



Trabajo Fin de Grado

Strategic analysis of the aviation industry in Spain

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Resumen: El presente trabajo se basa en la elaboración de un análisis estratégico de la industria aérea en España. El hecho de ser un país con una gran afluencia de turistas y un alto número de vuelos domésticos hace que la industria cuente con un gran número de empresas, intensificada tras la liberalización del sector en Europa en los años 80 y 90. El objetivo de este trabajo consiste en identificar las estrategias y ventajas competitivas de los distintos grupos estratégicos. Con ese fin, se ha realizado un análisis del entorno de la industria, así como de los principales competidores que amenazan la demanda del sector. Además, la reciente aparición de aerolíneas de bajo coste, así como la integración de nuevas tecnologías en la flota aérea hacen que la estructura de la industria se haya visto modificada en los últimos años. Finalmente podemos hablar de una creciente demanda en el mercado y de una evolución del sector con objetivos que cumplir de cara a la próxima década.

Palabras clave: Análisis estratégico, industria aérea, estrategia, ventaja competitiva, entorno, competidores, demanda, aerolíneas de bajo coste, nuevas tecnologías, evolución, objetivos.

Abstract: The current project is based in the elaboration of a strategic analysis of the air transport industry in Spain. The fact of being a country with a high volume of tourists and many domestic flights makes the industry count with a large number of companies, intensified after the liberalization of the sector in Europe in the 80s and 90s. The objective of this project consists on identifying the strategies and competitive advantages of the different strategic groups. With that end, an environment analysis of the industry has been carried out, as well as the main competitors threatening the sector's demand. Furthermore, the recent emergence of low-cost airlines, as well as the integration of new technologies in the aircrafts have modified the structure of the

industry in the last years. Finally, we can talk about an increasing demand of the market and an evolution of the sector with objectives to fulfill in the next decade.

Key words: Strategic analysis, air transport industry, strategy, competitive advantage, environment, competitors, demand, low-cost airlines, new technologies, evolution, objectives.

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1. INTRODUCTION

The objective of this project is to analyze which are the strategies that companies in the air transport industry use and how they can implement their results by understanding how this industry works. The aeronautic sector plays such an important role in our country due to its strong contribution to the economy. It implies 27,960 million of euro, which is 2.5% of the Spanish GDP and creates almost 100,000 direct jobs, according to a paper from the COIAE (Official College of Aeronautics Engineers of Spain). Additionally, it says that “the aeronautic sector is one of the productive sectors with the highest added value, it creates high qualified and stable jobs, even in an economic crisis. It is because it works with long-term projects (10-15 years) and it is a high internationalized sector. Historically, this sector doubles its results every 15 years and it is expected to be doubled again until 2030”. The great importance of this sector is also related with tourism, which is 16% of the Spanish GDP, and 80% of the foreign tourists come to our country by plane, according to Actualidad Aeroespacial. Furthermore, air transport is key for many other economic sectors because of the location of the Iberian Peninsula, which is in a peripheral position regarding Europe and it is separated with a big mountain range.

Additionally, aeronautic sector can be divided into different industries and the commercial aviation is the industry analyzed along the project. This industry includes flights which take place with the end of transporting passengers from one point to another. Indeed, the number of passengers in Spanish flights in the year 2017 was 249,223,044, which means an increase of 8.2 percent in relation with the previous year, according to the statistics department of Aena. Consequently, it is possible to find a wide offer of airlines operating in Spain. Along this project we are going to observe which are the strongest ones and how they compete for achieving the first positions in the ranking.

This report is linked to the subjects given in the degree of Business Administration and Management in the Economics Faculty of Zaragoza. The information used has main sources such as Eurostat, Aena and IATA, where data have been collected to create the corresponding analysis. Furthermore, the analysis methodology is based in the traditional tools of Strategic Management of companies which are found in strategic books such as Robert Grant (2006) and Navas and Guerras (2007).

The aim of this project is to achieve some learning results which are: to be able to show the integration of the competencies linked to the degree in Business Administration and Management and which have been developed until the elaboration of this project; to focus and specialize in an area of interest and to be familiar with the procedures of an investigation.

The project is divided in five parts. In the first one, there is a brief history of the aviation in which the topic is introduced. The second point includes an analysis of the industry with data about the market shares of the main airlines in Spain. Then, the following section includes an external analysis of the industry which is carried out with the help of a PEST analysis as well as a PORTER. Then, with the information collected, some strategic groups are identified in the industry. The fourth part makes a vision of the future of the industry considering the evolution in the last years. Finally, conclusions obtained in the research and competitive advantages of each strategic group are included in the last section of the report.

2. HISTORY OF THE AVIATION

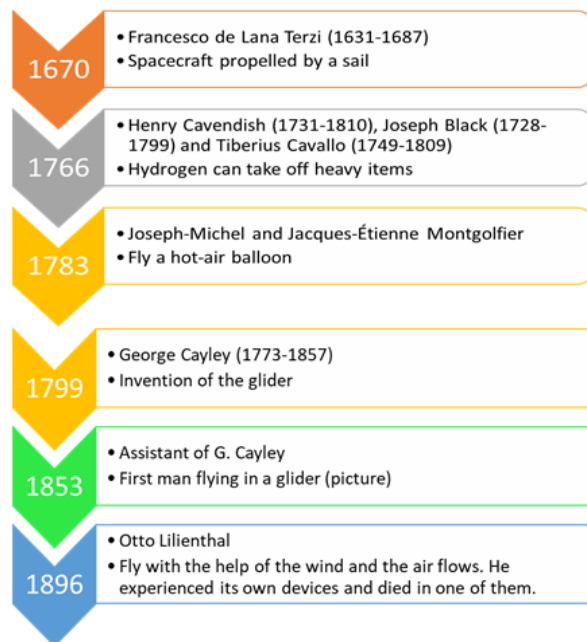
Since the beginning of the time people has dreamed with flying and it was thought something impossible to achieve. The history of the aviation¹ started in the year 400 a.C, when Arquitas de Tarento, a Greek mathematician and philosopher made the oldest experiment known related to planes and the possibility of flying something heavier than the air. It consisted in a mechanic dove which was driven by an air flow from the interior.

In the year 1420 in the Renaissance era Giovanni Fontana continued with the experimentation and designed a bird that was able to fly with the help of a rocket hidden in the feathers. Nevertheless, these were simple experiments of the history of planes that encouraged the final version that we currently know. We can consider that the pioneer in making the man fly was Leonardo Da Vinci (1452-1519), who designed a kind of helicopter. Since that moment, until almost three centuries, the man did not cease trying to fly.

We can observe in figure 2.1 different examples of this enthusiasm in the numerous attempts carried out along the history.

¹ The history of the aviation is explained according to the information provided by the article published in CurioSfera and which was consulted on 18th April 2018.

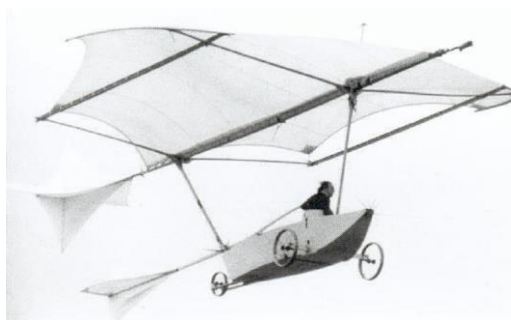
Figure 2.1: Attempts of creating a plane along the history



Source: own elaboration based on data from CurioSfera.

All those people made possible to create a plane which has evolved since its first invention. The glider invented by George Cayley involved a great change in this evolution since it allowed a man to fly without an engine, as it can be seen in figure 2.2.

Figure 2.2: The assistant of George Cayley flying in the glider in 1853



Source: Yorkshire Philosophical Society (YPS)

After many attempts of creating an aircraft able to take off by itself, William Samuel Henson (1812-1888), a follower of Cayley, designed and patented in 1842 the

first plane which was equipped with a steam engine, helices and a fixed wing. The press picked the story up and many sketches arose following the principles of engineering.

Cayley and Henson were called crazy by many scientists who considered that it was impossible that a figure which was heavier than air could fly.

It was in the year 1890 when the French engineer Clement Ader (1841-1925) made that his device called *Éole* rose some centimeters and covered 50 meters flying. Although he did not control it as expected, the result was positive since it would allow him to continue improving the machine. It is possible to say that it was the birth of the human flight.

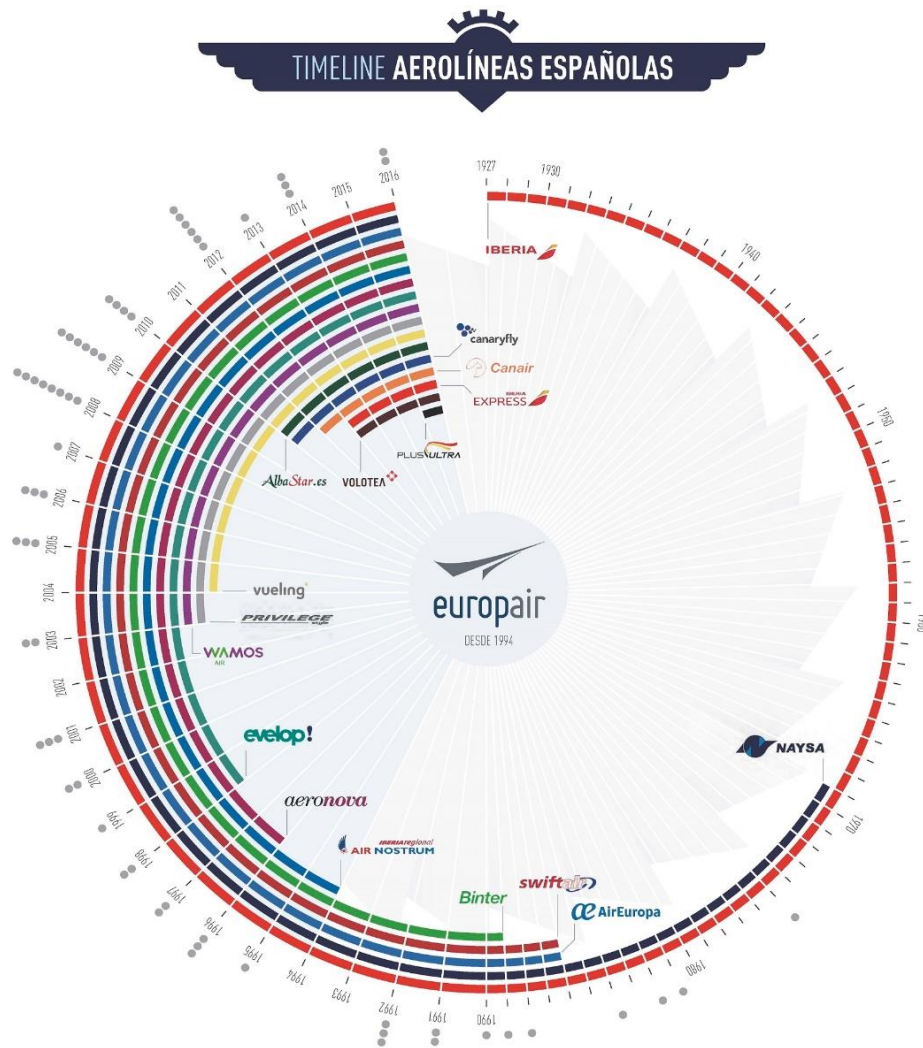
In 1894, Hiram Stevens Maxim (1840-1916) tried to fly with a huge plane for that era. It was 32 meters long and it weighted more than 3000 kilograms. It also counted with two steam engines. The result was that it rose, took some height and covered 60 meters, but then it crashed. Two years later, Samuel Pierpont Langley flew an aircraft designed by himself and covered 1460 m. However, the disadvantage of those devices was that they were not driven by the man, but with an engine and they could not be directed.

Everything changed when the first manned plane appeared. There is not clarity about the owner of this discovery, but some names involved were the Wright brothers (Wilbur and Oliver). They managed to fly the first functional plane on 17 December of 1903. After that, the air transportation of the mail was approved in the USA in 1911. Besides, the first transatlantic flight took place in 1919.

The history and evolution of the aviation industry was accelerated because of the First World War, due to the strategic need for fighting. Observing figures, we can notice that when the War started, planes just reach the speed of 100 kilometers per hour. Nevertheless, in 1918, the speed was 230 kilometers per hour.

In the case of Spain, the history about the aviation started on February of 1910, when the first flight was organized in Barcelona, according to an article collected in *La Vanguardia* from Teresa Amiguet (updated in 31/10/2014). After that, the first companies devoted to the construction of planes arose in Madrid (Talleres de Aviación Militar), Zaragoza (Carde y Escoriaza) and Barcelona (Pujol Comabella y Cía). In June of 1927 the company Iberia was formed. It is the oldest airline in our country. In the figure 2.3 we can observe in detail how this company has stayed along the time.

Figure 2.3: Timeline of Spanish airlines



Source: Europair

After Iberia, other airlines arrived at the Spanish Market such as Naysa, Air Europa, or more recent ones like Vueling, Volotea or Iberia Express. Besides, along the history it has been large the number of companies that have become extinct and it is represented in the timeline with small dots in the year of disappearance. As it can be observed, 2008, 2009 and 2012 are the years with the highest number of companies extinct. These moments coincide with moments of crisis and economic recessions which show the relationship between the Spanish economy and the air transport industry.

One of the problems of the traffic air in all the world was the dispersion due to there were a huge number of companies which made the same flights and there were many repeated routes in all Europe. Therefore, there was an agreement in 1928 in which, under the governance of Miguel Primo de Rivera, C.E.T.A., Iberia and Unión Aérea Española formed C.L.A.S.S.A. (Compañía de Líneas Aéreas Subvencionadas, S.A.) having the exclusivity of the Spanish traffic air.

With the II Spanish Republic in 1931, C.L.A.S.S.A. was removed and L.A.P.E started to occupy its place, with the difference of being a public company. Between the years of the Civil War in Spain (1936-1939), we cannot talk about truthful information of L.A.P.E.'s activities, which was entirely located in the republican zone. After that, Iberia recovered its original name and in the year of peace (1939) transported 44000 travelers.

During the years of the Second World War, commercial traffic air was removed and Spain, although its neutrality did not have enough oil nor spare parts. Then, after the war, the planes had improved significantly, and the routes offered were wider.

On 22 September of 1946 there was a great event. It was the first transatlantic flight in Spain. It was a plane from the airline Iberia with course to Buenos Aires.

The 50s were revolutionary for the commercial aviation since there were improvements in the machinery used as well as more safety measures. Besides, in the following decade Iberia was known as “the fastest developed company in the world”. It was also around 1960 when air transport started to be something available for everyone, since at the beginning it was oriented to wealthy families.

In the year 1980 it started the digital age of aviation; which means no significant advances in speed, materials or distances but in the technology applied to flights. The result is what we can observe today: we look for saving of combustible, comfort and safety of passengers.

In the last years we have experienced how low-cost airlines have entered into the market and they have forced the industry to decrease prices, making it much more available for everyone. Airlines in Spain will be analyzed throughout the project.

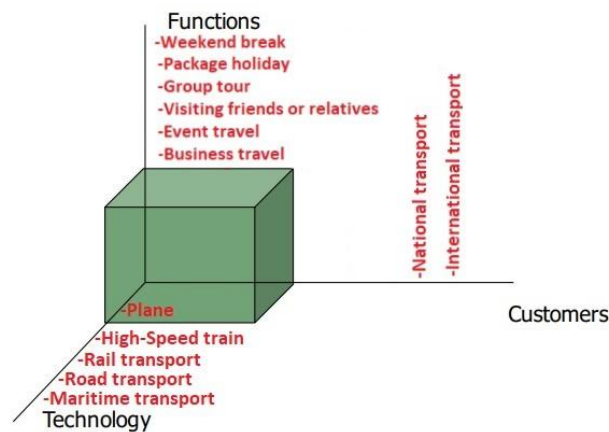
3. INDUSTRY, SERVICES AND MARKET

3.1. DEFINING THE INDUSTRY

According to the CNAE (National Classification of Economic Activities from Spanish), the industry analyzed along this project correlates with the number 5110, referred to air transport of passengers. This classification allows us to group national companies in different levels to make easier the surveys and analysis carried out.

With the aim of defining the *air transport of passengers'* industry, an Abell model on transport has been developed including the three axes: customer needs, customer groups and technology. This graph (figure 3.1) allows us to make some comments in the industry analyzed.

Figure 3.1: Abell diagram



Source: own elaboration

The industry points out a group of customers whose needs are to move from one point to another following an established route offered by an existing airline. Therefore, the axis of customers makes us possible to clearly identify two groups which form it. The first one is national transport, taking place between points inside the barriers of our country; in other words, to satisfy domestic transport. The other one is international transport which links a Spanish location with a foreign one, which can be intra-European or extra-European.

The following point observed in the Abell tridimensional graph is the one showing functions fulfilled by means of transport. It includes the different functions offered by the industry according to the needs of the groups of customers: weekend break, package holiday, group tour, visiting friends or relatives, event travel or business travel.

In the case of technology, the transport can be made possible by different means of transport: boat, bus, train or by plane. Here we can find the substitute industries that can be threatening for the air transport of passengers.

The purpose of the elaboration of Abell model was to achieve a concise definition of the industry of air transport of passengers. Therefore, it can be concluded that the role of this industry is to satisfy needs of national and international transport to a wide range of customers and which competes with other means of transport that can present some rivalry to the industry.

After this analysis, it is possible to limit the kind of companies that remain inside of the industry analyzed. Then, those are mainly commercial airlines offering national and international flights to different kind of customer groups. With this limitation we keep out companies offering private flights, air freight transport or military aircrafts since they are not inside of the definition obtained from the Abell model because they do not fulfill the requirements of the three identified axis.

The substitute industries found are collected in the figure 3.2 with its correspondent number according to the CNAE. The industries above included are those which could be threatening for the air transport of passengers. The reason is that they can offer a similar service which can result in an alternative option chosen by customers.

Figure 3.2: Substitute industries and their CNAE code.

| CODE | INDUSTRY |
|-------------|---|
| 4910 | Interurban passenger transportation by railway |
| 4931 | City and suburban passenger land transport |
| 5010 | Sea passenger transport |
| 5030 | Transport of passengers by navigable inland waterways |

Source: own elaboration with data from CNAE

3.2. THE SERVICES

The service offered by the industry of air transport of passengers is that of providing a resource to allow people moving from one place to another. As it is observable in the axis of customers, the service offered is split into national and international routes to reach a wide rank of clients' needs.

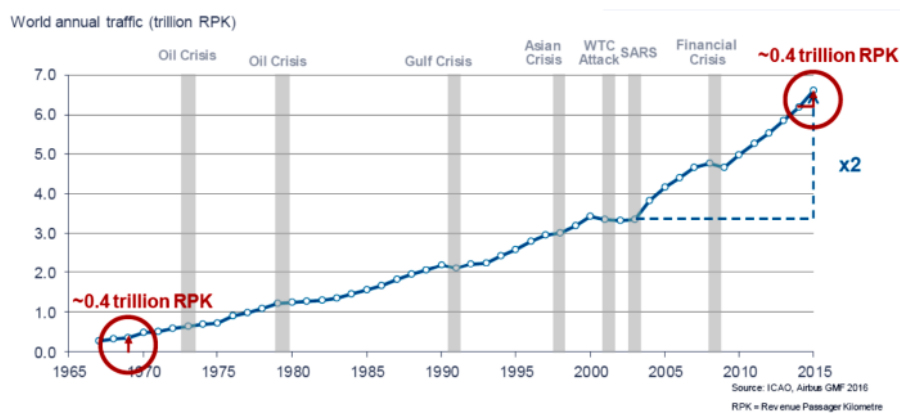
Regarding national transport, it is referred to the flights that have its origin and destination inside of Spain such as Madrid-Barcelona or Seville-Ibiza. In fact, Spain was the country with the highest number of passengers of the European Union in national flights in the year 2016 (according to data published in Eurostat on 11th October 2017) reaching more than 33 million of people travelling from one point of the country to another.

In the case of international air transport, the flights considered are those which have its origin in Spain and its destination goes beyond the barriers of the country. We can split up the international flights as intra-European and extra-European (including flights to other continents).

3.3. THE MARKET

Regarding the situation of the industry it is possible to talk about good figures in terms of evolution. The figure 3.3 was found in the document from the Minister of Development and it shows the resistance to the different crisis that the world industry has experienced.

Figure 3.3: How the crisis affects the industry



Source: ICAO, Airbus GMF 2016

In the vertical axis it is represented the world annual traffic in terms of trillion of revenue per passenger per kilometer. In contrast, the horizontal axis includes a timeline since 1965 until 2015. Therefore, we can observe how the trend is increasing throughout the years, maintaining the same level of trillion RPK. It is explained in terms of the decrease of prices of flights and the development of the technology in the last half century. Additionally, the graph allows us to identify the different moments in time which have threatened the industry, such as oil crisis or the attack of the twin towers in

the USA. The last event marked is the financial crisis in 2007 which concerned all the world and from which our country is still recovering.

The figures from 2016 indicate that in Spain there were 132,932,000 passengers in intra-European flights, being the second European country with the largest number of customers, following United Kingdom. However, data of extra-European flights does not show the same figures. As it can be observed in the appendix, Spain had 27,506,000 passengers flying to another country out of the European Union in 2016. The first country in this ranking is United Kingdom, followed by Germany. Therefore, it would be interesting for Spain to invest on extra-European flights and try to be at the same level of the most popular countries in the list. In fact, this will be analyzed along the project.

Furthermore, 2017 was the year in which Aena (Spanish Airports and Air Navigation) beat a historic record in the traffic of passengers, with an increase of 8.2% in comparison with the previous year, as Íñigo de la Serna confirmed on January of this year. In addition, IATA (International Air Transport Association) has recently made a big investment choosing Madrid for establishing its headquarters of the biggest operations center in the world. Thus, IATA will manage the operations from 280 airlines from Madrid, which represent 83% of the world's air traffic. "Our successful experience in Madrid and the great quality level reached in our operations center in the Spanish capital city have been decisive for the choice of the new global center" said Rafael Schwartzman, vice president of IATA. Therefore, it indicates good news for Spain since it involves a great amount of money and a mark of confidence to Spain brand.

Spain counts with 7 main airports, which ordered by the number of passengers in 2017 are: Madrid-Barajas, Barcelona-El Prat, Palma de Mallorca, Málaga-Costa del Sol, Alicante-Elche, Gran Canaria and Tenerife Sur. Indeed, these airports consolidate the 74.6% of the Spanish air traffic in 2017. If we consider the top 15 airports in Spain (out of 49), we would be talking about a 92.9%, meaning that almost 93 per cent of the traffic air of our country only goes through one third of its infrastructures.

In the table shown in figure 3.4, we can observe figures of the year 2017 which present the total number of passengers in that year, as well as the evolution from the previous year.

Figure 3.4: Passengers in 2017 in Spanish airports and evolution from 2016

| Aeropuertos | PASAJEROS | |
|------------------------------|--------------------|--------------------|
| | Total | % Inc 2017 /s 2016 |
| ADOLFO SUÁREZ MADRID-BARAJAS | 53.402.506 | 5,9% |
| BARCELONA-EL PRAT | 47.284.500 | 7,1% |
| PALMA DE MALLORCA | 27.970.655 | 6,5% |
| MALAGA-COSTA DEL SOL | 18.628.876 | 11,7% |
| ALICANTE-ELCHE | 13.713.061 | 11,1% |
| GRAN CANARIA | 13.092.117 | 8,3% |
| TENERIFE SUR | 11.249.327 | 7,4% |
| IBIZA | 7.903.892 | 6,6% |
| LANZAROTE | 7.389.025 | 10,5% |
| VALENCIA | 6.745.394 | 16,3% |
| FUERTEVENTURA | 6.049.401 | 6,6% |
| SEVILLA | 5.108.807 | 10,5% |
| BILBAO | 4.973.712 | 8,4% |
| TENERIFE NORTE | 4.704.863 | 11,5% |
| MENORCA | 3.434.615 | 8,1% |
| SANTIAGO | 2.644.925 | 5,3% |
| GIRONA | 1.946.816 | 16,9% |
| ASTURIAS | 1.407.217 | 9,8% |
| LA PALMA | 1.302.485 | 16,7% |
| MURCIA-SAN JAVIER | 1.196.605 | 9,1% |
| A CORUÑA | 1.141.242 | 7,3% |
| VIGO | 1.065.595 | 11,7% |
| JEREZ DE LA FRONTERA | 1.046.251 | 14,1% |
| REUS | 1.022.964 | 25,1% |
| ALMERIA | 1.007.446 | 9,5% |
| SEVE BALLESTEROS-SANTANDER | 937.641 | 20,5% |
| FGL GRANADA-JAEN | 901.961 | 20,1% |
| ZARAGOZA | 438.035 | 4,4% |
| MELILLA | 324.366 | -1,7% |
| SAN SEBASTIAN | 281.859 | 6,6% |
| VALLADOLID | 227.269 | -2,0% |
| EL HIERRO | 199.382 | 27,4% |
| PAMPLONA | 165.604 | 7,9% |
| VITORIA | 84.261 | 128,3% |
| BADAJOS | 49.304 | 49,6% |
| LA GOMERA | 48.711 | 28,0% |
| LEON | 44.389 | 21,6% |
| LOGROÑO | 20.010 | 15,2% |
| CEUTA /HELIPUERTO | 17.827 | 987,0% |
| SALAMANCA | 15.027 | -3,2% |
| ALGECIRAS /HELIPUERTO | 10.569 | 6547,2% |
| CORDOBA | 7.910 | 3,6% |
| BURGOS | 5.933 | 26,7% |
| SABADELL | 4.545 | 3,0% |
| MADRID-CUATRO VIENTOS | 3.347 | 64,2% |
| ALBACETE | 1.380 | 8,1% |
| SON BONET | 1.160 | -63,5% |
| HUESCA-PIRINEOS | 257 | 170,5% |
| Total | 249.223.044 | 8,2% |

Todos los datos son sobre el total.

Source: AENA

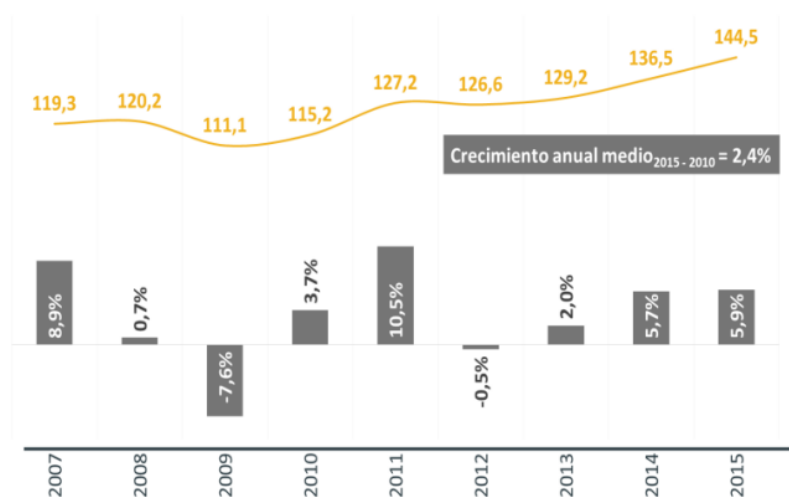
Having a look to the data shown in the table, it is observable that the number of passengers in Spanish airports has increased in 2017 with respect the previous year except for four cases: Melilla, Valladolid, Salamanca and Son Bonet. In general figures, it is possible to talk about an increase of 8.2% in the number of passengers in Spanish Airports, which informs us about a positive trend in the air transport industry.

Indeed, there are extreme cases such as Algeciras, which shows the greatest increase. The reason is the restart of the regular flights with Ceuta in the month of June. Thus, the following one is Ceuta, due to the implementation of routes connecting the autonomous city with the peninsula.

Furthermore, the last airport in the list in terms of number of passengers is Huesca-Pirineos with a figure of just 257 individuals. It can be noticed a great increase in comparison with the previous year explained in the fact of the setting up of a flight and a drone school. However, this airport was a failure since its opening in 2006. Therefore, there was a figure of 70 million of euros of public expenditure wasted at the beginning of 2017².

Additionally, the following trends in figures 3.5 and 3.6 show the evolution of international and national flights between 2007 and 2015

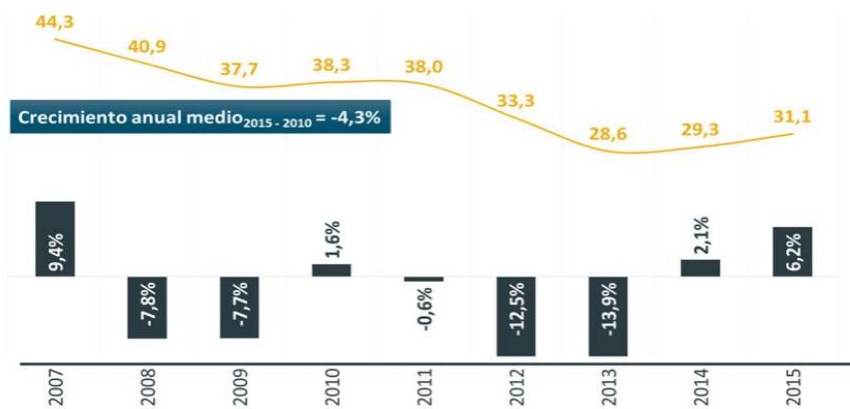
Figure 3.5: Evolution of international air transport of passengers (in millions of passengers) between 2007-2015



Source: OTLE 2017

² According to “El solitario y carísimo viajero del aeropuerto de Huesca” ABC, updated on 13/02/2018

Figure 3.6: Evolution of national air transport of passengers (in millions of passengers) between 2007-2015



Source: OTLE 2017

As above represented in the graphs, it is observable a positive trend in the case of international transport, which has been increasing since 2007 having some drops in moments of crisis. These are specially the years 2009 and 2012. However, the number of passengers is much higher at the end of the period meaning a positive evolution for international air transport. In contrast, it is possible to notice that in the national air transport, the critical moments affect in a stronger way the demand of flights. Thus, we can see how in the years 2008-2009 and 2012-2013 there are important drops which are not recovered in the following periods. At the end, the number of passengers is much lower than in the first year of the trend, meaning a negative evolution of national air transport of passengers in Spain.

In general, we can talk about an increasing trend in the air transport industry not only in Spain, but at world level. Although it is a very sensitive sector to economic, social and political issues, it has recovered its path. Furthermore, Spain, as one of the most touristic countries of Europe counts with many airports that have increased their number of passengers in the last year, especially in international flights.

3.4. THE KEY PLAYERS OF THE SPANISH AIRLINES INDUSTRY

As mentioned previously at the beginning of this section, the industry corresponds to the number 5110 of the CNAE, being it air transport of passengers. The data basis SABI includes 105 operating companies in Spain. From this list we can

clearly highlight the presence of three top airlines in terms of operating revenues, which are shown in the following table (figure 3.7):

Figure 3.7: Top three airlines in Spain 2016

| Name | NIF | City | Country | Op.income (thousand eur) |
|------------|-----------|----------------------|---------|--------------------------|
| Iberia | A85850394 | Madrid | Spain | 4238000 |
| Vueling | A63422141 | El Prat de Llobregat | Spain | 2045348 |
| Air Europa | A07129430 | Llucmajor | Spain | 1802865 |

Source: own elaboration with data from SABI (2018)

The first one is Iberia, which is the main airline operating in Spain, devoted to national and international flights. It was founded in 1927 and it is one of the oldest airlines in the world. It has its headquarters in Madrid, as well as its main basis which is in the airport Adolfo Suárez Madrid-Barajas. It counts with 135 planes flying to 127 destinations in 48 countries. Besides, it manages about 600 flights each day. For developing this activity, there are 16,800 employees working for Iberia.

As the table shows, it is followed by Vueling and Air Europa. Vueling Airlines is a Spanish company which has its headquarters in Barcelona. It is the greatest airline in Spain according to the number of destinations and planes. Indeed, it counts with 112 aircrafts at the end of 2017. It currently flies to more than 130 destinations and it manages about 300 flights each day from its main airport, which is Barcelona-El Prat. Furthermore, it has much less employees than Iberia, with a figure of 2506 in the year 2016.

In the case of Air Europa, founded in 1984, it is an airline from the touristic group Globalia, and it has full right of the partnership SkyTeam. The headquarters of the airline are in Llucmajor (Balears). Additionally, it has 40 aircrafts flying to 60 destinations, reaching almost 200 flights every day.

These three top Spanish companies in terms of operating income are part of the leading companies in the market. In the following analysis we are going to see which place they occupy according to the number of customers of each of them.

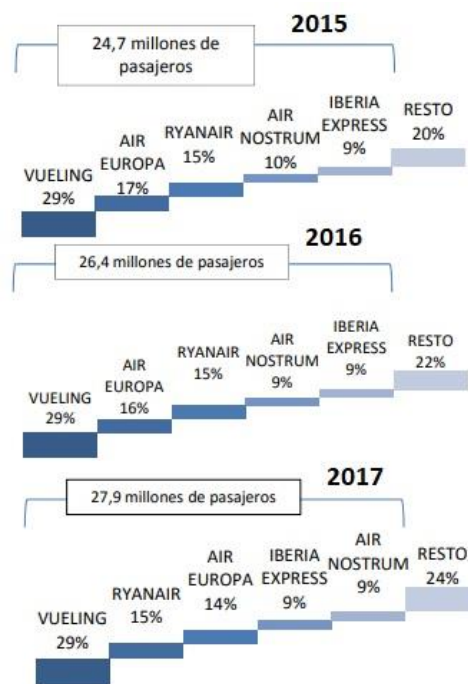
It is possible to differentiate three markets playing in the industry which are key to compare the main airlines operating in our country. The first market is the domestic one, which includes flights with origin and destination in Spain. The second one consists on routes from Spain to countries from the European Union. Finally, the last one includes flights from Spain to countries not belonging to the EU.

With the aim of analyzing and comparing the three available markets in the air transport industry, we are going to focus in the last three years (2015, 2016 and 2017). With the data of the three markets, evolution and concentration is going to be observed and commented.

DOMESTIC MARKET: Spain-Spain

Figure 3.8 shows the market shares of the main 5 companies in the domestic market in Spain. As above shown, Vueling has been the leader of the domestic market during the last three years reaching the 29% of the demand. It is followed by Air Europa in 2015 and 2016, but the last year the second place was taking by Ryanair. The fourth and fifth places are Iberia Express and Air Nostrum which are constantly competing for reaching a wider public.

Figure 3.8: Market shares of domestic market in 2015, 2016 and 2017

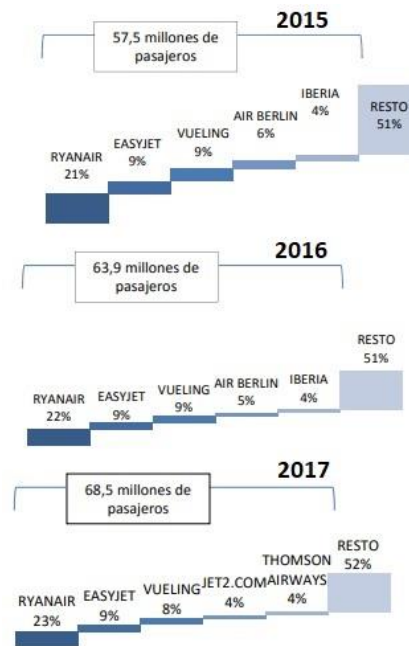


Source: *Coyuntura de las compañías en el mercado aéreo en España* (Ministry of Development)

SPAIN-EU MARKET

In the market consisting on flights from Spain to destinations in the European Union, the clear leader is Ryanair, reaching 21, 22 and 23 percent of market share respectively. As it can be observed in figure 3.9, the trend has been similar for 2015 and 2016. However, last year the company Jet2.com and Thomson Airways occupied the place of Air Berlin and Iberia, letting them out of the top five market shares.

Figure 3.9: Market shares of Spain-EU flights in 2015, 2016 and 2017

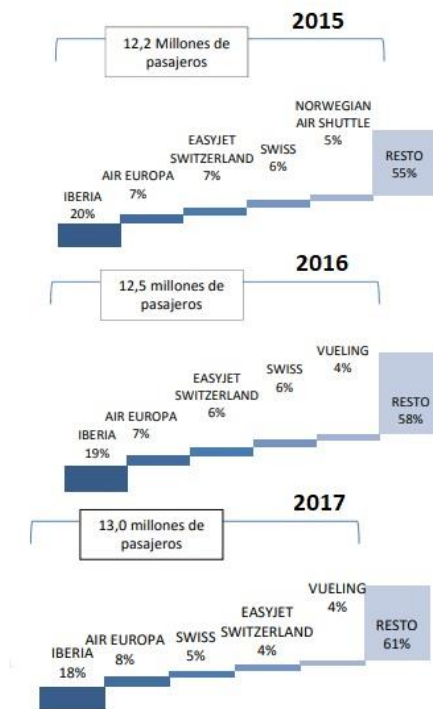


Source: *Coyuntura de las compañías en el mercado aéreo en España* (Ministry of Development)

SPAIN-EXTRA EU MARKET

In figure 3.10 we can see that the structure of the market shows Iberia as a leader in the three compared years with a strong difference with its competitors. Additionally, we can observe that the five top companies in terms of passengers, transported 45, 42 and 39 percent of the total customers in 2015, 2016 and 2017 respectively. Since 2016, the company Vueling is part of the five highest market shares letting Norwegian Air Shuttle out of this ranking.

Figure 3.10: Market shares of Spain-Extra EU destinations in 2015, 2016 and 2017



Source: *Coyuntura de las compañías en el mercado aéreo en España* (Ministry of Development)

4. STRATEGIC ANALYSIS OF THE INDUSTRY ENVIRONMENT

The environment is an important influence when we talk about industries. In fact, the industry does not work alone in the market but together with the environment they are surrounded. Consequently, they must find what influences their economic activity in a positive or negative way to make a good strategic development.

The environment concept involves all the external factors which cannot be directly controlled by firms participating in the market and which can significantly influence the success of the business strategy (Mintzberg, 1984). “The objective of the environmental analysis is to identify the factors that affect the activity of a company in the perspective of an economic and social system. It determines the prosperity and wellness of the economy, which can affect the return potential of a company” (Guerras y Navas, 2007).

The environmental analysis developed has four main objectives which are:

1. Identify the main structural aspects of an industry that can influence in the behavior of firms and determine their profitability.

2. Evaluate the attractiveness of an industry according to its potential to generate above-average profits.
3. Understand the external forces that affect the firms in the industry and the subsequent effect on competition
4. Recognize the heterogeneity of behaviors within an industry and their effect on firm's performance

Therefore, the analysis of the environment is essential for understanding the structure of an industry. With that end, Herfindahl indexes have been calculated according to the different markets found. Additionally, PEST and PORTER analysis are carried out in the following sections to know how the environment is affecting the air transport industry in Spain and how the different agents can influence the firms of the market. With all this information, the identification of strategic groups will be done, as well as the elaboration of a map with the main companies in each group. Finally, threats and opportunities in the industry will be concluded from the environmental analysis.

4.1. THE STRUCTURE OF THE INDUSTRY

The objective of this section is to analyze the structure of the air transport industry to better understand the evolution of the companies in each market. With this end, concentration and Herfindahl indexes are going to be calculated.

First, we can calculate the concentration index looking at the sales in each company and comparing it to the total sales of the industry. In other words, once we have the market shares, we can apply the cumulative frequency of those percentages and achieve the CR³.

Herfindahl index measures the degree of concentration of a market and the level of competence of the companies involved. Then, calculating this index is an easy task since a sum of the squared market shares must be done. After that, we can guess how many companies are leading the market by just dividing 1 over the H obtained.

For the calculation of the concentration of the industry Appendix 1-3 are attached with the market shares and data obtained from the years 2015, 2016 and 2017 in the document “Coyuntura de las compañías en el mercado aéreo en España” elaborated by

³ $CR_n = \sum_{i=1}^n \frac{Sales\ firm\ i}{Total\ sales\ industry}$

the Ministry of Development. Since we have three different markets, the calculation has been made separately for each of them, obtaining the results shown in figure 4.1.

Figure 4.1: Herfindahl index of the last 3 years in terms of passengers

| HERFINDAHL INDEX | 2015 | 2016 | 2017 |
|------------------------------|-------------|-------------|-------------|
| <i>Domestic Market</i> | 0,1536 | 0,1484 | 0,1424 |
| <i>Spain-EU Market</i> | 0,0655 | 0,0687 | 0,0706 |
| <i>Spain-Extra EU Market</i> | 0,0559 | 0,0498 | 0,0445 |

Source: own elaboration with data from Ministry of Development

As we can observe the highest concentration of the industry is found in the case of the domestic market, which has been decreasing until last year reaching a figure of 14.24%. Consequently, we can estimate that the domestic market in Spain is composed of 8 main airlines at the end of 2017. According to competition defense policies of the European Union, this market of the industry corresponds to a symmetric oligopoly since the 5 largest firms are almost 80 percent of the total. In fact, from a strategic point of view, we can talk about a concentrated market because the demand is shared among few companies with small size differences.

Additionally, the market connecting Spain with destinations inside of the European Union shows a concentration index which has been increasing in the last years. Nevertheless, this concentration can be considered low since it just includes 7.06% meaning that there are many companies in the market with a low share. Indeed, calculating the N resulting from this analysis, a total of 15 main companies are part of the market at the end of 2017. In this case, the typology of industry is an asymmetric competition in which Ryanair is the leader since it reaches more than 20% of the market share and the rest are small airlines in comparison to it.

Finally, we find the lowest concentration in the case of the connection of Spain and countries out of the European Union. It also follows a decreasing trend, being 4.45% at the end of 2017. The reason is that there are much more destinations and, therefore, more options to be offered by the different airlines. Consequently, it is possible to speak about 23 airlines at the end of the last year. Then, we are in a symmetric competition market since the largest firm means less than 20% of the market.

4.2 THE ANALYSIS OF THE GENERAL ENVIRONMENT: PEST ANALYSIS

PEST analysis, known as PEST due to its acronyms (Political, Economic, Social and Technological), is a method used to analyze the external factors affecting the business environment to become more competitive in the market. In other words, it is the analysis of the external environment that companies cannot influence but that has clear implications in the future decisions and performance of companies within an industry.

The factors analyzed are the following:

-Political factors:

The political impact is one of the most important element industries deal with. Air transport industry is very globalized in this sense so that we must consider European and Spanish legislations. Additionally, the airspace is regulated, and airlines must follow a set of rules and respect seven levels of control⁴ from A to G.

In the recent years, the deregulation and liberalization of the air transport has eliminated entry barriers of the industry, allowing the emergence of new airlines, especially low-cost ones.

Furthermore, the program SESAR (Single European Sky ATM Research) is a European project which has an objective for the year 2020. It wants to create a common system for the management of the air traffic. The aim is to increase safety, decrease the environmental impact and reduce costs of the running of air traffic. Therefore, we should have this in mind since it could affect to the regulations of the airlines and have a strong effect in the air industry.

-Economic factors:

For analyzing this point, we should start evaluating how stable is the current economy. In fact, it is in a growing position due to the recent recession the world has gone through. It is a positive aspect for the industry since, as analyzed in the previous section, the periods of recession strongly affect to the air industry in terms of demand and level of prices.

Regarding the exchange rate, we can talk about a stable value of the Euro. Indeed, it has recently fallen due to an agreement of the Italian government. However, the

⁴ Class A represents the highest level of control, while classes F and G are not controlled airspace. It is not necessary for all the countries to have all the levels of airspace, but the ones that each of them needs.

forecasts aim at an increase of 6.5% in the first term of the next year, which is a positive factor affecting the industry and the market in general.

The unemployment rate in Spain increased to 16.74 percent in the first three months of 2018 from a 16.55 percent in the previous period. However, in the last years we can see in figure 4.2, how it has been decreasing after the Great Recession and it is good news for the industry. The consequences for it are a higher number of staff, including better qualified workforce, and an increase in the demand since employed people can afford flights and they usually go on holidays. From a strategic point of view, we should bear it in mind because it is a significant part of the demand of the industry, and therefore it can have a strong influence in the structure of the airlines.

Figure 4.2: Spanish unemployment rate



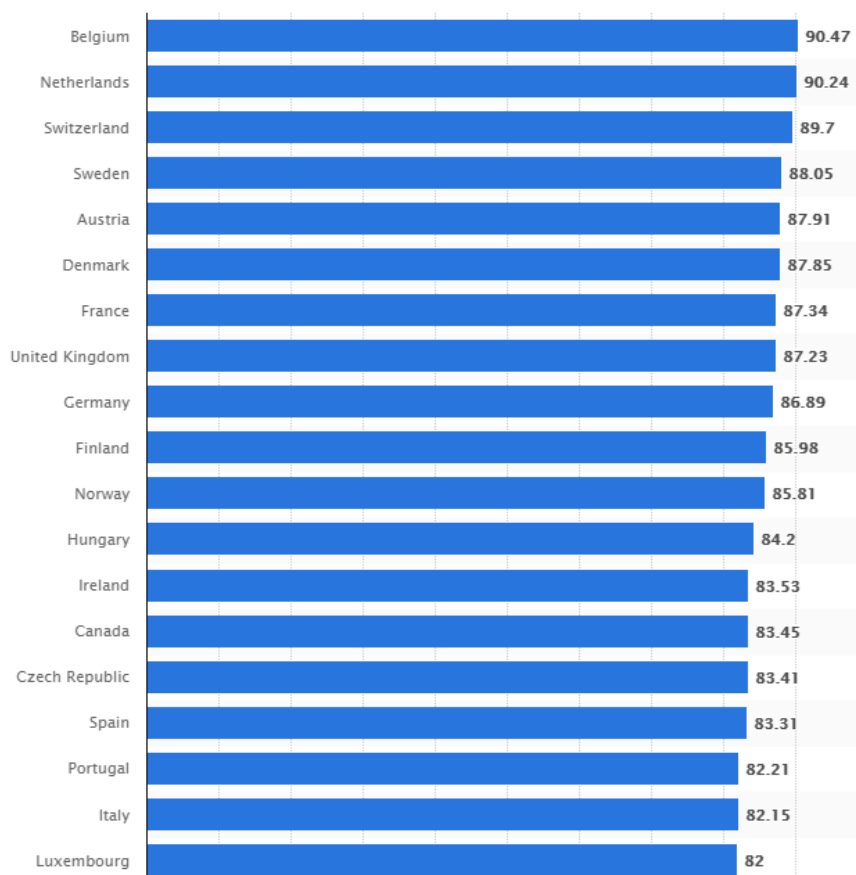
Source: Trading Economics (INE)

Furthermore, the 2012 Spanish labor market reform helped to improve employment performance and strengthened the capacity of employers to respond to shocks. As analyzed by OECD, to further improve performance, it would be vital to continue the reforming effort with the end of developing and coordinating regional active labor market to help the unemployed find jobs as well as improving the evaluation and monitoring of these policies.

Finally, the index of globalization is also an economic factor which can be crucial for the industry. Indeed, since we are talking about an industry which does not stop growing, we should not overlook this point. The index is calculated based on three dimensions: economic, social and political. Then, according to this index, globalization can be defined as the process of creating networks of connections among actors at multi-continental distances, mediated through a variety of flows including people, information and ideas, capital and goods.

As it can be observed in the data collected by Statista in 2018 in figure 4.3, the first country in this ranking is Belgium, followed by Netherlands and Switzerland. In the case of Spain, it is in the 16th position, just above Portugal and Italy. As previously commented, globalization gives countries access to different goods. Therefore, having a good position in this ranking is important for the companies in the industry to reach the most developed countries, achieve the latest technologies and get the maximum capital. Spain occupies a good position in relation with the rest of the world, but it could increase its level with the end of being a leading position in Europe.

Figure 4.3: Top countries in the globalization 2018



Source: Statista 2018

-Sociocultural factors: they are the basic values of the society affecting the behavior of costumers in their decision of buying or not something. It is necessary to know the ethical and moral characteristics of the individuals to adapt the product or service to their needs and wishes.

First, population's growth rate is going to be analyzed. Spain is a country whose population has been growing since 1960 but which has suffered stagnation in the last decade due to the financial crisis. Furthermore, Spain population is equivalent to 0.61% of the total world population. According to the urban population, it represents 82.3% of the population and the median age in the country is 43.6 years old. Also, it is possible to say that there are many immigrants arriving to Spain which are an important sociocultural factor to consider since they can have different costumes and cultures and they are an important point of study in the air transport industry.

We can also observe attitudes and lifestyle of consumers which have been evolving in the last years. Indeed, there has been an increase in business trips since employers and managers are increasingly on favor of using air transport since it is the fastest way in most of the cases.

Additionally, the wave of terrorist attacks suffered by the European countries in the last years, has contributed in a lower demand affecting especially European airlines, according to the figures shown by IATA. Indeed, the company Lufthansa (which is also owner of Brussels Airlines and Swiss) said that "early bookings have fallen, especially in long routes as a consequence of the constant terrorist attacks in Europe and a higher economic and politic uncertainty". Furthermore, attacks are not seen as something punctual, but tourists expect them to continue happening, so Europe is not considered as a safety place to travel. Domestic routes and extra-EU ones have not been affected in this aspect since terrorist attacks are mainly focused in European countries.

-Technological factors:

It is important to analyze the fast diffusion of the changes produced among the new products in the market and how it makes companies invest for their product not being obsolete. It is important to study the financing of that technology, the possibilities of investing on R&D, the development level of the present technologies, etc. (Guerras and Navas, 2007)

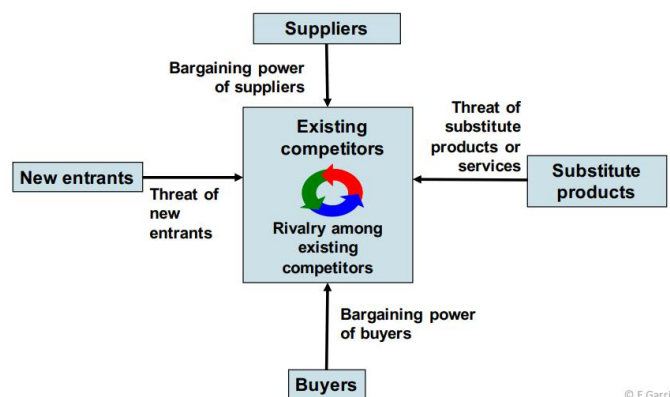
In the case of airlines, technology does not only mean speed, but also convenience and safety. To survive the intense competition in this industry, companies must adopt the latest technology. The use of advanced aircraft technology results in lower fuel consumption, which improves efficiency and reduces costs.

Additionally, Internet is nowadays present in our days most of the time. Indeed, it is the most important factor since it has changed the usual distribution channels, which were travel agencies, to the online sale, eliminating intermediaries. Consequently, there have emerged new companies which make most of their operations online, such as Ryanair or Vueling. In fact, most of the bookings take place by the internet and all the process of registering the luggage and going through the security control in the airport is made with a device connected to internet. Furthermore, according to Eurostat data from 2014, two thirds of the passengers of the EU buy their flight tickets online and it is the means of transport in which the online purchase has the greatest importance.

4.3. THE ANALYSIS OF THE SPECIFIC ENVIRONMENT: PORTER ANALYSIS

Porter model consists on an analysis created by a professor in the Harvard Business School in 1980. He was Michael Porter, which gives name to this tool used in the analysis of the competence of industries and helps to determine the weaknesses and strengths of an industry. It was originally published in his book “Competitive strategy: techniques for analyzing industries and competitors” (1980). In it, Porter identified five forces that play an important role in every market and industry existing in the world. The five forces are summarized in the figure 4.4:

Figure 4.4: Porter’s five forces



Source: Porter (1980)

Porter’s 5 forces are frequently used to measure competition intensity, attractiveness and profitability of an industry. The five forces are, as above represented: *competition in de industry, potential of new entrants into the industry, power of suppliers, power of customers and threat of substitute products*. An

analysis of each of these forces is going to be carried out in relation to the air transport industry.

-First force: Rivalry among existing competitors:

“Rivalry among existing competitors takes many familiar forms, including price discounting, new product introductions, advertising campaigns, and service improvements. High rivalry limits the profitability of an industry.” (Porter, 1980)

The degree to which rivalry drives down an industry’s profit potential depends on the intensity with which companies compete and the basis on which they compete. In the case of airlines industry, we could talk about a high intensity of rivalry due to there are many competitors with a very similar size and power. However, the great number of airlines in the industry makes them not compete each other at the same time. In other words, if we focus in the routes, the number of competitors is reduced, and it can cause that, from the point of view of customers, companies have a high power in the market. For instance, for a trip from Spain to Rome there are different companies offering the same route, but not all the airlines provide it. Therefore, the rivalry in the industry is not high. Indeed, as analyzed in the previous section, the degree of concentration was low since there is not only one leading company in the industry, but many with similar power.

Furthermore, exit barriers in the industry are high, which makes difficult for a company to stop providing services without incurring in losses that can be detrimental for them. The reason is that air transport industry has expensive assets with low liquidity value since most of them are facilities, staff and machinery specialized in the industry we are analyzing. There are many workers in each company of the industry so that a company shutdown would incur in a significant payment of compensation to its workers. This fact would create an instability situation and because of that, there are many companies preferring to work under its profit margin than disinvesting.

Besides, there is not only rivalry in terms of intensity but also in price since services offered by the main companies are nearly identical and consequently switching costs for buyers are low. Another reason for the existence of such rivalry is the high fixed costs the companies in the industry must bear. Additionally,

marginal costs are low, so the demand does not have a strong influence in the final cost since fixed costs are much higher in the industry.

-Second force: Threat of new entrants:

“New entrants to an industry bring new capacity and a desire to gain market share that puts pressure on prices, costs, and the rate of investment necessary to compete. The threat of entry, therefore, puts a cap on the profit potential of an industry.” (Porter, 1980). There are two main factors which can decrease the threat of new entrants which are the high barriers found when trying to enter the industry and the little retaliation from the incumbent competitors.

Attending to the barriers found when trying to enter the air transport industry, the most important one is the capital requirements. The reason is that Spanish airlines are very strong, and it is necessary to make a big investment to reach the level of the main ones. Moreover, the price of a Boeing 737 plane (which is the most used model in low-cost airlines) is between 50 and 80 million of dollars, which is an expensive figure that cannot be reached by any competitor.

Reaching a supply-side economy of scale is also a difficult task for new entrants in the industry. The reason is that achieving several routes and planes that allow a company to use economies of scale is almost impossible and sometimes it can cause economic difficulties and the takeover of small companies by the biggest ones.

Besides, the restrictive government policies require very strict conditions for giving the permission for flying in the spaces allowed. In addition, the time needed for obtaining the approval is very long in many cases, so that companies must do a big investment knowing that they are not going to be able to put it into operation until some months or years.

In contrast, the distribution channel has been an entry barrier until recent years. The reason is that flight tickets were bought by means of intermediaries, which were travel agencies. Nowadays, Internet has changed this trend and most of the purchases are made online. Because of the elimination of this barrier, low-cost airlines have emerged, and they make most of their procedures online.

Then, we can conclude that this force is low since the entrance to the market is very difficult. In Europe, there are many low-cost airlines which are consolidated and offer very competitive prices to clients. Although the use of Internet has made

easier the entrance to the market because it saves costs, the required capital is very high and cannot be afforded by any new entrant.

-Third force: Bargaining power of suppliers:

“Powerful suppliers capture more of the value for themselves by charging higher prices, limiting quality or services, or shifting costs to industry participants” (Porter, 1980)

Airlines depend on the schedules of landing and takeoff of airports, so it is not possible to negotiate costs, taxes and fees in airports. Moreover, there are few companies devoted to manufacturing commercial planes (most important ones are Boeing and Airbus) so that airlines must accept the conditions established by suppliers.

Furthermore, price of oil is also difficult to negotiate since in most of the cases it is given by quotations of the barrel and local taxes, so the margin is minimum.

The easiest suppliers to deal with are those in charge of maintenance and handling because it is possible to find different options in each airport offering alternatives in price and quality. However, we can say that we are talking about a high bargaining power of suppliers in the air transport industry.

-Fourth force: Bargaining power of buyers:

“Powerful customers can capture more value by forcing down prices, demanding better quality or more service (thereby driving up costs), and generally playing industry participants off against one another, all at the expense of industry profitability” (Porter, 1980)

According to the previous paragraph, we could talk about a negotiating leverage from a group of customers when the purchase is done by means of travel agencies since buyers can achieve low prices and therefore some power by using these tools. Therefore, they are not the customers who have the power but the fact of being in a group that allows them having some advantages to compete for a lower price.

However, we must bear in mind that travel agencies and internet webpages giving that power to consumers are intermediaries. Then, attending to the bargaining power of the final consumer, they do not have a strong influence in the negotiation since they are individuals who cannot affect the price established by airlines.

-Fifth force: Threat of substitutes:

“A substitute performs the same or a similar function as an industry’s product by a different means. When the threat of substitutes is high, industry profitability suffers” (Porter, 1980)

The activity developed by the commercial airlines can be substituted in some cases by other means of transport, which, in some cases, can result cheaper for customers. The biggest threat is the high-speed train (AVE) since it connects Spanish important cities at a reasonable price and the length in time is like a plane. Additionally, another advantage offered by this kind of service is the fact that most of the train stations are found in the center of the cities (airports are usually far from the city) and that they offer a punctual service.

Furthermore, there are also other means of transport that can result a competence for the air transport industry such as maritime, road and railway transport. These options are not as fast as the air transport, but they could be a threat if customers focus in other variables such as proximity to the city center, timetables or comfortability.

4.4 ANALYSIS OF STRATEGIC GROUPS

The strategic group concept was first introduced by Hunt (1972) for explaining the performance difference between firms within an industry which follow different strategies. According to Porter (1980), a strategic group is a group of firms in an industry following the same or similar strategy along a set of strategic dimensions.

It is possible to identify the different strategic groups that are part of the industry by means of looking at the characteristics of each company. First, the starting point should be analyzed since it can influence the degree of industry development and will be helpful to know the initial situation of the firm. Furthermore, basic objectives and ways to achieve them make the difference when classifying the different groups. In addition to that, the adaptation capability to the environment as well as the resources applied to do it change regarding one company to other and sometimes there are mobility barriers between groups due to these differences. Finally, each strategic group has a different attitude towards risk.

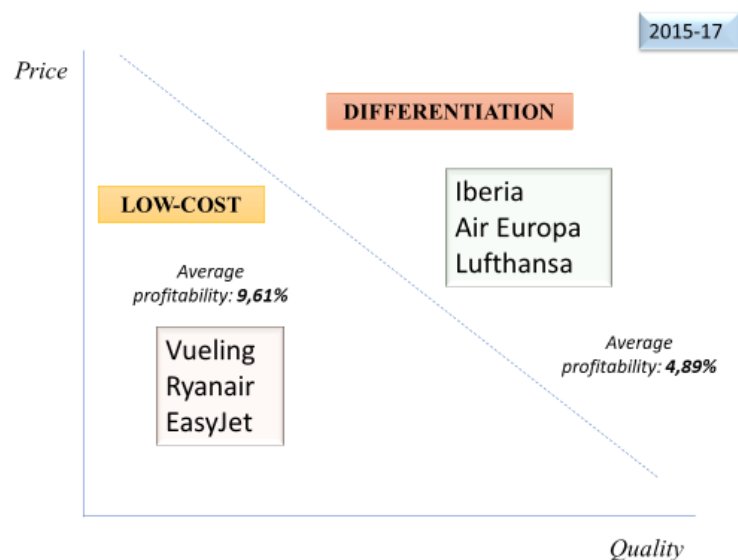
According to Nohria and García-Pont (1991), identifying strategic groups should be done in base of the similarities or differences in the resources and capabilities of

the companies in the industry. Additionally, they say that companies of the same strategic group will have similar ways of competition since they have the same capabilities.

Regarding the air transport industry, we can clearly divide companies in two groups according to the price and quality of their services, this is, according to their competitive strategy (cost-leadership vs. differentiation). As Ryans (2008) said, the global industry of airlines has two main strategic groups: big airlines offering a complete flight service and low-cost airlines competing for offering the lowest prices. The strategies of these two groups are going to be analyzed in the following sections.

With the end of having a visual presentation of the strategic groups conforming the industry, a map has been elaborated in figure 4.5 according to the average profitability of the main companies of each group. The calculations have been made using the ROA criteria⁵ of years 2015-17 and can be seen in detail in the Appendix 4.

Figure 4.5: Map of strategic groups with the average profitability of the main companies of each group (2015-17)



Source: own elaboration

⁵The formula used is: $ROA = \frac{EBIT}{Total\ Assets}$. Data for calculations has been obtained from the annual accounts of the main companies in each group.

The observed variables when differentiating the strategic groups were price and quality, which are the most relevant factors affecting the industry. Therefore, the vertical axis corresponds to price and the horizontal one to quality. As above represented, low-cost airlines are in the left part of the graph due to their low prices and a lower quality than traditional airlines. In contrast, the companies following the strategy of differentiation are in the right since they prioritize quality.

Figures show that the average profitability of the low-cost group is 9.61%, which is a good figure showing that the average return on assets of the group is higher than the one of the companies following a strategy of differentiation, with only 4.89%. In general, the situation of the group formed by Iberia, Air Europa and Lufthansa should be improved to maintain their profitability and to be able to compete in the market. For that, they can augment the margin by means of reducing costs or increasing prices, as well as increasing the assets turnover by making sales in new markets. From a strategic point of view, low-cost companies are in a good position because for each monetary unit invested, they can leverage 9.61% on average.

4.4.1. DIFFERENTIATION STRATEGY OF BIG AIRLINES

This group follows a strategy of differentiation with the aim of creating special characteristics in the service offered to make it more attractive to customers and make them pay a higher price for it. The reason is that it creates a higher value perceived by clients and it achieves a competitive advantage in this field. The ways of differentiating the flight service are many: better seats, Wi-Fi service, entertaining options on board or comfortability are some of them. “A company is differentiated from its competitors if it can be the only one having something valuable for customers. The degree in which competitors in an industrial sector can be differentiated from others is a relevant element” (Porter, 1989).

Companies who follow this strategy usually know that there is a part of the market who is willing to pay more for these services since it is an added value for the company and customers appreciate it. In other cases, the use of this strategy is done due to the loyalty of customers who prefer paying a higher price but maintain the trust with a long-life company such as Iberia.

They use this strategy with the end of being different in the market and get to a public which is going to pay for that difference. Offering a good service in terms of

comfortability, safety and amenities leads to a link of loyalty with the customers. This allows companies in this strategic group to have a wider margin of benefits per unit sold.

According to the company Iberia, their mission is “to offer services of air transport, airports, and maintenance of planes to satisfy our clients’ expectations and create economic and social value in a sustainable way”. Thus, the company states that their priority is the satisfaction of the client and puts it in a first place.

Furthermore, their vision states that they want to be leaders in the satisfaction of clients, innovation and economic and social profitability. It is clearly oriented to the fulfillment of customers’ needs and it can be also read in their values: “Focus on client, value creation, search of excellence at management, social commitment, persons importance, leadership, team work, continuous improvement, adaptation to change, innovation and environment protection”.

As a result, it is possible to identify companies such as Iberia in this strategic group since the orientation to clients is clear as well as the search for “something else” that other airlines cannot provide.

4.4.2. STRATEGY OF LOW-COST AIRLINES

Airlines achieve a cost advantage when they can have lower costs than their competitors offering a similar service. Then, the aim of the companies following this strategy is to keep costs down to be advantageous regarding competitors, suppliers and clients. According to Romero and Cortés (2006), low-cost is not only a strategy based in price, but also is focused in the improvement of the management of costs at the prices offered. They say that “efficiency in costs is achieved offering blindly the transport service without any support service, that is, offering other kind of service in which the price is another variable”.

Similarly, Jiang (2007) says that the business model of low-cost airlines is based in three basic fundamentals. The first one is simple product: on-demand catering for an extra price, a unique class, no seats allocation and no loyalty programs. The second one is the positioning: it is focused in passengers who do not use the airline for labor reasons, short-distance but frequent routes, operate in secondary airports and competition with any means of transport. The last one is low-cost operations:

focused in low maintenance costs, because of the low congestion of secondary airports, simplicity in the boarding process and lower loading of luggage.

Vicenç Martí, who was Global Marketing Director of Vueling in 2009 said “the goal of Vueling is selling, it cannot make many grants to branding, so online marketing is perfect”. It is possible to observe around us that companies looking for low costs try to make their advertisements seen by the higher number of people possible. It is a way of reducing costs and internet is a tool which has been useful for the development of this technique. Additionally, more than 80% of the sales of Vueling are done by Internet.

In general, we can talk about some key elements in the airlines following this strategy: economic prices, frequent flights in short-distance routes and secondary airports, low operating expenses, use of Internet and sale of additional services (such as car rental or hotels booking).

4.5. MAIN CONCLUSIONS FROM THE STRATEGIC ANALYSIS OF THE ENVIRONMENT

After analyzing the environment of the air transport industry, it is possible to say that objectives pursued have been achieved. First, structural aspects of the industry have been identified, obtaining the different concentration indexes for the three markets composing the industry (domestic, Spain-EU and Spain-extra EU) and concluding that the structure followed is that of perfect competition.

Furthermore, the attractiveness of the industry has been studied according to the PEST analysis, in which external factors affecting the business environment have been analyzed. As a result, it is possible to say that recent technological advances can increase income of airlines. Indeed, access to internet has made easier the purchase of flight tickets and it is an opportunity for growth in the industry. In contrast, it has been noticed that economic events such as recessions affect in a negative way to the demand. Also, the recent wave of terrorist attacks in the European continent suppose a threatening for the industry.

Additionally, the external forces affecting the firms in the industry influence the way of competing. We can talk about a moderate rivalry in the industry since the large number of available routes make that companies share the demand. Besides, although the use of Internet has made easier the entrance to new markets, barriers of

entry in the sector are high due to the great capital needed for setting up a company in the air transport industry. It is important to consider the force of substitutes since nowadays there is a wide offer of means of transport that can be strong competitors of airlines and can result in a threatening for the industry.

The heterogeneity of behaviors is reflected in the strategic groups identified in the previous section. Their effect in the industry is the division of the market into companies following a low-cost strategy and a differentiation one. Consequently, the profitability of the group formed by the big airlines should be increased to be competitive in the market.

To conclude with this section, figure 4.6 shows the main opportunities and threats that the industry is facing, which have been identified in the external analysis. With all the information collected, future of air transport will be analyzed as well as the trend of the market in the following years.

Figure 4.6: Opportunities and threats obtained from the environmental analysis

| Opportunities | Threats |
|---|-----------------------|
| Technological advances | World economic crisis |
| Increase in the demand | Increase of oil price |
| Increase of the number of low-cost airlines | |

Source: own elaboration

5. FUTURE OF THE INDUSTRY

Air transport directly affects the growth of the Spanish economy since it has an important role in tourism, which is an essential sector in our country. According to the INE (National Statistics Institute), the year 2017 finished with 87.6 million of passengers arriving from international airports, having an increase of 8.3% with respect to the previous year.

We can clearly talk about an increase in the number of people travelling by plane. On the one hand there is a new kind of consumer who has new needs and in the other, we find airlines that must confront new challenges and adapt to the new demand to continue growing.

“Although the rising and falling cycles suffered by the economy and the commercial aviation, the figures prove that the growth is constant, and the sector is going to need new aircrafts, meaning the generation of jobs for both manufacturers

and professionals of the sector” said John Leahy, Airbus Chief Operating Officer of Customers.

Because of this continuous increase in the air traffic, airlines are facing the obsolescence of their aircrafts, which makes difficult the reduction of their operating costs. Indeed, the difference between old aircrafts and a new fleet can be a 30% of oil consumption, so it is advisable to airlines to benefit from those improvements to reach a higher efficiency.

Furthermore, the current customer is looking for a quality service, distinguished for its timeliness. It is a factor which is secondary for most of the current airlines in the market but incurs in important costs since it implies more hours for the crew, claims or more hours or parking in the airport. Therefore, airlines should act to maintain their competitiveness and have the trust of their clients.

Additionally, the price of flights is a key element influencing the growth of the sector and the demand. The margin of air transport industry is very adjusted, so airlines must be able to offer the best price for the rate of each passenger.

Manufacturers agree about the needs of the sector in the future: until 2036 there will be a demand of 34900 new aircrafts. From this figure, 40% will be for substituting old models and 60% for facing the increasing demand, according to the forecasts of Airbus.

Future trends⁶ aim at the leadership of the region Asia-Pacific and an increase from 29% to 40% in the traffic air of emerging countries in less than two decades. The highest increase in the world will be China, with a national traffic of 1600 million of passengers in 2036, which is 4 times more than the current number of users in national flights. Another growing country will be India, multiplying six times the number of travelers, which will result in a traffic equivalent to the current national air traffic of USA. In the case of Europe, the report of Airbus indicates that there will be more than 6800 aircrafts sold, creating about 97000 jobs as pilot and 96000 engineers and maintenance technicians.

⁶ Figures are estimations from Airbus based on similar reports.

6. CONCLUSION

In closing, some conclusions are obtained from this project whose aim was identifying the strategies followed by the Spanish airlines as well as analyzing the industry.

The air transport industry in Spain has evolved since its starting in 1910. Indeed, the growth of this sector has been fast, continuous and determinant for the economy of our country. It is not only the need of travelling which is covered, but also the tourism that this service generates. As a result, many jobs are created, and it is an increasing trend for the following years.

The increase in the competence in the sector in the last years came with the emergence of new airlines offering characteristics that had not been seen until that moment. Therefore, we find two different strategic groups: one with the companies following a differentiation strategy and other with low-cost airlines. The first one offers more services and is oriented towards clients and the second one is characterized by offering low prices and basic services. Those using the differentiation strategy have a large variety of routes, programs of loyalty and services of food, drinks and press on board. The last strategy is applied by eliminating classes of passengers, using the minimum services on board, intensive usage of aircrafts, low salaries for workers, use of Internet for the selling of tickets and short-distance flights to secondary airports.

Furthermore, an analysis of the concentration in the industry has been carried out obtaining a low concentration rate with 16 leader companies in the industry. In this ranking there are companies of the two strategic groups which compete for the demand of the sector, satisfying the needs of a wide range of customers.

With the external analysis of the industry, by means of using a PEST and PORTER analysis, the main factors affecting the industry have been identified, as well as the five forces that influence any company in the sector. The results obtained point out a moderate rivalry in the sector, high barriers of entry and exit and a low bargaining power of customers. In addition, technological factors have a strong effect in the air transport industry since we are in a globalization era in which everything is connected.

Finally, the commercial air transport industry is going through a transformation process that involves more safety, new technologies and the need of more aircrafts to cover a demand which is increasing in the following 20 years. In an industry in which

competitors fight for having the best services and the lowest prices, it is necessary to have good connections and the forecast for the following years is an increase in the number of routes as well as the emergence of international flights from our country thanks to the recent establishment of the headquarters of IATA in Madrid.

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APPENDIX

Appendix 1: Domestic Market 2015, 2016 and 2017

| DOMESTIC 2015 MARKET | | | | | |
|-------------------------|-----------------|--------------|------|----------------------|--|
| Airline | N of passengers | Market Share | CRn | Squared market share | |
| <i>Vueling</i> | 9035842 | 0,29 | 0,29 | 0,0841 | |
| <i>Air Europa</i> | 5278877 | 0,17 | 0,46 | 0,0289 | |
| <i>Ryanair</i> | 4729041 | 0,15 | 0,61 | 0,0225 | |
| <i>Air Nostrum</i> | 3037480 | 0,1 | 0,71 | 0,01 | |
| <i>Iberia Express</i> | 2670628 | 0,09 | 0,8 | 0,0081 | |
| | | | | H= 0,1536 | |
| | | | | N= 6,510416667 | |

| DOMESTIC 2016 MARKET | | | | | |
|-------------------------|-----------------|--------------|------|----------------------|--|
| Airline | N of passengers | Market Share | CRn | Squared market share | |
| <i>Vueling</i> | 9625506 | 0,29 | 0,29 | 0,0841 | |
| <i>Air Europa</i> | 5421742 | 0,16 | 0,45 | 0,0256 | |
| <i>Ryanair</i> | 5168257 | 0,15 | 0,6 | 0,0225 | |
| <i>Air Nostrum</i> | 3166943 | 0,09 | 0,69 | 0,0081 | |
| <i>Iberia Express</i> | 3028227 | 0,09 | 0,78 | 0,0081 | |
| | | | | H= 0,1484 | |
| | | | | N= 6,738544474 | |

| DOMESTIC 2017 MARKET | | | | | |
|-------------------------|-----------------|--------------|------|----------------------|--|
| Airline | N of passengers | Market Share | CRn | Squared market share | |
| <i>Vueling</i> | 10721367 | 0,29 | 0,29 | 0,0841 | |
| <i>Ryanair</i> | 5509513 | 0,15 | 0,44 | 0,0225 | |
| <i>Air Europa</i> | 5038627 | 0,14 | 0,58 | 0,0196 | |
| <i>Iberia Express</i> | 3399027 | 0,09 | 0,67 | 0,0081 | |
| <i>Air Nostrum</i> | 3260555 | 0,09 | 0,76 | 0,0081 | |
| | | | | H= 0,1424 | |
| | | | | N= 7,02247191 | |

Source: own elaboration with data from Ministry of Development

Appendix 2: Spain-European Union market 2015, 2016 and 2017

| 2015 SPAIN-EU MARKET | | | | |
|----------------------|-----------------|--------------|------|----------------------|
| Airline | N of passengers | Market Share | CRn | Squared market share |
| <i>Ryanair</i> | 24790324 | 0,21 | 0,21 | 0,0441 |
| <i>EasyJet</i> | 10963595 | 0,09 | 0,3 | 0,0081 |
| <i>Vueling</i> | 10312957 | 0,09 | 0,39 | 0,0081 |
| <i>Air Berlin</i> | 6876329 | 0,06 | 0,45 | 0,0036 |
| <i>Iberia</i> | 4577337 | 0,04 | 0,49 | 0,0016 |
| | | | | H= 0,0655 |
| | | | | N= 15,26717557 |

| 2016 SPAIN-EU MARKET | | | | |
|----------------------|-----------------|--------------|------|----------------------|
| Airline | N of passengers | Market Share | CRn | Squared market share |
| <i>Ryanair</i> | 28654237 | 0,22 | 0,21 | 0,0484 |
| <i>EasyJet</i> | 11805755 | 0,09 | 0,3 | 0,0081 |
| <i>Vueling</i> | 11662581 | 0,09 | 0,39 | 0,0081 |
| <i>Air Berlin</i> | 6748341 | 0,05 | 0,44 | 0,0025 |
| <i>Iberia</i> | 5048655 | 0,04 | 0,48 | 0,0016 |
| | | | | H= 0,0687 |
| | | | | N= 14,55604076 |

| 2017 SPAIN-EU MARKET | | | | |
|------------------------|-----------------|--------------|------|----------------------|
| Airline | N of passengers | Market Share | CRn | Squared market share |
| <i>Ryanair</i> | 24790324 | 0,23 | 0,21 | 0,0529 |
| <i>EasyJet</i> | 10963595 | 0,09 | 0,3 | 0,0081 |
| <i>Vueling</i> | 10312957 | 0,08 | 0,38 | 0,0064 |
| <i>Jet2.com</i> | 6876329 | 0,04 | 0,42 | 0,0016 |
| <i>Thomson Airways</i> | 4577337 | 0,04 | 0,46 | 0,0016 |
| | | | | H= 0,0706 |
| | | | | N= 14,16430595 |

Source: own elaboration with data from Ministry of Development

Appendix 3: Spain-Extra European market 2015, 2016 and 2017

| 2015 SPAIN-EXTRA EU MARKET | | | | |
|------------------------------|-----------------|--------------|------|-----------------------|
| Airline | N of passengers | Market Share | CRn | Squared market share |
| <i>Iberia</i> | 5481591 | 0,2 | 0,2 | 0,04 |
| <i>Air Europa</i> | 1979569 | 0,07 | 0,27 | 0,0049 |
| <i>EasyJet Switzerland</i> | 1804331 | 0,07 | 0,34 | 0,0049 |
| <i>Swiss</i> | 1685296 | 0,06 | 0,4 | 0,0036 |
| <i>Norwegian Air Shuttle</i> | 1276189 | 0,05 | 0,45 | 0,0025 |
| | | | | H= 0,0559 |
| | | | | N= 17,88908766 |

| 2016 SPAIN-EXTRA EU MARKET | | | | |
|----------------------------|-----------------|--------------|------|-----------------------|
| Airline | N of passengers | Market Share | CRn | Squared market share |
| <i>Iberia</i> | 5612143 | 0,19 | 0,2 | 0,0361 |
| <i>Air Europa</i> | 2201246 | 0,07 | 0,27 | 0,0049 |
| <i>EasyJet Switzerland</i> | 1743416 | 0,06 | 0,33 | 0,0036 |
| <i>Swiss</i> | 1691481 | 0,06 | 0,39 | 0,0036 |
| <i>Vueling</i> | 1302168 | 0,04 | 0,43 | 0,0016 |
| | | | | H= 0,0498 |
| | | | | N= 20,08032129 |

| 2017 SPAIN-EXTRA EU MARKET | | | | |
|----------------------------|-----------------|--------------|------|-----------------------|
| Airline | N of passengers | Market Share | CRn | Squared market share |
| <i>Iberia</i> | 5992420 | 0,18 | 0,2 | 0,0324 |
| <i>Air Europa</i> | 2513884 | 0,08 | 0,28 | 0,0064 |
| <i>Swiss</i> | 1659747 | 0,05 | 0,33 | 0,0025 |
| <i>EasyJet Switzerland</i> | 1463518 | 0,04 | 0,37 | 0,0016 |
| <i>Vueling</i> | 1337472 | 0,04 | 0,41 | 0,0016 |
| | | | | H= 0,0445 |
| | | | | N= 22,47191011 |

Source: own elaboration with data from Ministry of Development

Appendix 4: Average Profitability of the Strategic groups in 2015-17

| LOW COST | 2015 | 2016 | 2017 | SUM | AVERAGE |
|----------|--------|--------|--------|--------|---------|
| Ryanair | 0,1302 | 0,1190 | 0,1269 | 0,3761 | 0,1254 |
| Vueling | 0,0897 | 0,0310 | 0,1200 | 0,2407 | 0,0802 |
| EasyJet | 0,1176 | 0,0781 | 0,052 | 0,2477 | 0,0826 |

TOTAL AVERAGE 0,0961

| DIFFERENTIATION | 2015 | 2016 | 2017 | SUM | AVERAGE |
|-----------------|--------|--------|--------|--------|---------|
| Iberia | 0,0911 | 0,0268 | 0,0115 | 0,1294 | 0,0431 |
| Air Europa | 0,0255 | 0,0739 | 0,0419 | 0,1413 | 0,0471 |
| Lufthansa | 0,0514 | 0,0531 | 0,0652 | 0,1697 | 0,0566 |

TOTAL AVERAGE 0,0489

Source: own elaboration