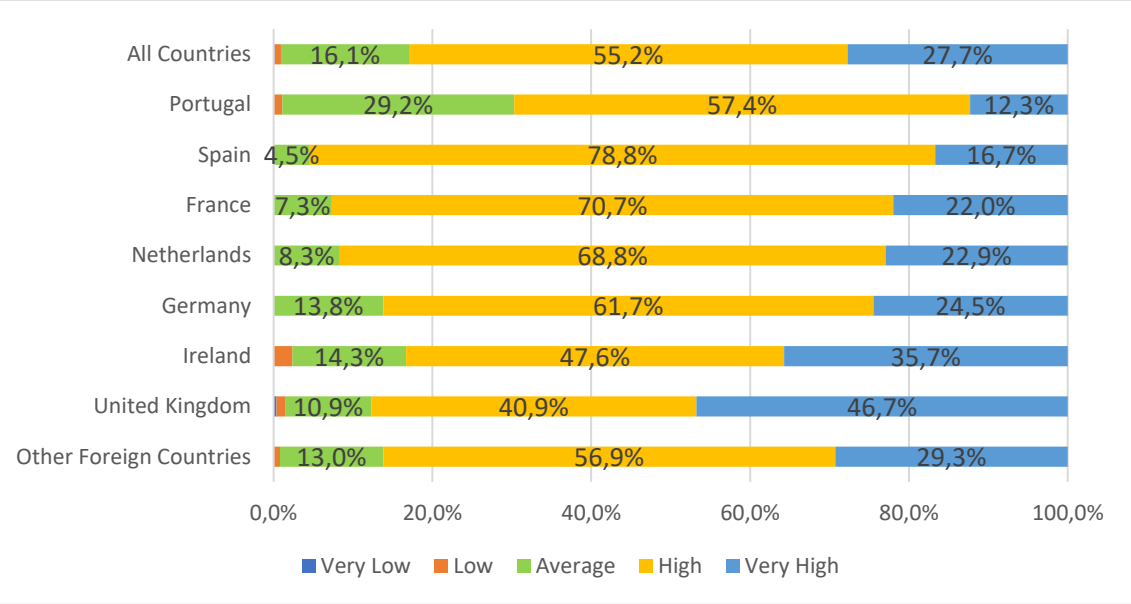
Figure 81: Overall Satisfaction with the Algarve



Source: Own elaboration.

The countries of origin valuing the overall satisfaction as very high are the United Kingdom (46.74%) and Ireland (35.7%). Among the "high" satisfaction score, tourists visiting from Spain (78.7%), France (70.7%) and the Netherlands (68.7%) rate the destination the highest (Figure 82).

Figure 82: Overall Satisfaction with the Algarve, by country of origin

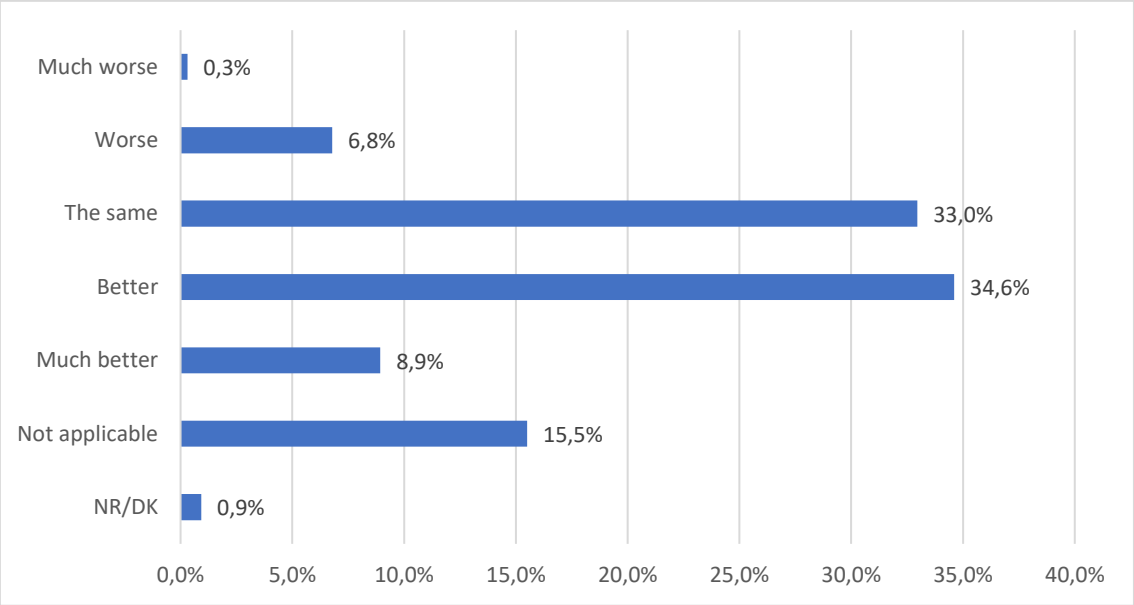


Source: Own elaboration.

Differences become clear when analysing the overall satisfaction of the Algarve per destination origin. Respondents from the UK, one of the main visitor groups to the region, reported the highest satisfaction levels. On the other hand, Portuguese indicated the lowest satisfaction levels in this study, with a high proportion of average satisfaction (29.24%) results.

Respondents that have previously visited other sun and sand tourism destinations (83.2%) indicate that the Algarve compares better (34.6%) or the same (33%) (Figure 83).

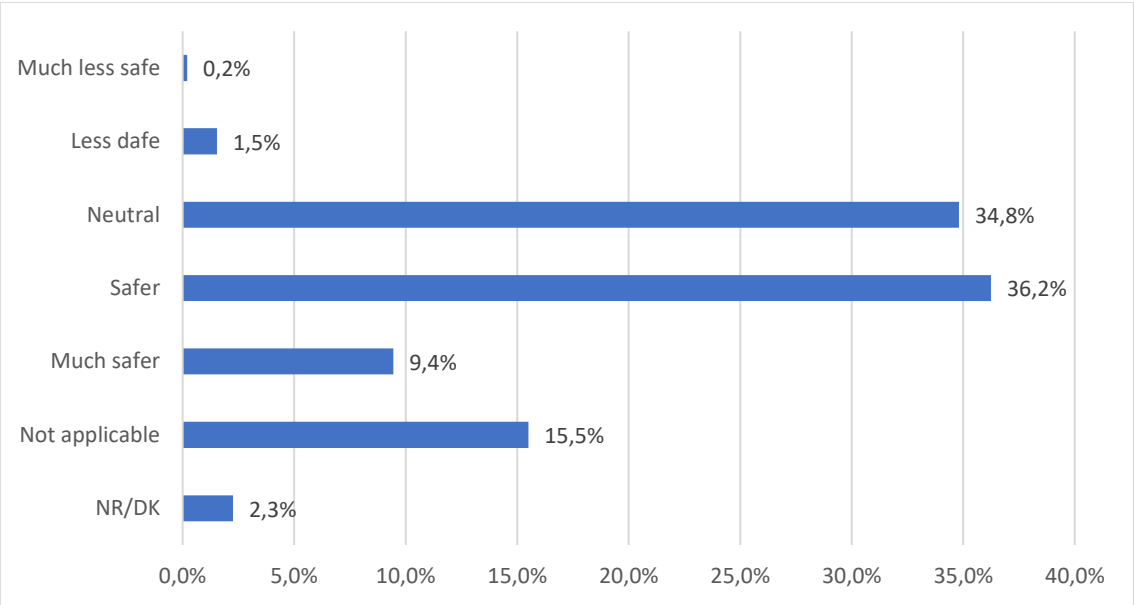
Figure 83: Algarve Comparison with other Sun & Sand Destinations



Source: Own elaboration.

Of the group with prior experience of sun destinations, 36.2% evaluate the Algarve as safer or of a similar standard (34.8%) (Figure 84).

Figure 84: Algarve Comparison with other Sun & Sand Destinations

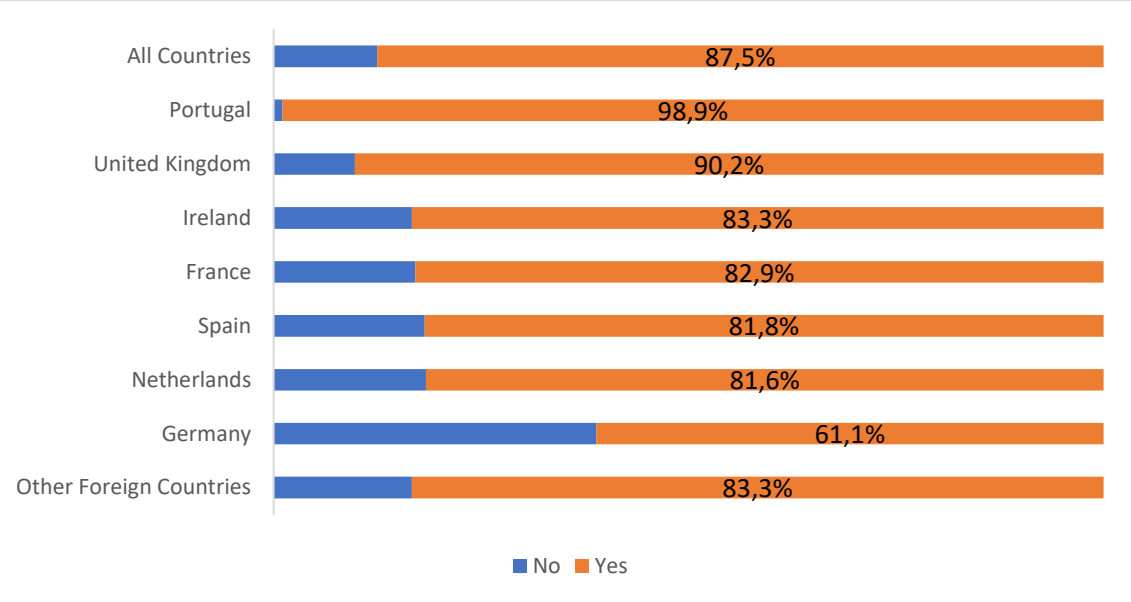


Source: Own elaboration.

5.2.9 Destination Loyalty

Most respondents intend to revisit the Algarve within five years (87.5%), with no revisitation intentions voiced by 12.5%. Participants residing in Portugal (98.9%), the United Kingdom (90.2%) and Ireland (83.3%) indicate the highest openness to revisit (Figure 85).

Figure 85: Intention to Revisit in the Next Five Years



Source: Own elaboration.

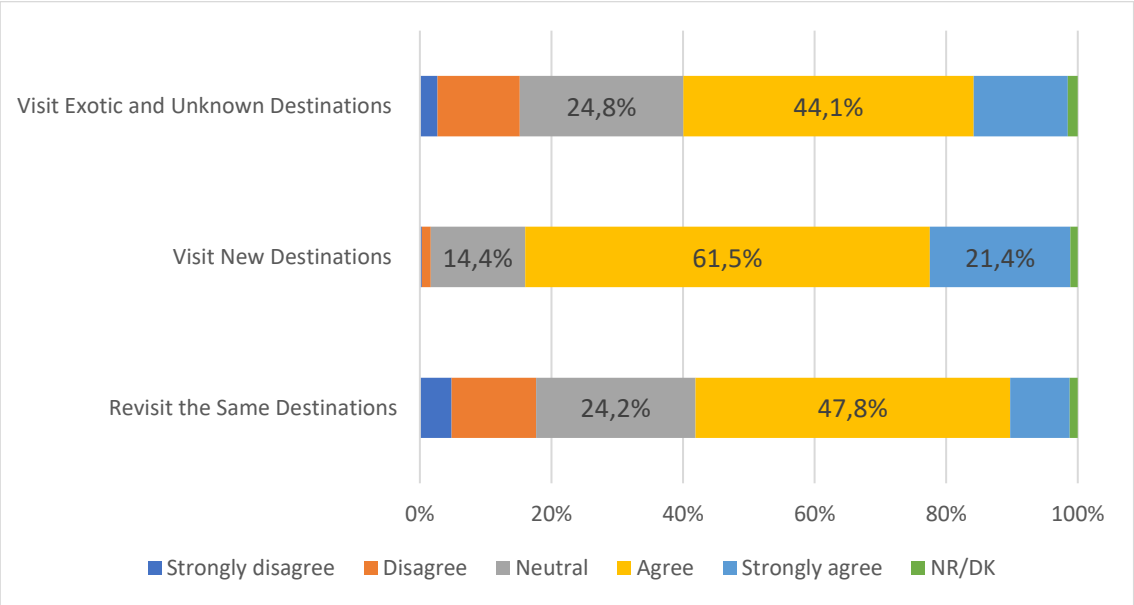
Examining the revisit intentions per origin, apparent differences can be observed. Germans show the lowest interest in revisiting the Algarve (61.1%). Of the other key origin markets, most offer a high revisit intention of 81-84%, with the highest being shown by respondents from the UK (90.2%) and Portugal (98.9%) (Figure 85).

The overwhelming majority of respondents (94.7%) indicated recommending the Algarve to their family and friends.

5.2.10 Destination Tourist Profile

The tourist profile of the Algarve shows that the majority enjoy visiting new destinations while on holiday (83.8%). The profile also indicates a preference for exotic and unknown destinations (59.3%). Interestingly, a similar portion enjoys revisiting the same destination due to knowing what to expect (57.6%) (Figure 86). It can be concluded that a large portion of the sample consists of first-time visitors drawn to the Algarve as an unknown and exotic destination. After the initial visit, the majority decides to revisit the Algarve.

Figure 86: Revisit the Same Destinations



Source: Own elaboration.

5.3. Residents and Tourists' Conclusions

The following conclusions stand out for RESIDENTS during the high season of tourism activity in 2022:

- Residents in the Algarve are more aware of the positive and the negative economic impacts of tourism, as well as the negative environmental impacts.

- The residents assess the current state of tourism development as moderate or strong, especially in the Sotavento area.
- Residents living in Barlavento area are the ones who most assess the current state of tourism development as strong or very strong.
- Half of the respondents prefer their municipalities to maintain the current number of tourists, although a considerable percentage want to receive more tourists in the future, especially in the Sotavento area.
- Many residents work in the tourism sector or claim to have household members working in the sector. Even so, few admit that family income comes exclusively from tourism, probably because they accumulate functions in other activity sectors.
- Residents in the Algarve have a moderate individual happiness. Even if they do not consider their living conditions to be excellent and admit they would like to change some aspects of their lives, they consider themselves happy.
- Most of residents are satisfied with their quality of life in the Algarve.

The following conclusions stand out for TOURISTS during the high season of tourism activity in 2022:

- Tourists in the Algarve come from 58 different countries. The surveyed group closely reflected the key visitor markets to the Algarve, with the highest numbers coming from Portugal, the United Kingdom and Germany.
- Tourists of the surveyed group spent, on average, 4-7 nights or 8-15 nights in the region and visited primarily for holiday purposes or to see friends and family.
- Respondents arrived by airplane or car and booked their itinerary online utilizing Booking.com, Airbnb and TripAdvisor. Hotels and resorts of four or more stars and local lodging are the preferred accommodation choices.

- Respondents assess the service quality of accommodation, restaurants, local trade stores and shopping centres as high. The United Kingdom and Ireland rate the overall satisfaction with the Algarve the highest, whereas the Portuguese reported the lowest satisfaction levels among the surveyed group.
- Crime and violence are not a primary concern for most tourists during their holiday in the Algarve. However, the Dutch respondents indicate more significant safety concerns than other main origin markets.
- Differences among countries of origin for revisitation intentions are observed, with Germans showing the lowest interest in revisiting the Algarve and the highest indicated by visitors from the UK and Portugal.
- The tourist profile of the surveyed group shows that the Algarve attracts individuals that enjoy visiting new and exotic destinations. However, many tourists mentioned enjoying revisiting the same destination, which leads to the conclusion that the sample consists of first-time visitors drawn to the Algarve as an unknown and exotic destination with high revisit intentions.

6

Conclusions

6. Conclusions

Nothing would have predicted that after two years strongly marked by the pandemic, the world would once again be impacted by another factor with great economic and social effect. The war in Ukraine challenges us, once again, to periods of uncertainty and deprivation, accelerated by the inflationary and recessive context, which is naturally reflected in the tourism sector.

How can an imminently touristic region be prepared to face such impacts? Faced with such uncertainty, how does an entire sector react when it is still trying to recover and reverse the effects verified during and after the pandemic? The answers and the paths to be followed must combine a blend of ambition and prudence.

The incessant search for qualification and sustainability of the Algarve destination is found in the promotion of improved quality of life and greater social and territorial cohesion, duly aligned with international agendas and national and regional strategies, including sectoral ones. This motivation is part of the regional strategic vision for 2030, which has the dual ambition of achieving more sustainable competitiveness and more competitive sustainability.

The challenges are enormous, and the results observed in performance in 2022 are not indifferent.

There are very favourable signs regarding the performance of economic indicators. First of all, profit (total and accommodation) with values that exceed those of the pre-pandemic, or revenue per available room (RevPAR), which reaches the highest value in the last five years, in 10 of the 12 months of the year, in a clear appreciation of low season periods and the blurring of seasonality, which grow in value.

For the Algarve Sustainable Tourism Observatory (ALGSTO), 2022 was the first year in full operation of its attributions, being decisive in the development of the work and competences foreseen in the collaborative network and its different bodies. It was possible to promote moments of inquiry to residents and tourists, with very significant

samples and territorial coverage, which added additional critical value for the fulfilment of the Observatory's mission. Of these processes, the advances and outputs recorded in the Monitur, TurExperience and ResTour research projects stand out.

It should be noted the detailed information obtained with these projects, with the possibility of supporting decisions and choices in a regional and local context, in a relatively small region, but very diverse, even in its profile and tourist performance. Knowledge based on perceptions highlights the importance of constantly monitoring the involvement of residents, in positive and negative impacts, in economic, socio-cultural and environmental terms.

On the tourists' opinion side, the relevance of regular and continuous assessment of the generalized quality of the destination and the services offered, as well as the complementarity of the analysis with other sources of additional information based on interactions in social networks, allowed to expand the universe of data and its qualitative dimension.

In terms of the overall satisfaction of tourists by country of origin, it is important to reflect seriously on the different perceptions of Portuguese tourists, with a less positive result compared to other markets, where the United Kingdom, Ireland and Germany favourably stand out. However, as expected, almost 99% of the national market intends to revisit the destination. Overall, the great majority of surveyed tourists (almost 95%) recommend the Algarve destination to their family and friends.

In the specific comparison of the Algarve with other sun and beach destinations, the evaluation "better" and "much better" stands out positively, which accounts for almost 45% of the responses, which is both motivating and challenging, as it raises the level of responsibility and commitment of all regional actors.

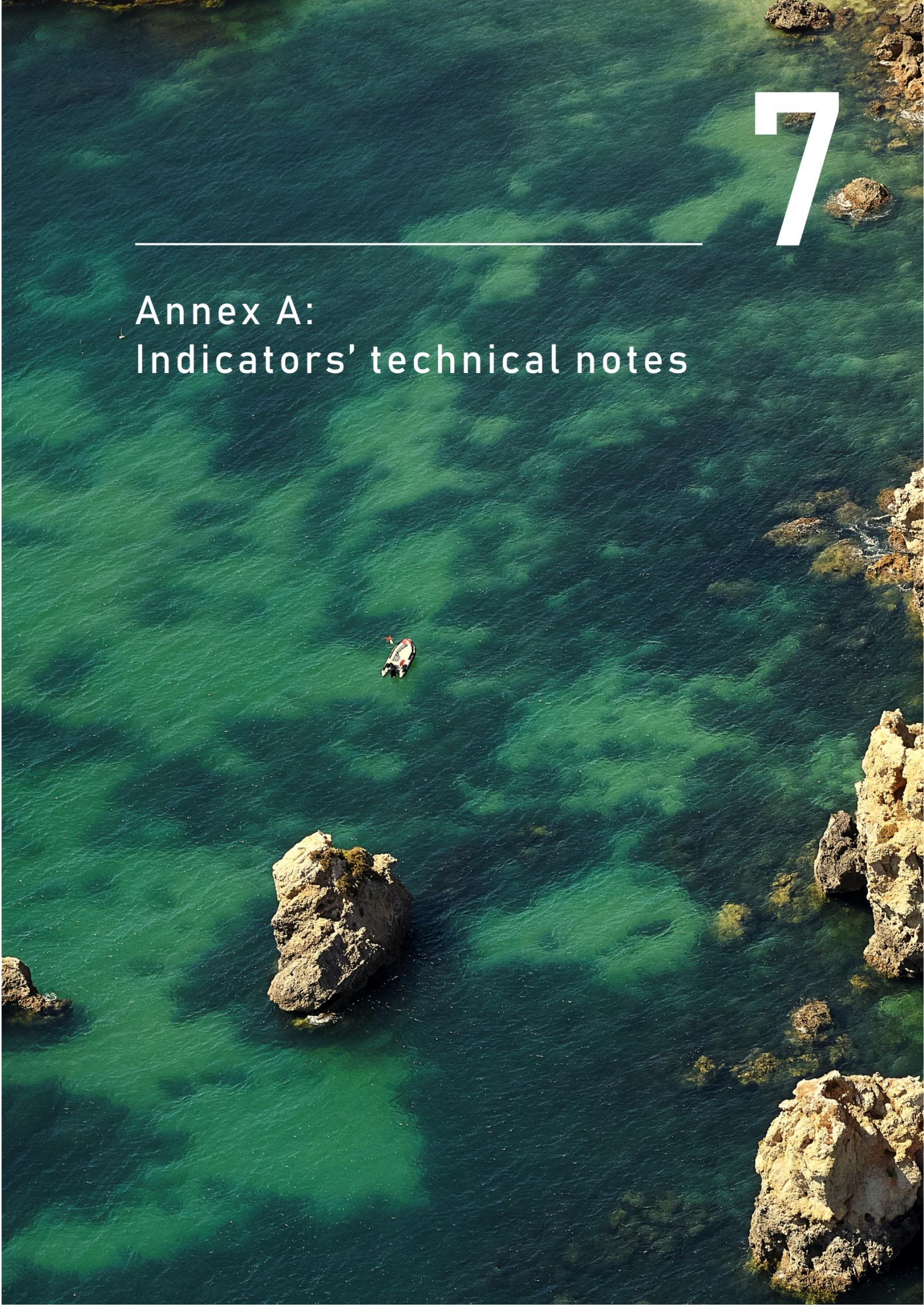
Additionally, from a functional point of view, the ALGSTO must focus on improving the visibility of its work, using dedicated channels, to reach the main stakeholders in the region. Likewise, the exemplary work already developed must be strongly shared with the other members of the INSTO network, promoting the replicability and scalability of

knowledge and practices, also allowing mutual learning processes and comparability with other tourist destinations.

The adoption by the European Commission at the end of 2022 of the Algarve 2030 Regional Program will make it possible to implement more competitive and sustainable paths, providing funding opportunities for the knowledge transfer; for the promotion of entrepreneurial discovery processes in the tourism sector; for productive innovation and qualification; for decarbonization and energy and water efficiency; for the adoption of circular practices in companies; to improve academic and professional qualifications; for the enhancement of public space and heritage; the adoption of smooth and decarbonized mobility standards or the enhancement of natural resources and biodiversity, all of which are highly relevant for tourism.

Such funding opportunities should be combined with those already available in terms of the Portuguese Recovery and Resilience Plan and other European and national instruments, allowing to accelerate the desired sustainability standards for tourism.

We are convinced that the ambition of sustainability contributes to affirming the Algarve tourist destination as an international reference, also assuming AlgSTO, a preponderant role in the generation of knowledge that confirms this and for the valorisation and promotion of the destination.



7

Annex A: Indicators' technical notes

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Table A1: Tourist Intensity Index

Algarve Indicator	**Tourist Intensity**
UNWTO Mandatory Area	**Local Satisfaction with tourism**
ETIS section	C. Social and cultural impact
ETIS criterion	C.1 Community /social impact
ETIS indicator	C.1.1 Number of tourists/visitors per 100 residents
Description	Tourism Intensity. Measures the ratio between overnight stays in collective tourist accommodations and the resident population residing in the same area over the same period.
Concepts	**Tourist accommodation establishment**: Establishment that provides short-term accommodation services for remuneration, operating in one or more buildings or facilities. Types: hotels, local accommodation, tourism in rural areas and lodging tourism.
Approach/Calculation	*((Annual overnight stays / 365) / Total resident population) * 100* *((Monthly overnight stays / n days month) / total resident population) * 100*
Geographic level and periodicity	NUTSII: Monthly (Jan 2019-Nov 2022), Annual (2014-2021) Municipality: Annual (2014-2021)
Data source(s)	• INE, guests stays and other data on hotel activity survey. Indicator: Nights (No.) in tourist accommodation establishments by Geographic localization (NUTS - 2013) and Type (tourist accommodation establishment); Monthly • INE, Annual estimates of resident population. Indicator: Resident population (No.) by Place of residence (NUTS - 2013), Sex and Age group; Annual
Limitations/issues	• There is no data available on tourist arrivals on a regional level. Therefore, it was chosen to use tourist nights instead of number of tourists. • The category 'nights tourist accommodation establishments' does not cover all tourist nights since it leaves out some types of accommodation (such as youth hostels, holiday camps and camp-sites).

Table A2: Lodging capacity in tourist accommodation establishments, per 1000 inhabitants

Algarve Indicator	**Number of beds available in tourist accommodation establishments per 1000 residents**
UNWTO Mandatory Area	**Local Satisfaction with tourism**
ETIS section	C. Social and cultural impact
ETIS criterion	C.1 Community /social impact
ETIS indicator	C.1.3 Number of beds available in commercial accommodation establishments per 1000 residents.
Description	Number of beds available in tourist accommodation establishments per 1000 residents.
Concepts	**Tourist accommodation establishment**: Establishments that provide short-term accommodation services for remuneration, operating in one or more buildings or facilities. Hotels, local accommodation, campsites, youth hostels, tourism in rural areas and lodging tourism.
Approach	Composite indicator based on secondary data. (Lodging capacity tourist acc. / total residents) * 1000
Geographic level and periodicity	NUTSII: Annual (2017-2021) By Municipality: (2017-2021)
Data source	• INE, Guests stays and other data on hotel activity survey. Indicator: Lodging capacity (No.) in tourist accommodation establishments by Geographic localization (NUTS - 2013) and Type (tourist accommodation establishment); Annual • Lodging capacity in tourist accommodation establishments by 1000 inhabitants (No.) by Geographic localization (NUTS - 2013); Annual • From the above two sources data is available for the years 20142018 only, hence we obtained the remaining data from the tables provided by 'Tourism Statistics' following the individual links for each year: • https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=5596816&PUBLICACOEStema=00&PUBLICACOESmodo=2 • https://www.ine.pt/ngt_server/attachfileu.jsp?look_parentBoui=416437385&att_display= • INE, Annual estimates of resident population. Indicator: Resident population (No.) by Place of residence (NUTS - 2013), Sex and Age group; Annual
Limitations/Issues	Data for the municipalities does not capture the full scope of accommodation types. Campsites, holiday camps and youth hostels are not included.

Table A3: Tourist Density Index

Algarve Indicator	**Tourist Density**
UNWTO Mandatory Area	**Local Satisfaction with tourism**
ETIS section	C. Social and cultural impact
ETIS criterion	No Match as this is Algarve specific
ETIS indicator	
Description	Tourist Density - allows the assessment of tourist pressure on the region, through the relationship between the number of overnight stays in tourist developments and the area of the region, measured in km2.
Concepts	Includes the entire tourist accommodation sector: hotels (hotels, apartment hotels, tourist apartments, tourist villages, inns and farms in Madeira), local accommodation with 10 or more beds (according to the statistical threshold provided for in EU Regulation 692 / 2011) and tourism in the rural / housing space.
Approach	Direct Data from Turismo de Portugal
Geographic level and periodicity	NUTSII Annual (2017-2021)
Data source(s)	https://travelbi.turismodeportugal.pt/pt-pt/Paginas/PowerBI/Sustentabilidade/densidade-turistica.aspx
Limitations/issues	Only available from 2015

Table A4: Number of hospital beds, per 1000 inhabitants

Algarve Indicator	Number of hospital beds, per 1000 inhabitants
UNWTO Mandatory Area	Local Satisfaction with tourism
ETIS section	C. Social and cultural impact
ETIS criterion	No Match as this is Algarve specific
ETIS indicator	N.A.
Description	The indicator contrasts hospital response capacity, measured in number of beds, with the potential demand for hospital care services, this including not only that coming from residents, but also that from tourists as an occasional and non-permanent population
Concepts	Bed - Equipment intended for the stay of an individual in a health care establishment. Hospital - Health establishment that provides in-patient and out-patient curative and rehabilitative health care, and may collaborate in disease prevention, teaching and scientific research.
Approach	$\frac{\text{CH}}{R+\frac{\text{DT}}{365}} \times 1000$ CH – the number of hospital beds; R – the number of inhabitants (residents); DT – the number of overnight stays of tourists.
Geographic level and periodicity	Algarve: Quarterly (2013-2021)
Data source(s)	INE: Beds (No.) of public hospitals of universal access and hospitals in public-private partnership by Geographic localization (NUTS - 2013) and Modality; Annual (2) Resident population (No.) by Place of residence (NUTS - 2013), Sex and Age group; Annual
Limitations/issues	- Residents remain at their homes for 365 (or 366) days of the year concerned. Surely, the number of days residents stay in their homes should be adjusted for their periods of absence (whether on vacation, business or any other reason). For example, if the average period of absence of residents from their homes is seven days, the value to use would be equal to 365-7=358. - The level of demand for hospital care by tourists is, on average, identical to that of the resident population. If this is not the case, there would be an indication to introduce some form of compensation in the formula. A possible criterion would be based on the average ages of the two population segments, since it is assumed that the age structure of the resident population does not coincide with that exhibited by tourists.

Table A5: Number of nights in tourist accommodation establishments, per month

Algarve Indicator	**Number of nights in tourist accommodation establishments**
UNWTO Mandatory Area	**Destination Economic Benefits**
ETIS section	B. Economic value
ETIS criterion	B.1 Tourism flow at destination
ETIS indicator	B.1.1 Number of tourist nights per month
Description/concepts	Number of nights in tourist accommodation establishments per month. **Tourist accommodation establishment**: Establishment that provides short-term accommodation services for remuneration, operating in one or more buildings or facilities. Types: hotels, apartment hotels, tourist apartments, tourist villages, Inns and others.
Approach	Direct use of secondary data
Geographic level and periodicity	NUTSII: Monthly (Jan 2013– Oct 2022) By Municipalities, Annual: (2011-2020)
Data source(s)	• TravelBI by Turismo de Portugal. https://travelbi.turismodeportugal.pt/ptpt/Paginas/PowerBI/dormidas.aspx (They have sourced the data from: INE, Guest stays and other data on hotel activity survey. Indicator: Nights (No.) in tourist accommodation establishments by Geographic localization (NUTS - 2013) and Type (tourist accommodation establishment); Monthly) For municipality data http://smi.ine.pt/Indicador/Detalhes/13750?LANG=EN
Limitations/issues	The category 'tourist accommodation establishments' does not capture the full scope of accommodation types. Nights in youth hostels, campsites and holiday camps are not included in this indicator.

Table A6: Relative contribution of tourism in the region to the regional and national economy

Algarve Indicator	**Gross value added by economic sector**
UNWTO Mandatory Area	**Destination Economic Benefits**
ETIS section	B. Economic value
ETIS criterion	B.1 Tourism flow at destination
ETIS indicator	B.1.3 Relative contribution of tourism to the destination's economy (%GDP)
Description	Gross value added (in % of total GVA) by enterprises per economic sector. It allows to view the relative weight of the tourism industry in the total GVA of Portugal. The industries are categorised by CAE Rev. 3 classification, which is the Portuguese implementation of the NACE Rev.2 classification of economic activities provided by EUROSTAT. In this classification the sector 'accommodation and food service activities' can be regarded as (partially) representing the tourism industry.
Concepts	**Gross value added**: Gross production value less the cost of raw materials and other consumption in the production process. **Enterprise**: Legal entity (natural or legal person) that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations.
Approach	Direct use of secondary data (converted into percentages).
Geographic level and periodicity	NUTSII and Municipality: Annual (2011 – 2020)
Data source(s)	INE, Integrated business accounts system. Indicator: Gross value added (€) of Enterprises by Geographic localization (NUTS - 2013) and Economic activity (Division - CAE Rev. 3); Annual
Limitations/issues	The sector 'accommodation and food service activities' does not cover the entire tourism industry. However, considering the lack of detailed data on the entire industry, it is still a useful starting point to analyse the share of GVA by the tourism industry.

Table A7: Average stay of tourists

Algarve Indicator	**Average stay of tourists**
UNWTO Mandatory Area	**Tourism Enterprise Performance**
ETIS section	B. Economic Value
ETIS criterion	B.2 Tourism Enterprise Performance
ETIS indicator	B.2.1 Average length of stay of tourists (nights)
Description	This indicator, by relating the number of tourists with the number of overnight stays in tourist accommodation establishments, constitutes an instrument which is an important factor in monitoring tourism seasonality and analysing economic/environmental sustainability.
Concepts	Tourist Accommodation establishments = hotels + apartment hotels + tourist villages + lodging houses + Inns + rural tourism + lodging tourism + local accommodation
Approach/Formula	Composite indicator based on secondary data = Ratio of the number of nights spent to the number of guests that gave rise to these nights spent. Number of nights spent / Number of guests that originated those nights
Geographic level and periodicity	NUTSII Annual (2007-2021)
Data source(s)	https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=384536089&PUBLICACOESmodo=2
Limitations/issues	Classification of touristic establishments is consistent from 2013 onwards. Till 2012 touristic accommodation establishments did not include rural and habitational tourism, local accommodation, camping sites, youth hostels, lodges or summer camps. Moreover, each year had different components in the definition.

Table A8: Productivity of tourism

Algarve Indicator	**Productivity of tourism activity**
UNWTO Mandatory Area	**Destination Economic Benefits**
ETIS section	B. Economic value
ETIS criterion	No Match as this is Algarve specific
ETIS indicator	N.A
Description	This indicator measures the productivity of the sector by quantifying the relationship between GVA and employment generated in the sector
Concepts	**Gross value added**: Gross production value less the cost of raw materials and other consumption in the production process. **Total Employment:** Persons employed (No.) in Enterprises by Geographic localization (NUTS - 2013) and Economic activity (Division - CAE Rev. 3); Annual **Enterprise**: Legal entity (natural or legal person) that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations.
Approach	Ratio = Total GVA of Accommodation sector + Food and beverage sector + Travel Agencies, tour operator, reservation services and related activities / Total no. of persons employed in each sector
Geographic level and periodicity	NUTSII and Municipality: Annual (2011 – 2020)
Data source(s)	INE, Integrated business accounts system. Indicator: Gross value added (€) of Enterprises by Geographic localization (NUTS - 2013) and Economic activity (Division - CAE Rev. 3); Annual Persons employed (No.) in Enterprises by Geographic localization (NUTS - 2013) and Economic activity (Division - CAE Rev. 3); Annual
Limitations/issues	The sector 'accommodation and food service activities', 'accommodation sector' and 'food and beverage sector' have been considered to represent the tourism sector.

Table A9: Direct employment in tourism as a percentage of total employment in the region

Algarve Indicator	**Direct Employment in tourism as a percentage of total employment in the region**
UNWTO Mandatory Area	**Employment**
ETIS section	B. Economic value
ETIS criterion	B.3 Quantity and Quality of employment
ETIS indicator	B.3.1 Direct tourism employment as a percentage of total employment in the destination
Description	This indicator allows to understand the role of tourism in job creation and the relative importance of the sector in terms of job creation.
Concepts	**STAFF**: The persons who during the reference period participated in the business of the enterprise/institution, regardless of the duration of this participation, under the following conditions: a) staff bound to the enterprise/institution by an employment contract, receiving remuneration in return; b) staff which has ties to the enterprise/institution, who, for not being bound by an employment contract, does not receive regular remuneration for the hours worked or the labour supplied (e.g. owner-managers, unpaid family workers, active members of cooperatives); c) staff with ties to other enterprises/institutions who worked at the enterprise/institution and receive remuneration directly from it; d) persons in the above situations, absent for a period of no more than one month due to holidays, labour dispute, vocational training, as well as disease and occupational accident. **HOTEL ESTABLISHMENT**: Tourist development (establishment) with the purpose of providing, on a fee basis, lodging and other accessory or support services, with or without the provision of meals. Hotel establishments can be classified as: hotels, boarding houses, lodging houses, inns, motels and apartment-hotels. For statistical purposes, also included here are tourist villages and tourist apartments. **ENTERPRISE**: Legal entity (natural or legal person) that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations.
Approach	Employment in tourism sectors as a %age of total employment = (Total employment in Accommodation sector + Food and beverage sector + Travel Agencies, tour operator, reservation services and related activities)/Total employment*100
Geographic level and periodicity	NUTSII and Municipality: Annual (2011 – 2020)
Data source(s)	INE, Integrated business accounts system. Indicator: Persons employed (No.) in hotel establishments by Geographic localization (NUTS - 2013) and Type (hotel establishment); Annual For total employment and employment in tourism sectors: Persons employed (No.) in Enterprises by Geographic localization (NUTS - 2013) and Economic activity (Division - CAE Rev. 3); Annual

Limitations/issues	The sector 'accommodation and food service activities', 'accommodation sector' and 'food and beverage sector' have been considered to represent the tourism sector, as there is no direct data designated as 'tourism sector'. The annual employment figures for hotel establishments by geographic localization and type have also been included. However, data for municipalities is not available for this category.

Table A10: Number of nights spent in the region by tourists, per month

Algarve Indicator	**Number of nights in tourist accommodation establishments**
UNWTO Mandatory Area	**Destination Economic Benefits**
ETIS section	B. Economic value
ETIS criterion	B.1 Tourism flow at destination
ETIS indicator	B.1.1 Number of tourist nights per month
Description/concepts	Number of nights in tourist accommodation establishments per month. **Tourist accommodation establishment**: Establishment that provides short-term accommodation services for remuneration, operating in one or more buildings or facilities. Types: hotels, apartment hotels, tourist apartments, tourist villages, Inns and others.
Approach	Direct use of secondary data
Geographic level and periodicity	NUTSII: Monthly (Jan 2013– Oct 2022) By Municipalities, Annual: (2013-2022)
Data source(s)	• travelBI by Turismo de Portugal. https://travelbi.turismodeportugal.pt/ptpt/Paginas/PowerBI/dormidas.aspx • For municipality data: http://smi.ine.pt/Indicador/Detalhes/13750?LANG=EN
Limitations/issues	The category 'tourist accommodation establishments' does not capture the full scope of accommodation types. Nights in youth hostels, camp-sites and holiday camps are not included in this indicator.

Table A11: Seasonality Rate

Algarve Indicator	Seasonality Rate
UNWTO Mandatory Area	**Seasonality**
ETIS section	No Match as it is Algarve specific indicator
ETIS criterion	
ETIS indicator	
Description/concepts	*Seasonality Rate = (Total No. of nights in tourist accommodation establishments in July + August + September / Total No. of nights in tourist accommodation establishments whole year)*100* Seasonality Rate: assesses the relative weight of tourist demand in the three months of greatest demand (July, August and September), in relation to the annual total, as measures by the number of overnight stays in accommodation establishments. Tourist accommodation establishment: Establishment that provides short-term accommodation services for remuneration, operating in one or more buildings or facilities. Types: hotels, apartment hotels, tourist apartments, tourist villages, Inns and others.
Approach	Composite Indicator based on secondary data
Geographic level and periodicity	NUTSII: Monthly (Jan 2014 – Oct 2022)
Data source(s)	• travelBI by Turismo de Portugal. https://travelbi.turismodeportugal.pt/ptpt/Paginas/PowerBI/dormidas.aspx (They have sourced the data from: INE, Guest stays and other data on hotel activity survey. Indicator: Nights (No.) in tourist accommodation establishments by Geographic localization (NUTS - 2013) and Type (tourist accommodation establishment); Monthly)
Limitations/issues	The category 'tourist accommodation establishments' does not capture the full scope of accommodation types. Nights in youth hostels, camp-sites and holiday camps are not included in this indicator. Using this formula, it is not possible to calculate seasonality for the municipalities of Algarve as monthly data is not available for "total no. of nights in tourist accommodation establishments". Only annual data (from 2011-2018) is available at INE for the municipalities.

Table A12: Movement of Passengers on Inland Waterways

Algarve Indicator	**Movement of Passengers on Inland Waterways**
UNWTO Mandatory Area	**Environmental Impact**
ETIS section	D. Environmental Impact
ETIS criterion	This is Algarve specific
ETIS indicator	Mobility
Description	This indicator measures the number of passengers moving on inland waterways
Concepts	Movement of passengers in inland waterways by river line, that is a regular public transport service following itineraries, timetables or minimum frequencies and with pre-established fares. There are urban and interurban routes. National level Beaches - Ria Formosa (Faro - Faro island; Faro - Deserta island; Faro - Farol island; Olhão - Farol island; Olhão - Culatra island; Olhão - Armona island; Tavira - Tavira island; Quatro-Águas - Tavira island; Fuzeta - Armona island; Sta. Luzia - Terra Estreita; Faro – Culatra island; Cabanas - Cabanas island); and international level Guadiana River (V. R. S. António - Ayamonte).
Approach	Data obtained from INE by OBSERVE
Geographic level and periodicity	Quarterly data from 2005 to 2022 (Q3)
Data source(s)	INE- Retrieved from Inland waterways passengers and goods transport survey
Limitations/issues	Pressure on inland waterways is measured

Table A13: Number of passengers boarded and disembarked at Faro Airport

Algarve Indicator	**Number of passengers boarded and disembarked at Faro Airport**
UNWTO Mandatory Area	**Environmental Impact**
ETIS section	D. Environmental Impact
ETIS criterion	This is Algarve specific
ETIS indicator	Mobility
Description	This indicator provides the number of passengers embarked and disembarked at Faro Airport
Concepts	Nature of traffic (internal, territorial and international) is captured via this indicator.
Approach	Data obtained from INE by OBSERVE
Geographic level and periodicity	Yearly data from 2007 to 2022 (Q3)
Data source(s)	INE- Retrieved from Airports and airfields survey.
Limitations/issues	Reflects the strong seasonality of the tourist activity.