

QUANTIFICATION OF THE VARIABLES OF THE MEDITERRANEAN CRUISING INFORMATION MODEL FOR 2017

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Summary: In this scientific paper, cruise tourism in the Mediterranean area is explored, with particular emphasis on cruise ships. This paper analyzes the landing data of ships and passengers in the busiest ports for the reception of cruise ships in the Mediterranean area. The trends of passenger traffic from 2012 to 2017 were investigated at five major cruise ports in the Mediterranean: Barcelona, Civitavecchia, Balearic Islands, Venice and Marseille. Based on the mentally verbal knowledge of the aforementioned, the selected model variables were quantified on an index scale of zero to 100, the 2017 Mediterranean Cruise Information Model.

Keywords: nautical tourism, cruising, Mediterranean, ports, cruise ships

1. INTRODUCTION

The Mediterranean is one of the oldest historical hotspots and has played a significant role since the beginning of civilization. Due to its historical, natural, cultural and civilizational aspects, the Mediterranean is one of the most interesting tourist destinations in the world.

The research framework of this scientific work is cruise tourism in the Mediterranean Sea, with particular emphasis on cruise ships. The purpose of the research is to give a broader insight into cruise tourism in the Mediterranean region.

Based on the analysis of the existing literature and statistics, the aim of the study was to investigate the total movements of the number of passengers in leading Mediterranean cruise ports. Based on the aforementioned research, statistics for the period from 2012 to 2017 will be presented in detail, including the total number of passengers for the most important Mediterranean cruise ports: Barcelona, Civitavecchia, Balearic Islands, Venice and Marseille.

The following scientific methods will be used in the paper: the method of analysis and synthesis, the inductive and deductive method, the method of abstraction and concretization, the method of generalization and specialization, the comparative method, and the method of proving and refuting.

The scientific paper will quantify the selection of model variables on the index scale from zero to 100, the information model of Mediterranean cruising for 2017. Zero represents a value that is self-explanatory. The value of 100 is the one that all cruise ports in the world aspire to, and that is, all cruise ships calling at the port use the same as the departure and final ports. The most important variables of this model are: Barcelona, Civitavecchia, Balearic Islands, Venice and Marseille.

2. PORT CRUISE IN THE MEDITERRANEAN

Cruise ports are part of the cruise, and their purpose is to connect the ship to the

mainland, the location for embarking passengers on the cruise ship and completing the contents on board. Cruise ports can be divided into two basic types: home port and port of call. Base ports and port ports are selected by cruise companies and must be met by a number of conditions to be selected.

Base ports are defined as the points of embarkation and / or disembarkation of passengers and the starting and ending points of the journey. Base port terminals must be equipped with all the facilities necessary for the reception and supply of cruisers and passages for the smooth movement of passengers and baggage. With all of these conditions, security conditions are crucial for a port to gain base port status.

MedCruise (2016) states that one of the main conditions you need to have a base port is good transport links with the emission markets, good road and rail connections, proximity to the airports and tourist attractions of the destination. The top five base ports in the Mediterranean are: Barcelona, Civitavecchia, Balearic Islands, Venice and Marseille.

Peručić (2013) states that ports of call are also referred to as ports of call for cruise ships. They are determined by the offer of the tourist destination and the connection with the attractive cities in the vicinity. In order for a port to have the status of a port of call, it must meet conditions such as the development of port infrastructure, large parking lots, adequate equipment and an attraction that is unique, that is, which makes that port different from the rest.

MedCruise (2016), in its statistical report, explains the five main ports of call in the Mediterranean, according to 2015 data are: Civitavecchia (Italy), Balearic Islands-Baelari (Spain), Barcelona (Spain), Kusadasi / Bodrum / Antalya (Turkey) and Piraeus (Greece).

2.1. Barcelona

Strazinic (1996) elaborates that Barcelona is a seaport and the capital of the autonomous province of Catalonia, which is located within Spain. It is located in the southeastern part of the country, 150 km south of the border with France. Barcelona is a shopping center and a major seaport. While Peručić (2013) says that the Port of Barcelona has a modern infrastructure, seven terminals and is well connected to the city and the airport. Also, it has the status of a cruise center-destination because it is tourist attractive, well connected with traffic and has developed infrastructure.

Medcruise (2017) claims that Carnival Corporation and the Carnival Group has invested € 100 million in the construction of the terminal and the improvement of the plant in recent years.

The Barcelona Cruise Terminals are located close to the city (4 km) and the airport (7 km). Due to the capacity of the airport of 40 million passengers, the port of Barcelona is one of the largest departure destinations for cruises in the world. Good rail links allow quick access to other major cities in Spain as well as the rest of Europe.

In 2013 and 2015, Barcelona recorded growth (Table 1). In 2014, the number of passengers decreased by 9.4%, compared to 2013. Barcelona, as the most popular cruise port in the Mediterranean, recorded a 7.9% growth in 2015 compared to the previous year. In 2016, the movement of passengers declined again, but in 2017 there is a 7.4% increase in the number of passengers again, reaching a turnover of over 2.5 million passengers in 2011 and 2013.

Table 1: Total number of passengers and departures at the Port of Barcelona in the period 2012-2017. Mr Günter

Year	Number of passengers (boarded / unloaded)	Number of passengers in transit	Total number of passengers (Boarding / unloading + transit)	of call
2012.	1 265 613	1 084 670	2 350 283	841
2013.	1 499 534	1 157 710	2 657 244	881
2014.	1 438 383	970 251	2 408 634	774
2015.	1 506 286	1 092 966	2 599 232	835
2016.	1 222 487	1 141 805	2 364 292	767
2017.	1 363 754	1 176 548	2 540 302	749

Source:

<http://www.medcruise.com/port/66/barcelona> (26.10.2017.)

The following is a quantification of the Barcelona variable: $1\ 363\ 754 : 2\ 540\ 302 = 53$ on an index scale of zero to 100.

2.2. Civitavecchia

MedCruise, (2016) shows that the port of Civitavecchia is located in Italy, on the coast of the Tyrrhenian Sea and is the second busiest cruise port in the Mediterranean. The port of Civitavecchia is connected by rail, road and air with other parts of Italy and Europe. It is 80 km away from Rome and the Vatican, the most important tourist destinations in Italy. Civitavecchia is the base port in the Mediterranean, has 6 passenger terminals and 28 berths. The goal of the port of Civitavecchia is to become the main cruise port in the Mediterranean.

Over the last 5 years, Civitavecchia has more than two million passengers a year (Table 2).

Table 2. Total number of passenger movements and departures at Civitavecchia in the period 2012-2017.

Mr.

Year	Number of passengers (boarded / unloaded)	Number of passengers in transit	Total number of passengers (Boarding / unloading + transit)	of call
2012.	643 772	1 300 951	1 944 723	900
2013.	972 850	1 604 588	2 577 438	1 002
2014.	920 612	1 472 958	2 393 570	1 040
2015.	989 998	1 548 261	2 538 259	959
2016.	730 938	1 409 101	2 140 039	833
2017.	868 143	1 403 509	2 271 652	794

Source:

http://www.medcruise.com/sites/default/files/cruise_activities_in_medcruise_ports_statistics_2016_final_0.pdf (10.11.2017.)

Over the 5 year period, there is a 16.8% increase in passenger movements, from 1.94 million to 2.27 million passengers a year. Such results show the growing interest of passengers and shipping companies for the port of Civitavecchia, which alone recorded more than 2 million passengers in Barcelona in 2017. This is due to its good geographical location, close proximity to many cultural sites,

satisfactory infrastructure and excellent connectivity to the rest of Europe and the world. 2015 saw the highest passenger traffic of 2.53 million passengers, which is also the highest number of passengers in the history of the port of Civitavecchia.

Civitavecchia records the highest number of berths and according to these figures, it is the leading port in the Mediterranean. Barcelona and Piraeus follow.

The following is a quantification of the Civitavecchia variable: $868\,143 : 2\,271\,652 = 38$ on an index scale of zero to 100.

2.3. Balearic Islands

From the Ports de Balears (2017), the Balearic Islands (Balearic Islands) is the third busiest cruise port destination in the Mediterranean. What attracts travelers and cruisers to the Balear Islands is the specificity of the island's lifestyles, delicious food, shopping, culture, historic sites and beaches. The Balearic Islands have five ports managed by the Port Authority of Baleari. All five ports are equipped and equipped to accommodate the world's largest cruisers. These are: Palma, Alcudia, Mahon, Ibiza and La Savina.

Table 3: Total number of passenger movements and movements in the ports of the Balear Islands in the period 2012-2017

Year	Number of passengers (boarded / unloaded)	Number of passengers in transit	Total number of passengers (Boarding / unloading + transit)	Of call
2012	571 209	975 530	1 546 739	723
2013	587 048	1 021 656	1 608 704	613
2014	466 385	875 125	1 341 510	632

2015	490 631	1 050 745	1 541 376	699
2016	606 549	980 515	1 587 064	678
2017	553 928	1 442 605	1 996 533	788

Source:

[http://www.portsdebalears.com/\(12.11.2017\)](http://www.portsdebalears.com/(12.11.2017))

The change in passenger numbers between 2012 and 2017 is 29%, which makes the Balears increasingly attractive as a cruise destination year after year. The lowest total number of passengers was recorded in 2014. The number of passengers in transit is more significant than the number of passengers disembarked / disembarked. Also, the year 2014 recorded a smaller number of berths, which is probably the reason for the smaller number of cruise passengers. Although a smaller number of berths was seen in 2014 (632 ships), however, the smallest number of touches was recorded in 2013 (613 ships). A much smaller number of ships than in the previous and next year does not register and a smaller number of passengers, moreover, the number of passengers increased. This may be due to larger ships than a year earlier / later or ships of the same capacity, but with maximum passenger capacity.

Likewise, the difference in passenger numbers is evident between 2016 and 2017. In 2017, the number of passengers increased by 26% and the number of ticks by 16% (Table 3). From the above, the quantification of the Balearic Islands (Balearic Islands) variable follows: $553\,928 : 1\,996\,533 = 28$ on an index scale of zero to 100.

2.4. Venice

According to <https://en.wikipedia.org/wiki/Venice>

(10/11/2017) the port of Venice, as well as the city itself, is located on a group of 118 islands, in a vast swamp lagoon in the northern part of the Adriatic Sea. The Venice Travel Terminal was built in 1997. Kesic and Jugovic (2006) argue that Venice is today the most important port of call in the Mediterranean, which is also indicated by the fact that more than 1.4 million passengers are used by the Port of Venice each year for embarkation / disembarkation. MedCruise (2016) says that Base Port Status can be appreciated by its geographical location. It is located at the intersection of major road, rail and air links and is close to the city center and therefore tourist attractions. The city of Venice is an important tourist destination and after Rome the most important tourist destination of Italy. At <http://www.vtp.it/en/company/> (10.11.2017.) It is evident that the passenger port of Venice has 9 terminals and has a car park for 60 buses and 850 cars. Each terminal is equipped with the state-of-the-art technology needed to accommodate cruisers.

Table 4: Total number of passenger movements and departures at the Port of Venice in the period 2012-2017.

Year	Number of passengers (boarded / unloaded)	Number of passengers in transit	Total number of passengers (Boarding / unloading + transit)	Of call
2012	1 312 895	304 116	1 617 011	629
2013	1 448 622	337 794	1 786 416	654
2014	1 444 100	331 844	1 775 944	661
2015	1 512 596	303 227	1 815 823	548
2016	1 509 097	224 742	1 733 839	488
2017	1 364 044	218 437	1 582 481	521

Source: <http://www.vtp.it/en/company/> (10.11.2017.)

The total number of passengers, relative to passengers in transit, is dominated by passengers for boarding / disembarking purposes (Table 4). In the period from 2012 to 2016, the port of Venice recorded a steady increase in the total number of passengers, while in 2017 it decreased by 8.73% compared to 2016. Also, in 2017, the total number of passengers is 2.14% lower than in 2012. The reason for this is a smaller number of passengers in transit, while the number of boarding / disembarking passengers is higher by 4% compared to 2012. The number of berths in the port of Venice in 2017 is lower than in the first three years (Table 4). Specifically, in 2017 the port of Venice recorded 17% fewer touches than in 2012. The highest number of ship docks was recorded in 2014 and 2015 as well as the number of passengers in transit. From the following, the quantification of the variable Venice: $1\ 364\ 044 : 1\ 582\ 481 = 86$ on an index scale of zero to 100.

2.5. Marseille

At <http://www.enciklopedija.hr/natuknica.aspx?id=39102> (11/18/2017), Marseille is the second largest city in France and the largest French port. It is geographically located in the south of France, on the Gulf of Lyon. The website <http://www.enciklopedija.hr/natuknica.aspx?id=39102> (2017) claims that it is one of the busiest freight and passenger ports in Europe. Strazinic (1996) says that the present port extends over 50 km.

At <https://en.wikipedia.org/wiki/Marseille> (11/18/2017), the port of Marseille is well connected to the hinterland, rail, road and pipeline. Marseille has a total of 22 museums and cultural heritage centers, with festivals frequently held nationally and internationally in the city. More recently,

the Marseille Provence Cruise Center has been built, a cruise ship terminal. In 2017, Marseille as a base port recorded more than 0.5 million passengers, placing it at the seventh position of the most important cruise base ports in the Mediterranean.

MedCruise, (2016) says that over a period of five years, the port of Marseille has seen a continuous increase in the total number of passengers (Table 5). It also records the most dynamic increase in passenger numbers and destinations from all ports in the Mediterranean. The number of passengers in 2017 is 107% higher than in 2012. The only decrease in the number of passengers in transit was recorded in 2016, but the total number of passengers is on the rise due to the greater number of boarded / disembarked passengers. Although Marseille is one of the 10 most important base ports in the Mediterranean, it is still used more by transit passengers than for embarkation / disembarkation purposes. In terms of the number of berths in 2014, 20.1% fewer ships landed at the port of Marseille than in 2013. Also, there was a decrease of 11% in 2017 compared to 2016. Marseille is ranked 5th in the Mediterranean by total number of passengers. The new investment in infrastructure seeks to keep up the trend of increasing the number of passengers and landing ships.

Table 5: Total number of passenger movements and movements at the port of Marseille in the period 2012-2017.

Year	Number of passengers (boarded / unloaded)	Number of passengers in transit	Total number of passengers (Boarding / unloading + transit)	Of call
2012	268 451	431 649	700 100	335

2013	264 703	545 787	810 490	420
2014	313 322	576 698	890 020	354
2015	381 318	806 713	1 188 031	447
2016	506 412	804 872	1 311 284	497
2017	503 325	947 734	1 451 059	442

Source: http://issuu.com/medcruise.association/docs/medcruise_yearbook_16-17/53?e=15848004/39229756 (18.11.2017.)

From the above, the quantification of the Marseille variable follows: $503\ 325 : 1\ 451\ 059 = 35$ on an index scale of zero to 100.

3. CONCLUSION

The scientific paper analyzes the data for the five most visited cruise ports in the Mediterranean from 2012 to 2017: Barcelona, Civitavecchia, Balearic Islands, Venice and Marseille. All of these ports were used for the purpose of base ports and also ports of call. Total traffic in the major Mediterranean base ports in 2017 is 6.4% lower than in 2016. Comparing 2012 and 2017, there is a growing trend of base ports in the Mediterranean. Over the five-year period, there was a 7.4% increase in base port traffic. Due to spatial imbalance, passenger traffic and ticking are concentrated in only a few countries. According to 2015 data, six countries, of which Croatia is ranked fifth, each with more than one million passengers, or almost 9/10 of total passenger traffic (88.07%), and five countries with more than one thousand ticks have more than 3/4 (75.85%) ticks. A third of countries have a symbolic representation (less than 1%). Barcelona is the most prominent and favorite destination of all cruise ships. There are also over 2.4 million cruise passengers annually. The other ports in the Mediterranean are exemplary because of

the port facilities and infrastructure, as well as the connection of the port to other modes of transport. In 2015, Venice was the most important base port in the Mediterranean, which is also indicated by the fact that more than 1.4 million passengers are used by the Port of Venice each year for embarkation / disembarkation. This element was the basis of this scientific work for the quantification of variables. Based on the mentally verbal knowledge about the aforementioned, quantification of selected model variables on the index scale from zero to 100, the information model of Mediterranean cruising for 2017, was made for the first time. By quantified values, the variables of the information model are: Venice (86), Barcelona (53), Civitavecchia (38), Marseille (35) and the Balearic Islands (28). By continuing the research in a subsequent scientific paper, it is possible to determine the direct rates of an information model of Mediterranean cruising for a certain period of time, eg from 2017 to 2021.

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