European Journal of Applied Business Management, Special Issue, 2018, pp. 33-54.

EJABM European Journal of Applied Business and Management

ISSN 2183-5594

Research paper

The liberalization of Azores airspace: Impact of Low-cost on SATA

Submitted in 27, September 2017
Accepted in 15, January 2018
Evaluated by a double blind review system

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Abstract

Purpose - Understand how changes in political-legal environment affected the performance of a Full service Company and which resulting impacts contribute to the continuation of its operations.

Methodology - Based in a case study approach with an in-depth analysis of the topic using multiple sources of evidence. The data was collected from companies' annual reports and statistical entities and sources.

Originality - The interpretative analysis of the collected data aims to contribute to a better understanding of the phenomenon of Azores' airspace liberalization, by identifying the impact caused by Low-cost companies on SATA.

Findings – There is evidence the impact caused by Low-cost companies on SATA is marked by: Enhancement of the rates of aircraft exploitation, due to fleet adjustment to the routes; Improvement of inter-island air connections and archipelago connections with the exterior; Reduction of passengers' travel costs; An important contribution to the more balanced management of the company; An opportunity to review management and operational strategies.

Research limitations - The analysis is made on data related to the carried passengers and on the SATA's operational data, from 2011 to the present, trying to find trends and explanations for the evolution of indicators over time. An unavoidable constraint is that the impact caused by the air space liberalization, which began on March 29, 2015, cannot yet be considered complete Therefore the figures to be measured or compared are not yet stable.

Keywords - SATA, Low-cost company (LCC), Full service Company (FSC), Azores' airspace liberalization.

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ISSN 2183-5594

1. Introduction

The present article aims to study the impact caused by the recent liberalization of the airspace of the Autonomous Region of the Azores, on the regional airline company SATA (Sociedade Açoreana de Transportes Aéreos).

After several consecutive years of negative operating results, SATA was in a difficult economic situation. In this context, suffering the impact of new operating rules, with the appearance of aggressive competitors in a market where, together with TAP, it had a dominant position, it was a high risk operation for the company survival.

Although liberalization has always been advertised as a choice in the name of consumer interest, the outcome for the incumbent airline companies is not always the most favorable - "It is a proven fact that liberalization in the European market (and also in North America), by increasing competition, has provoked a 'revolution' in the commercial aviation market, forcing airlines to reduce costs and margins, which led many to fail, unable to adapt. And in the same way, this new environment prompted the entry of new and promising companies, some of which, surprisingly (or perhaps not), had a short life." (Silveira, 2015).

In this open market scenario, how will a regional public service company, accustomed to operating on a near-monopoly regime, react to the strong competition caused by the entry of Low-cost companies?

The air space liberalization in the Azores began on March 29, 2015 and even knowing that it was a rather new situation, there was an expectation that the data on the evolution of the company's operating results and on the airline market distribution for the region would indicate how was SATA reacting to this new environment.

First, it is presented a literature review, characterizing the business model of a legacy or full-service company (FSC) and what distinguishes it from the Low-cost companies (LCC).

It follows, the outlining of the liberalization process of the Azores' airspace and the results for the region. Then, an analyzes is made on the data related to the passengers carried by SATA and its competition, as well as, on the SATA's operational data, from 2011 to the present, trying to find trends and explanations for the evolution of indicators over time.

Finally, a number of considerations are made about the impact caused by LCCs on SATA's activity.

2. Literature review

The commercial aviation market and consequently the airlines are very dependent on the economic and technological cycles. When analyzing the historical evolution of the airlines market one can consider the existence of three main cycles:

(1) Until 1970, the worldwide air transportation industry was characterized by strict control, both domestically and internationally. The governments and regulators of each country, through the strong regulation of the various aspects of the activity, exercised this control.

Governments defined which companies could operate in their market, on which routes, and with what capacity, both in terms of frequency and the type of aircraft used. In addition, they prevented companies from freely establishing their prices by imposing a set of tariffs applied on

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each of their routes (Doganis, 2006).

During this period, the main focus of the airlines was mainly on flight operations and maintenance. The market was dominated by Legacy or full-service airlines (FSC), both public and private.

(2) Between 1970 and 2000, there was a general trend worldwide towards the liberalization of the airspace, which made it possible for the appearance of Low-cost companies (LCC). First, in 1978, emerged the decision to deregulate the US air market. Subsequently, in Europe, through the application of various packages of measures between 1987 and 1997, cabotage rights (8th and 9th Air Freedoms) were granted in the European region to all EU airlines. Additionally, other regions of the world, following the American and the European examples, and stimulated by the forces of the increasingly globalized and interconnected market, began processes of liberalization of their airspace (Doganis, 2006).

Airlines become encouraged by market laws and not by regulators, to provide a better service, more capable, more efficient, and better adapted to the demand, at a better price. The success and even survival of each company depends on its ability to provide the market with a service that suits its needs (ELFAA, 2004).

In the post-liberalization period there was a great dynamism in the transformation of the air transport industry and the existing companies had to go to through renovation and modernization processes, changing their strategy and business models.

Marketing became the main focus of the airlines. Since then, the market has been shared by the LCCs, very aggressive and agile, and FSCs with many of the characteristics of the past but no longer protected by governments and regulators.

(3) Today, with the huge developments of the digital era, the airlines' focus is again changing. Given the possibility of taking advantage of the enormous information that has become available, technology will play a significant role in this new cycle (Doganis, 2006). To survive, both LCC and FSC have to turn to mobile technology, which is already the new major trend among consumers, both at the individual level and at the business level.

With the development and growth of the Internet and the massive availability of data, FSCs made heavy investments in CRM (Custom Relationship Management) tools to better know and understand each customer. Besides, in response to LCC's business model, FSCs evolved into a hub & spoke system, operating in network and through global partnerships, where they can better serve their business customers. In this sense, they have made considerable investments in revenue management tools in order to efficiently segment the market, thus capturing the maximum possible margin of each passenger (Doganis, 2006).

Due to their historical evolution, LCC and FSC display different characteristics (table 1) and consequently assume complete distinctive approaches in the airline market.

In the following table, based on the consulted bibliography, it is made a detailed comparison between the LCC and FSC business models, by type of product offered, by type of service performed, by type of operation, by type of strategy defined and by type of product distribution.

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Table 1 – Airlines' characteristics

	FSC (*Legacy*)	LCC (*Low-cost*)
Type of product	Combined fares (luggage, place, meal)	Simple ticket without extras (A la carte features)
	Frequent flyer program	
	Seat reservation included	
	Catering service onboard	
	Refund ticket and reservation change policies	
	Ticket includes extra baggage	
	Onboard entertainment service	
		Sale of advertising space within the aircraft
	Free shop on board	Diversified products for selling on board
	Only plane ticket	Combined product at reduced cost (travel + accommodation + rent a car)
	Reservation of ticket without payment	Advance payment of the trip
	Lounge service at major airports	
	Check-in online	
Type of service	Use main airports in prime time	Use secondary airports at the most available time
	Alliance participation (code share, baggage transfer)	
	All kinds of routes	Only routes with great demand
	Hub and spoke network	Point-to-point flights
	Short and long-haul flights	Short-haul Flights
	Regular and frequent flights	Regular and frequent flights
	Several classes on board (first, business, economy)	Single class on board (economy)
Type of operations	Heterogeneous fleet	Homogeneous fleet
	Focused on customer safety (longer parking time)	Maximize aircraft use (faster turnaround times)
		Handling Service subcontracting
		High levels of punctuality
	Passengers and cargo transportation	Passengers only
	Greater pitch	Optimization of cabin space: more seats (lower pitch)
	Specialized teams for line checks	Crew makes line checks
		Fuel in the minimum limits for flight operation
	Complex revenue management techniques	
Type of strategy	Business and leisure passengers	Leisure passengers
	Economies of scale policy	Operating costs reduction policy
		Reduced number of employees
	Individual sale of seat with services included	Individual sale of seat without anything included
	"One-stop shop" air transport provider	Commission-based products
	Price Segmentation by Class	Low price
Type of product distribution	Own sale counter, travel agencies, own and third-party online sales channels	Online direct sales channels
	Institutional Marketing	Aggressive marketing campaigns
		Use word of mouth
	Institutional websites	Sophisticated websites focused on sales

Source: Own elaboration based on Morrell (2005), Doganis (2006), Dobruszkes, (2006), Chopra & Lisiak (2006), Almeida & Costa (2012), Ramsay et al (2013), Schlumberger & Weisskopf (2014), Bitzan & Peoples (2016).

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ISSN 2183-5594

LCCs exhibit greater flexibility in labor contracts, and since point-to-point model implies less ground crew, maintenance workers and gate staff, they can have personnel costs lower than FSC. According to Bitzan and Peoples (2016), considering the average operating costs between 1993 and 2010 for the US market, human resources costs in LCC and FSC respectively represent 24% and 30% (Table 2).

Table 2 – Distribution of airlines costs (Based on a study of 59 U.S. carriers, between 1993 and 2010)

	FSC (*Legacy*)	LCC (*Low-cost*)
Labor	30% of operating costs	24% of operating costs
	Reduced flexibility of employment contracts	The point-to-point model involves less ground crew, maintenance workers and gate staff
	Higher salaries	
Fuel	17% of operating costs	23% of operating costs
	Higher investment in more efficient aircrafts and diversified fleet	More taking off and landing operations
	Higher average distance traveled per flight	
Capital	20% of operating costs	18% of operating costs
		Better conditions with suppliers
Other factors of production	34% of operating costs	33% of operating costs
	Higher average distance per flight (stage lenght) Higher average Load Factor	Lower airport costs

Source: Own elaboration based on Bitzan & Peoples (2016).

The weight of fuel and labor costs in the operating costs, besides the differentiation between FSC and LCC, are significantly different from region to region (Smyth & Pearce, 2006). In 2008, according to IATA (2010), the human resources component in airline operating costs was 22% and 25%, in North America and Europe respectively, but only 14.7% in Asia Pacific, reflecting the relatively lower salaries in that region (Table 3). However, with relatively lower labor costs, fuel represents a much larger proportion of total costs (36.7%) in the Asia Pacific region than in other regions.

Table 3 – Percentage share of airline operating costs, by region of airline registration

	North America		**Europe**		**Asia Pacific**		**All Major Airlines**	
	2001	**2008**	**2001**	**2008**	**2001**	**2008**	**2001**	**2008**
Labor	36.2%	21.5%	27.2%	24.8%	17.2%	14.7%	28.3%	20.1%
Fuel	13.4%	34.2%	12.2%	25.3%	15.7%	36.7%	13.6%	32.3%
Aircraft Rentals	5.5%	3.0%	2.9%	2.5%	6.3%	4.5%	5.0%	3.5%
Depreciation and Amortization	6.0%	4.5%	7.1%	5.7%	7.4%	7.8%	6.7%	5.9%
Other	38.9%	36.9%	50.7%	41.8%	53.4%	36.3%	46.4%	38.2%

Source: IATA (2010).

According to Doganis (2006), personnel costs in European FSCs account for about 20 to 35% of operating costs, and on inter-European routes the weight of human resources costs may still be higher, reaching 40%, since short-haul routes are more labor intensive.

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ISSN 2183-5594

The emergence of Low-cost airlines with a new business model, taking advantage of the weaknesses of an inflexible sector, was due to globalization and the liberalization of airspace. These new companies came to challenge the previous business model, and many Legacy companies have not supported the change and have succumbed, while others had to restructure and adapt to the new reality (Schlumberger & Weisskopf, 2014).

In order to survive in this extreme competitive environment, FSCs had to follow the newcomers in several characteristics and specifically a supplemental effort has been done in terms of cost reductions, 17% compared with 11% from LCCs (Table 4). In fact, Bitzan & Peoples (2016), based on the analysis of the United States airline market, observed that in the last decades, despite the cost structure's differences between FSCs and LCCs, the gap has diminished significantly.

Table 4 - Airlines costs reduction between 1993-2010 (Based on a study of 59 U.S. carriers, between 1993 and 2010)

FSC (*Legacy*)	LCC (*Low-cost*)
17%	11%
The Hub & Spoke network model allows to operate with higher density of traffic (economies of density)	Lower capacity to continue reducing capital and material costs
Negotiation of labor contracts (airlines bankruptcy - pressure on unions)	

Source: Own elaboration based on Bitzan & Peoples (2016).

As a result of this strong competition, the airline industry has assumed a dynamic of innovation and change never seen before, noticing a tendency for a mix of the two business models. Consequently, there are currently no pure models. The adaptation has been done on both sides, so it can be observed FSCs adopting typical characteristics of LCCs, as well as the opposite (Chopra & Lisiak, 2006).

Both FSC and LCC are subject to external factors, which can influence them directly or indirectly. In a proactive attitude, periodic analysis of these factors can avoid unpleasantness. These external factors are dynamic macro environment elements, constantly changing, and must have continuous monitoring by the company, because having little capacity to influence them, their study allows to perceive the evolution of the market and its potential.

Today, in a current situation analysis, it can be said that during the last decade there have been major changes in the airline market, due to the strong competition brought by the LCC business model (Schlumberger & Weisskopf, 2014). And, in order to maintain the loyalty of their clients, the FSC had to make several adaptations to their business model.

Globalization has led to a concentration movement in the airline market, either through the merger and acquisition of some Legacy companies or through the creation of global strategic alliances (Ramsay et al, 2013). With this new organization, FSCs can offer several advantages over LCCs, especially for the long-haul traveler: luggage transport and onboard services included, having only one carrier to final destination, airplanes with larger space between seats, frequent flyer programs and fly to the main airports at the most convenient times.

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Although business customers are the most valuable in terms of revenue, FSCs do not want to lose leisure customers who fly shorter distances. Hence, there has been a tendency on the part of the Legacy to create airlines within airlines in order to cover the entire market (Morrell, 2005). The strategy of some FSCs was to create their own LCC, flying to short-haul destinations. Other FSCs preferred to adapt their aircraft, turning half the plane into a low cost carrier, with fixed seats, smaller pitchs, with no possibility of reservation and no extra baggage or food included.

This way, FSCs can focus on their loyal business customers who are willing to pay higher prices for more and better services but also are able to attract leisure travelers in search of lower prices (Smyth & Pearce, 2006).

With the correct segmentation, FSC can keep their traditional customers loyal to their brand and at the same time attract new customers in other segments without sacrificing the image of the company.

3. Methodology

The objective of this research is to understand how changes in the political-legal environment affected the performance of a company in the market where it operates and which resulting impacts could contribute to its survival. Therefore, the present work is a case study on SATA, concerning specifically the impact of the low-cost companies (LCC) on its operations.

In this study, it was adopted a qualitative methodology with the purpose to obtain an in-depth understanding of a socioeconomic phenomenon.

The qualitative research seeks to develop knowledge through detailed description and by using interpretive techniques, without a concern for the frequency of phenomena (Cooper, 2014) which includes, according to Patton (2014), the selection of a case rich in information that presents intense characteristics of the phenomenon that is intended to be analyzed and study it in depth.

The case study allows an in-depth analysis of the topic using multiple sources of evidence. Being richly descriptive, it is a good tool to show how something happens in a real-life situation, helping to understand a complex issue (Yin, 2009).

Data collection can be done through different types of methods (Patton, 2014). In the present study, resources were chosen from the selection and analysis of written documents available from several sources consulted: SATA's Consolidated financial statements; Studies of the National Civil Aviation Authority; Statistical bulletins of the National Civil Aviation Institute; Strategic Plan and Marketing for Tourism in the Azores; SATA website; Azores Regional Statistics Service website; Eurostat website.

After a review of the selected written documents mentioned above, an interpretative analysis of the data is carried out with the aim of creating knowledge about the specific characteristics of this reality, namely the impact of the newcomers on SATA and, in this way, contribute to a better understanding of the phenomenon of airspace liberalization in the Azores.

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4. SATA – Case Study

4.1. Liberalization of Azores airspace

The liberalization of the Azores airspace, which began on March 29, 2015, changed the model of accessibility and mobility in the archipelago. The most frequent routes were opened to competition and there was a need to change the rules of Public Service Obligations (OSP). The combination of liberalized routes with routes subject to public service obligations was an important and difficult task for SATA.

The entry of new airlines and the competition among them resulted in a significant increase in the number of passengers and a significant reduction in the air fares average value.

In 2015:

- Easyjet started to assure 4 weekly rotations between Lisbon and Ponta Delgada;
- Ryanair started to assure 2 daily rotations between Lisbon and Ponta Delgada;
- Ryanair started to assure 6 weekly rotations between Porto and Ponta Delgada;
- TAP decreased weekly flights between Lisbon and Terceira, from 13 to 7 rotations during the summer;
- TAP decreased daily connections between Lisbon and Ponta Delgada, from 4 to 1 rotation.

In relation to 2014, the alteration of the OSP model in the air connections inside the archipelago, consisted in the reformulation of schedules and conditions of connectivity, in the reduction of the resident and student fares and in the alteration of the routing model of passengers.

In connection with the mainland, the routes between Lisbon / Porto and the islands of São Miguel and Terceira were liberalized, while the connections between the mainland and the islands of Santa Maria, Faial and Pico, as well as between Funchal and Ponta Delgada were incorporated in the new OSP model. For all these routes there is a social mobility allowance paid directly to the passenger.

The rules, on the routes operating under the OSP, about the number of places offered and their frequency, the limitations on the maximum rates for residents and students, and the imposition to offer seats at discounted rates, remained mandatory. Between the mainland and the islands, SATA started to ensure all connections, given the lack of interest shown by the other companies, including TAP, which gave up the connections between Lisbon and the islands of Faial and Pico.

SATA's "DNA" is a Full Service Company, offering its passengers valuable and indispensable commercial conditions, such as: luggage transportation and seat reservation included, transport of animals and passengers with reduced mobility, transportation of funeral urns, among others. In order to cope with the changes it has undergone due to the liberalization of the air market, SATA has developed a strategic plan for the period 2015-2020 in order to meet the demanding operational challenges in its financial, economic and social areas.

A consequence of this positioning was the launch in February 2015, of the new rebranding of SATA International, designated as Azores Airlines.

4.2. Tourism in the Azores

As a result of this new mobility, it is important to verify the contribution made by the different

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economic sectors, in particular, hospitality. According to data from the Azores Regional Statistics Service, in the year 2015, there was a 19.5% increase in the number of overnight stays, with the weight of foreigners reaching 58% of the total, that is, 733 thousand overnight stays. Still, in terms of region, S. Miguel, Terceira and Faial destinations absorbed 90.7% of the total overnight stays. As for the income of hotel establishments, expectations were confirmed, as in year-on-year terms there was a positive variation of 20% when compared to 2014.

IPDT - Instituto de Turismo, conducted a performance assessment of the Azores tourist destination, which results are as follows (PEM, 2016):

- Positive evolution of the number of guests and overnight stays between 2000 and 2015, despite the fall between 2007 and 2012.
- Overall average stay with positive growth between 2000-2015; Foreign tourists with longer stay average;
- São Miguel, Terceira and Faial concentrated 90.7% of the overnight stays, in 2015;
- July, August and September are the months of greatest affluence to the region. The seasonality rate increased from 40.3% in 2009 to 46.2% in 2013. Seasonality decreased to 44.8% in 2014 and to 42.4% in 2015;
- RevPAR reached € 26.8 in 2015, reaching the highest value since 2005;
- Reduction of the bed occupancy rate between 2003 and 2012, with recovery in 2013, 2014 and 2015;
- Increase in number of passengers landed by air (inter-island, national and international), as well as, by sea, in 2015.

4.3. SATA and the competition

Since the amendment of the law in March 2015, the network of routes serving the Azores has undergone a major change. Until this year, the Azorean air market was internally dominated by SATA, assuring jointly with TAP the external routes to the continent.

Although other LCCs have shown their intention to enter the Azorean market, only Ryanair and Easyjet are currently operating in this market. These two companies are the largest European LCCs.

Ryanair is the largest European low-cost carrier with over 106 million passengers transported in 2016, centered in a radical price and cost reduction strategy. This rationality of this policy is based on optimization and profitability of the company's assets and on a guiding principle that all revenue counts, however insignificant it may seem, and is critical to the success of the company. In 2016, non-seat sales accounted for 24% of Ryanair's revenue.

In 2016, Ryanair presented a 93% load-factor and the commitment to the "Always Getting Better" customer experience program resulted in a 90% punctuality, placing the company at the top of the European ranking for this indicator.

Fuel expenses represent the main item in Ryanair's operating cost structure, as shown in the following table:

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Table 5 – Percentage share of airline operating costs

OPERATING COSTS	2011	2012	2013	2014	2015	2016
FUEL	39%	43%	45%	46%	43%	41%
HUMAN RESOURCES	12%	11%	10%	11%	11%	12%
MAINTENANCE	3%	3%	3%	3%	3%	3%
RENTAL AND LEASES	3%	2%	2%	2%	2%	2%
DEPRECIATIONS AND AMORTIZATIONS	9%	8%	8%	8%	8%	8%
OTHER	34%	32%	31%	30%	32%	34%

Source: Own elaboration based on Ryanair's Annual Reports.

Easyjet is Europe's second largest low-cost carrier, responsible for the transportation of 73.1 million passengers in 2016. This company is often pointed as Ryanair's biggest rival. However, these two LCCs display some fundamental differences in terms of strategy and operation. Easyjet does not follow Ryanair's rigid focus on reducing costs and making the business profitable at any expense, opting instead to make some changes to the strategy set by its competitor.

For example, ancillary incomes have a considerably smaller weight in the company revenues; in 2016 they contributed only 2%. It has a much less aggressive marketing policy and often prefers to fly to major airports, trading productivity caused by congestion, for the convenience of its passengers. This was reflected in the punctuality in 2016, which was only 80%. In 2016, the load factor was 92%. Similar to the competitor, fuel also represents the heaviest item, as shown in the following table:

Table 6 – Percentage share of airline operating costs

OPERATING COSTS	2011	2012	2013	2014	2015	2016
FUEL	29%	32%	31%	32%	30%	27%
HUMAN RESOURCES	13%	12%	12%	12%	13%	13%
MAINTENANCE	6%	6%	6%	5%	6%	6%
RENTAL AND LEASES	3%	3%	3%	3%	3%	2%
DEPRECIATIONS AND AMORTIZATIONS	3%	3%	3%	3%	3%	4%
OTHER	47%	44%	45%	45%	45%	48%

Source: Own elaboration based on Easyjet's Annual Reports.

4.4. Evolution of SATA's business (2011-2015)

For the assessment on the current situation of the company, it will be appropriate to evaluate its evolution in recent years, focusing on the economic, operational, social and environmental indicators, as it is shown in the following tables (SATA, 2016):

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Table 7 –Economic Indicators

ECONOMIC (m €)	2011	2012	2013	2014	2015
NET OPERATING INCOME	4 490	7 160	22 887	31 332	16 796
EBITDA	17 105	17 349	12 871	22 303	9 378
EBITDAR	29 927	30 240	741	10 397	969
NET DEBT	88 701	119 090	124 471	152 660	154 807
FUEL	60 453	61 521	59 759	53 933	35 833
PERSONNEL COSTS	49 314	48 574	58 799	59 743	58 452
MAINTENANCE	3 359	3 482	6 774	7 717	11 898

Source: SATA's Consolidated Annual Reports (SATA, 2016).

From this table, it can be seen that SATA's operating results between 2012 and 2013 become negative. This situation was aggravated in the following years and in 2015 they were not even worse due to the fall of fuel prices, which allowed enormous savings. In this 5-year period, the net debt doubled.

The 2013's economic situation was not favorable. The high level of unemployment and the negative evolution of the Portuguese GDP affected the company's results. Demand declined and the decrease in the average fares that SATA had to practice in favor of the Azorean economy led to a reduction in SATA's revenues, despite the growth of the North American and German markets. There was also an adversity on the cost side, relating to the accident involving one aircraft, which caused high and unforeseen costs. At the human resources costs level, 2013, was also characterized as a penalizing year for the company, due to salary replacements imposed by the State Budget. The strikes that occurred that year also affected the level of expenditure with External Supply and Services (FSE), due to the costs associated with the constraints caused by the strike periods in high season, as well as an increase in aircraft maintenance costs compared to 2012.

Table 8 –Operational Indicators

OPERATIONAL	2011	2012	2013	2014	2015
DESTINATIONS (NUMBER)	31	34	38	25	24
FLIGHTS (NUMBER)	21 402	20 326	19 144	17 256	17 593
PASSENGERS (NUMBER)	1 352 341	1 236 119	1 195 251	1 180 146	1 199 941
TRANSPORTED CARGO (T)	6 756	5 640	5 347	5 425	5 708
LOAD FACTOR (%)	76	74	76	78	80
REGULARITY (%)	98	98	97	98	98
PUNCTUALITY (%)	86	85	80	78	82

Source: SATA's Consolidated Annual Reports (SATA, 2016).

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Taking into account the crisis and the decrease in the number of passengers, the company's strategy to improve the load-factor has resulted in a decrease in the number of flights and number of destinations. The load-factor increased in a sustained way up to 80%, but from the revenue point of view the impact was not positive since, as mentioned above, average fares decreased. In terms of the number of passengers, 2015, shows a small recovery. However, it cannot be concluded that this slight improvement over the previous year is due to the liberalization of the market.

Table 9 – Social Indicators

CORPORATE	2011	2012	2013	2014	2015
EMPLOYEES (NUMBER)	1 222	1 241	1 288	1 330	1 282
EMPLOYEE TURNOVER (%)	17	19	13	17	13
TRAINING HOURS (NUMBER)	53 145	68 841	59 092	52 111	44 217
SATA AIR AÇORES - INCIDENCE RATE (%)	38	72	40	58	60
SATA INTERNACIONAL - INCIDENCE RATE (%)	82	58	101	115	101

Source: SATA's Consolidated Annual Reports (SATA, 2016).

The analysis of this table shows an evolution adjusted to the operating indexes. There were no significant changes in the number of employees, despite the fact that there had been an impact on expenses with this item due to the issues already mentioned.

Table 10 – Environmental Indicators

ENVIRONMENTAL	2011	2012	2013	2014	2015
JET FUEL CONSUMPTION (L)	95 594 399	91 370 134	91 056 171	86 841 565	79 906 250
CO2 EMISSIONS FROM AIRCRAFT (T)	235 424	225 021	231 354	221 360	201 811
RECOVERY RATE (%)	76	68	74	83	66
SPILLAGES	0	1	0	0	0

Source: SATA's Consolidated Annual Reports (SATA, 2016).

Between 2011 and 2015, in terms of investment, there was a clear effort to improve the fleet, which resulted in a more efficient fuel consumption and a decrease in CO2 emissions.

The table below shows the relative weights of the various items in SATA's operating costs between 2011 and 2015.

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Table 11 –Percentage share of airline operating costs

OPERATING COSTS	2011	2012	2013	2014	2015
FUEL	27%	29%	26%	25%	18%
HUMAN RESOURCES	22%	23%	26%	28%	30%
MAINTENANCE	2%	2%	3%	4%	6%
RENTAL AND LEASES	6%	6%	5%	5%	5%
DEPRECIATIONS AND AMORTIZATIONS	6%	5%	4%	4%	4%
OTHER	37%	36%	35%	34%	37%

Source: Own elaboration based on SATA's Consolidated Annual Reports (SATA, 2016).

It is noted that SATA has a large weight with labor costs, typical of an FSC, which may in the future be a serious problem, when fuel prices rise again.

4.5. Activity indicators analysis

To evaluate an impact that has already occurred, it is necessary to compare current values of representative parameters, which are thought to have been affected, with the same parameters or indicators measured before the impact.

In the case of indicators of various natures, the result obtained cannot be reached by the simple algebraic sum of the values. The readings obtained or weighted will have to be evaluated in the light of their relative variation and their significance or importance in the company's results, in a partial or general context, given that they may depend on the evolution and interaction among various indicators.

An unavoidable constraint is that the impact caused by the air space liberalization, which began on March 29, 2015, cannot yet be considered complete, and therefore the figures to be measured or compared are not yet stable. In addition, the available data only includes flights and passengers verified by the end of the 3rd quarter of 2016 and the last consolidated annual report concerns 2015.

Consequently, it is important to make a judicious selection of the values to be analyzed in more depth:

- The general variation of air traffic (flights and passengers) in the Azores;
- Commercial aviation, by type of flight (inter-islands, national, international);
- Segmentation of air traffic by the various companies;
- Changes in operating results.

The last five years of activity were selected using statistical data from the SREA - Azores Regional Statistics Service (SREA, 2016), which will allow to assess the degree of traffic stability before liberalization.

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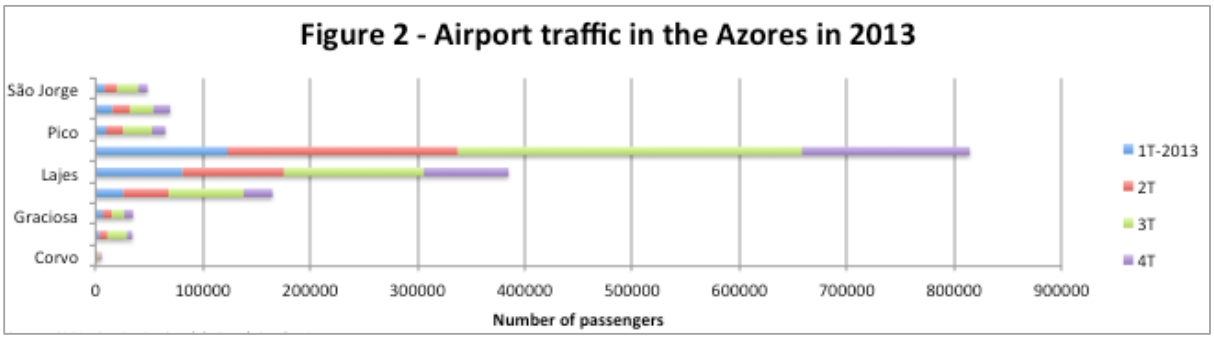
Source: SREA – Serviço Nacional de Estatística dos Açores.



Source: SREA – Serviço Nacional de Estatística dos Açores.

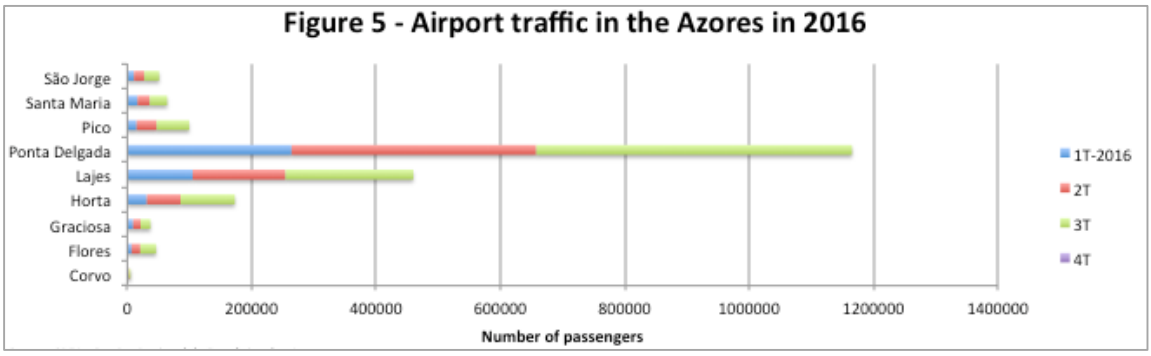
Source: SREA – Serviço Nacional de Estatística dos Açores.

Obs1: It was verified the existence of relative stability in Azores Air Traffic in the last years before the liberalization of airspace.

ISSN 2183-5594

Source: SREA – Serviço Nacional de Estatística dos Açores.

Obs2: With Liberalization initiated in the 2nd Quarter of 2015 (March, 29), It was verified that Ponta Delgada registered a significant traffic increase of 29% being the main contributions for the 16% overall growth.



Source: SREA – Serviço Nacional de Estatística dos Açores.

Obs3: At the end of the third quarter of 2016, the number of passenger's transportation had achieved 95% if the total value registered in 2015 (Table 12) with all island airports verifying an average growth of 30%, in relation to the previous years (Eurostat, 2016).

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Table 12 – Number of passengers per type of flight (Inter-Island, National, International) in 2015 and 2016

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Set	Oct	Nov	Dec	Total
Passengers	**2015**	**53 989**	**50 013**	**63 357**	**83 394**	**94 800**	**109 035**	**135 191**	**157 492**	**119 703**	**87 570**	**75 841**	**74 652**	**1 105 037**
Embarked	**2016**	**71 449**	**69 767**	**90 781**	**97 443**	**114 150**	**129 482**	**156 249**	**178 908**	**143 268**	**110 139**	**83 680**	**0**	**1 245 316**
Inter-Island	2015	27 283	26 896	32 448	37 202	43 403	49 781	63 573	69 139	50 709	36 796	32 889	32 663	502 782
	2016	31 400	31 211	39 463	44 723	51 879	60 639	74 997	81 937	61 876	45 478	34 603		558 206
National	2015	21 725	19 160	25 503	38 173	41 174	45 574	52 267	63 594	50 871	40 209	37 447	36 108	471 805
	2016	33 651	32 697	43 370	42 020	48 627	53 202	59 212	68 963	59 488	49 809	41 309		532 348
International	2015	4 981	3 957	5 406	8 019	10 223	13 680	19 351	24 759	18 123	10 565	5 505	5 881	130 450
	2016	6 398	5 859	7 948	10 700	13 644	15 641	22 040	28 008	21 904	14 852	7 768		154 762
Passengers	**2015**	**52 986**	**49 742**	**62 917**	**86 676**	**96 269**	**113 052**	**147 062**	**150 485**	**108 069**	**82 466**	**73 746**	**76 924**	**1 100 394**
Landed	**2016**	**69 719**	**69 764**	**89 834**	**101 710**	**114 986**	**134 392**	**168 789**	**170 519**	**130 641**	**104 112**	**80 070**	**0**	**1 234 536**
Inter-Island	2015	27 278	26 706	32 222	37 010	43 410	49 803	63 593	69 359	50 751	36 936	32 809	32 617	502 494
	2016	31 357	31 205	39 038	44 690	51 845	60 795	75 007	82 057	61 738	45 142	34 434		557 308
National	2015	21 165	18 617	25 184	40 589	41 578	47 097	60 390	58 926	43 425	37 501	35 900	37 777	468 149
	2016	32 396	32 505	43 232	44 931	48 695	55 420	68 003	64 672	52 016	47 450	39 308		528 628
International	2015	4 543	4 419	5 511	9 077	11 281	16 152	23 079	22 200	13 893	8 029	5 037	6 530	129 751
	2016	5 966	6 054	7 564	12 089	14 446	18 177	25 779	23 790	16 887	11 520	6 328		148 600
Passengers	**2015**	**9 002**	**7 528**	**8 819**	**8 889**	**8 412**	**9 801**	**9 991**	**9 404**	**10 019**	**8 062**	**8 882**	**9 629**	**108 438**
in transit	**2016**	**11 498**	**10 599**	**13 187**	**8 685**	**9 373**	**10 485**	**9 338**	**10 306**	**7 911**	**7 884**	**9 780**	**0**	**109 046**
Inter-Island	2015	3 769	3 542	3 820	3 628	4 276	4 684	5 863	5 759	5 651	4 077	4 248	4 245	53 562
	2016	4 264	3 878	5 103	4 057	4 873	5 166	5 780	6 584	5 716	4 474	6 054		55 949
National	2015	1 602	1 341	2 036	2 762	2 459	3 139	1 647	1 731	2 611	2 593	2 234	2 313	26 468
	2016	2 646	2 361	3 059	2 443	1 973	2 443	1 187	1 128	988	1 905	2 189		22 322
International	2015	3 631	2 645	2 963	2 499	1 677	1 978	2 481	1 914	1 757	1 392	2 400	3 071	28 408
	2016	4 588	4 360	5 025	2 185	2 527	2 876	2 371	2 594	1 207	1 505	1 537		30 775

Source: SREA – Serviço Nacional de Estatística dos Açores.

The following tables, related to Ponta Delgada airport, show the predominance of SATA, prior to liberalization, with TAP and Air Berlin with small market share. And SATA's market share drop, after 2015, presumably on its Archipelago outbound routes, in favor of low-cost airlines, Ryanair and Easyjet.

This presumption is justified by the fact that SATA continues to provide inter-island flights (29% of passenger traffic) in accordance with its Public Service Obligations (OSP).

Table 13 - Number of flights and passengers, according to the traffic of the main airlines, at Ponta Delgada airport

Number of flights	**2011**	**2012**	**2013**	**2014**	**2015**	**2016* (Estimated)**
SATA	14 031	14 115	13 456	13 523	13 220	14 121
TAP	408	408	392	450	641	745
Air Berlin	152	152	146	145	107	158
Easyjet	0	0	0	0	321	442
Ryanair	0	0	0	0	1 546	2 127
Number of passengers	**2011**	**2012**	**2013**	**2014**	**2015**	**2016* (Estimated)**
SATA	777 691	769 765	773 047	840 497	815 294	886 555
TAP	46 962	43 967	44 095	48 169	76 762	78 594
Air Berlin	12 071	11 777	18 375	15 200	18 775	32 341
Easyjet	0	0	0	0	47 813	66 947
Ryanair	0	0	0	0	252 850	335 431

Source: Boletins Estatísticos Trimestrais de 2011 a 2016 – INAC (Instituto Nacional de Aviação Civil, I.P.)
* The traffic for the last quarter of 2016 was estimated, being considered equal to the last quarter of 2015.

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Table 14 - Market share, according to the traffic of the main airlines, at Ponta Delgada airport

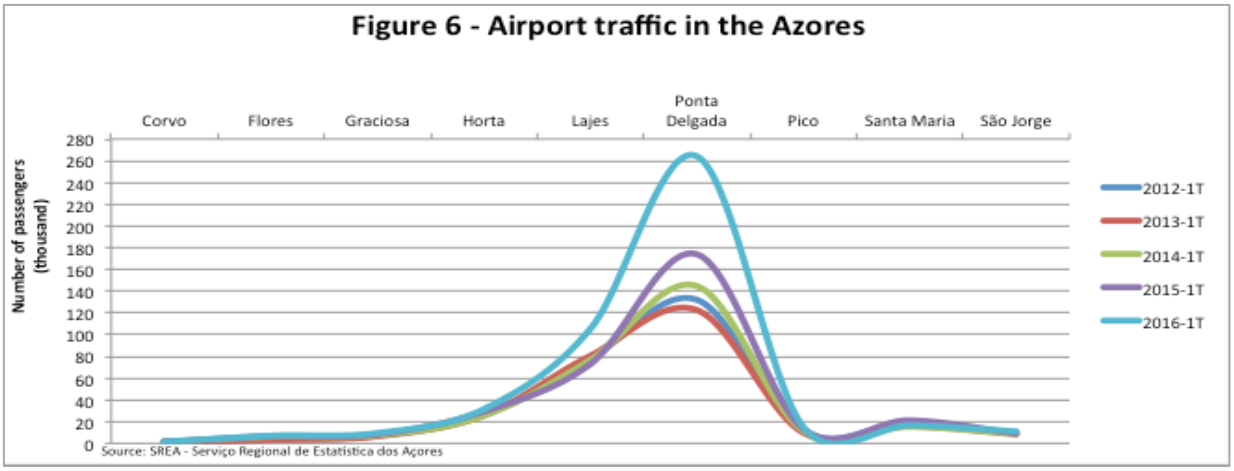
Number of flights	**2011**	**2012**	**2013**	**2014**	**2015**	**2016* (Estimated)**
SATA	92%	93%	92%	92%	81%	78%
TAP	3%	3%	3%	3%	4%	4%
Air Berlin	1%	1%	1%	1%	1%	1%
Easyjet	0%	0%	0%	0%	2%	2%
Ryanair	0%	0%	0%	0%	9%	12%
Number of passengers	**2011**	**2012**	**2013**	**2014**	**2015**	**2016* (Estimated)**
SATA	87%	88%	87%	89%	65%	61%
TAP	5%	5%	5%	5%	6%	5%
Air Berlin	1%	1%	2%	2%	2%	2%
Easyjet	0%	0%	0%	0%	4%	5%
Ryanair	0%	0%	0%	0%	20%	23%

Source: Boletins Estatísticos Trimestrais de 2011 a 2016 – INAC (Instituto Nacional de Aviação Civil, I.P.)
* The traffic for the last quarter of 2016 was estimated, being considered equal to the last quarter of 2015.

The traffic for the last quarter of 2016 was estimated, being considered equal to the last quarter of 2015. Since the period and regime are equivalent, this estimate should not distort its relative weight, within the expected values.

The traffic in the Azorean airports is shown in the following comparative graph, using the first quarter of the last five years as a sample.

Figure 6 - Airport traffic in the Azores



Source: SREA – Serviço Nacional de Estatística dos Açores.

It should be noted that:

- In 2012, SATA transported 77%, out of a total of 1.61 million passengers, equivalent to 1.24 million passengers.

- In 2016, SATA transported 51%, out of a total of 2.54 million passengers, equivalent to 1.30 million passengers (estimated value).

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The entry of the LCC companies into the Azorean market was steep, and this market segment is currently responsible for almost a third of the point-to-point market between national airports and Ponta Delgada airport.

This growth was achieved by intervening in the pricing policy, bringing new passengers to the market, which so far was not translated in passengers lost by the traditional incumbents, SATA and TAP, who also benefited from the increase in traffic despite having reduced their market share.

It was also verified that the charter market in the Azores, historically with little expression, is now in a strong decline, being gradually replaced by the LCC service.

Obs4: The Air Traffic increase occurred with the airspace liberalization, was captured by the newcomers, Ryanair and EasyJet.

The commercial airline SATA has a serious financial difficulty, which stems from the fact that it has high debt and difficulty in finding good credit conditions to repay it. In addition, SATA also encounters some operational difficulties, which are no less important, related to the adaptation of the fleet to the services it operates, on a very diversified set of routes, some of them with a negative profitability. Furthermore, and because it is not a low-cost company, it has a cost structure that is not comparable with the competition is facing today.

Based on the consultation of the company's annual reports (table 15 and 16), it was confirmed that life has not been easy for SATA since 2013. The central reasons mentioned are the economic crisis experienced in Portugal, which caused an austerity period at all levels with great impact in the main source of customers and the raise of the fuel price, aggravated by the decrease of euro against dollar.

Table 15 – Annual profit and loss statement

CONSOLIDATED PROFIT AND LOSS STATEMENT (Euros)	2011	2012	2013	2014	2015
Sales and services rendered	189 075 198	177 702 709	171 934 943	154 393 166	147 257 252
Operating grants	32 670 776	32 847 323	31 795 458	27 728 941	30 960 117
Cost of goods sold and materials used	2 137 988	1 864 377	2 333 569	2 294 238	2 196 106
External supplies and services	152 032 161	146 340 861	149 353 601	141 162 519	125 554 575
Personnel costs	50 448 293	49 747 652	60 439 549	59 743 416	58 451 902
Depreciation and amortisation costs/reversals	12 615 663	10 218 946	10 016 106	8 919 660	7 418 496
Impairment of assets subject to depreciation/amortisation				108 885	
Impairment of accounts receivable (losses/reversals)	222 474	183 275	141 465	737 844	398 772
Inventory impairment (losses/reversals)	124 049			198 000	
Provisions (increases/reductions)	15 637	2 624 732	131 838	74 471	150 000
Other income and gains	4 299 436	7 305 569	594 596	2 960 690	2 273 892
Other costs and losses	4 238 909	4 964 970	5 059 128	3 324 778	3 117 560
Net Operating Income	**4 489 608**	**7 160 252**	**22 886 583**	**31 332 072**	**16 796 150**
Financial Charges	4 283 281	5 859 697	7 007 021	8 240 405	8 928 913
Financial earnings	125 911	19 407	23 833	182 769	7 742
Pre-tax earnings	**332 238**	**1 319 962**	**29 869 771**	**39 389 708**	**25 717 321**
Income tax for the year	194 678	1 247 061	491 220	4 605 346	3 542 212
Net income for the year	**526 916**	**72 901**	**30 360 991**	**34 784 362**	**22 175 109**

Source: SATA's Consolidated Annual Reports (SATA, 2016).

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This world conjuncture, which caused damage to all European companies, has been the responsible for the negative evolution of SATA's results in its main business areas, due to the decrease in number of passengers and cargo.

Another aspect, which is seen as very negative, was the continuation of the decrease in the average rates applied by the group, responding to a policy of intervention in the name of economic activity and social welfare in the Azores, for which the positive compensation from the German and North American markets was not sufficient.

Table 16 – Annual net income

Reconciliation of net income (Euros)	2011	2012	2013	2014	2015
Operating income	226 061 047	220 480 333	204 456 835	185 157 268	180 491 261
Operating costs	221 571 439	213 320 081	227 343 418	216 489 340	197 287 411
of which restructuring costs	12 821 934	12 861 301	12 130 071	11 906 312	10 346 861
EBITDA	**17 105 271**	**17 379 198**	**12 870 477**	**22 303 527**	**9 377 654**
EBITDAR	**29 927 205**	**30 240 499**	**740 406**	**10 397 215**	**969 207**
Depreciation, amortisation and impairment of assets	12 615 663	10 218 946	10 016 106	9 028 545	7 418 496
Net operating income	**4 489 608**	**7 160 252**	**22 886 583**	**31 332 072**	**16 796 150**
Cost of debt	4 157 370	5 840 290	6 983 188	8 057 636	8 921 171
Earnings before tax	**332 238**	**1 319 962**	**29 869 771**	**39 389 708**	**25 717 321**
Income tax	194 678	1 247 061	491 220	4 605 346	3 542 212
Net Income	**526 916**	**72 901**	**30 360 991**	**34 784 362**	**22 175 109**

Source: SATA's Consolidated Annual Reports (SATA, 2016).

Also, SATA suffered from the negative consequences of an aircraft accident, with unexpected and very high costs, which forced to the contraction of a loan under disadvantageous conditions. All these adversity elements led to the difficult reprogramming of the operating plan in course and the commitment for the following. Nevertheless, the company still continues to believe in the investment in the US and Canadian markets and in the adjustment of the domestic market.

It was in this ambiance of expectation that arrived and lived in the year 2013, in which the net operating result fell abruptly to negative 30 million euros, after having already suffered a fall in 2012, the last year with a positive return.

Financial difficulties, difficulty in obtaining new financing and operational difficulties, aged equipment and negative profitability routes are not good advisers when good ideas are urgently needed.

In the year 2014, SATA experienced again the degradation of its operating results. It was necessary the occurrence of an external incident to the company that would change the course of events. That event happened - the liberalization of the airspace of the Azores.

After that, there was a period of expectation and adaptation to the new market conditions, with

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the first reactions and, immediate repercussions to the flow increase of passengers, felt by local commerce, as evidenced by the expressions of appreciation of all the agents of the sector, namely from the areas affected by tourism.

In 2015, beginning to live the effort of adaptation to the change, SATA could count with some favorable aspects. One of them was a drop of 8% in the price of fuel, which represents around 20% of the overall operating costs. Another was the decrease in CO2 emissions due to programmed changes and tested with positive results in some flight routines.

Continuing along the same path, it was confirmed the empirical consideration that the increase in national GDP would reflect an increase in the number of passengers. This, coupled with competition-led tariff reductions, increased the load-factor by 4% to 80%, allowing for a slow and gradual recovery of SATA's results.

Started in 2015, SATA continued to execute its adaptation plan, dedicating its efforts to keep reducing operating costs in handling, flight operations and distribution channels.

Nothing would be too much, to face a serious opportunity to change its course, recognizing that SATA continues to struggle to ensure a high number of routes, which makes it difficult to optimize the fleet and crews. In addition, the company agreements, do not allow the desirable labor flexibility, so important in seasonal situations inherent to its business.

5. Conclusions

The liberalization of the Azores airspace on March, 29, 2015 was the catalyst for several events that would not happen or would happen differently.

The object of this analysis was directed to the operating conditions of the Air Transport Company of the Azores, SATA, before liberalization and after liberalization.

Being an isolated territory, the Azores' Archipelago unquestionably depends on air transport, for the transportation of passengers and cargo.

With this opportunity, immediately appeared the companies Low-cost, whose vocation is to serve very busy routes, provoking the increase of the demand in that destination, in great part due to the substantial reduction of the price of the trips, that, until then, had an high value and no alternative.

The result of this large, sudden development of the LCCs in the Azorean market coupled with: the economic slowdown of the world economy in general and in Europe in particular; SATA's heavy cost structure; SATA's recent investments in fleet renewal; the decrease of the average fare; the predictable increase in the price of fuel; the legal obstruction by the European Commission to allow new plans for State aid to national companies; the difficulties to negotiate with unions; and, the public service obligations, will contribute to the continuity of the strong pressure on SATA's operations.

SATA is a Legacy company, which operates in the Azores' archipelago, flying abroad and providing a public service mission to facilitate the connection of residents among the various islands and with continental Portugal. The maintenance of these routes, with very diverse frequencies, makes it difficult to adjust the available fleet to the different itineraries and loads, causing that SATA, in the last years, did not obtain positive results, having had to contract debt to

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survive.

It was in this difficult situation that SATA faced liberalization, which meant it would have to divide its market with other competitors while at the same time practicing lower tariffs. Analyzing this new context, it was verified that, if on one hand SATA lost passengers in the continental routes, on the other, the inter-islands routes revealed higher frequencies. The changes in the frequency regimes forced to revise schedules and routines, obtaining better load-factors, which, benefiting also from the sharp reduction of the cost of fuel, allowed to improve the results of exploration.

Considering additional facts associated with other sensitive vectors in the management of an airline, it can be concluded that the impact caused on SATA by Low-cost companies is marked by:

- Enhancement of the rates of aircraft exploitation, due to the adjustment of the fleet to the routes;
- Improvement of inter-island air connections and archipelago connections with the exterior;
- Reduction of travel costs for passengers;
- An important contribution to the more balanced management of the company, which is still definitely dependent on the cost of the fuel;
- An opportunity to review management and operational strategies.

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