CUSTOMER SATISFACTION FROM PUBLIC SERVICE OBLIGATION (PSO) ROUTES: THESSALONIKI AS A CASE STUDY

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ABSTRACT

Ten years after the implementation of the Public Service Obligations (PSO) scheme in Greece, the mechanism has not led to the desired results. Among others, the state has imposed PSOs onto a number of routes that are either of questionable social value or which could prove financially self-sustainable without the need for a PSO after appropriate consultation with key stakeholders. In this context, and given the dearth of resources during a period of severe economic recession, it is necessary for the government to reconsider the structure of the PSO programme and adjust it to the new reality in Greece. In fact, as a first step towards this direction, the present paper seeks to gather all necessary information using the tools of marketing research, to study customer satisfaction and fulfilment of passenger needs on the PSO routes from/to Thessaloniki, the second largest city in Greece. Based on the results of primary data research, the paper aims at contributing to the effective communication of the value of the PSO routes to the passengers and set the fundamentals for a subsequent undertaking of a full marketing plan on how to render such routes financially viable.

Keywords: Public Service Obligation (PSO), passenger satisfaction, Thessaloniki, Greece

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1. INTRODUCTION

According to Article 4 of the European Council Regulation 2408/92 and the Articles 16, 17 and 18 of Regulation 1008/2008 (CEC, 1992; CEC, 2008), EU member states may impose Public Service Obligations (PSOs) on commercial air services that are financially unsustainable to support remote regions in a socioeconomic way when other forms of transport cannot ensure an adequate service (Papatheodorou, 2008; Rigas, 2009; Santana, 2009). Upon completion of the required legal procedures, a member state assigns a monopoly right to the designated air carrier to operate on the route in question occasionally by also awarding financial compensation. These lifeline air services are used in peripheral regions -such as islands- making them accessible to potential markets, and aim to economic growth, with emphasis on internal tourism (Halpern and Niskala, 2008). Without PSO routes the residents of these remote areas would remain isolated (Merkert and Williams, 2010).

On the other hand, Halpern and Niskala (2008) argue that the PSO mechanism can act as a barrier to development for established tourism destinations, because the air carrier is granted a monopoly on the route for a certain period thus preventing the effective operation of competition. Finally, the implementation of the PSO programme could lead a carrier to supply the minimum possible level of service with small aircraft and high fares. At the same time, however, the PSOs may prove beneficial for leisure travel to remote destinations, because those air services enable tourists to visit resorts still in the exploration phase of their life cycle (Papatheodorou, 2004). Those areas that would otherwise remain relatively unknown and largely inaccessible can finally get into the tourism market.

The PSO scheme can contribute to the objectives of the European Union's cohesion policy and socioeconomic prosperity (Gordijm & van de Coevering, 2006). Eventually, the PSOs can be used as a tool for regional development, as long as these routes are financially viable. As demand for air services is negatively affected by the current economic downturn, along with the fact that income and ticket prices affect demand in PSO routes, the PSO mechanism appears to be costly (Tsekeris and Vogiatzoglou, 2011). Hence it is necessary to develop an integrated marketing strategy to promote the routes that can be viable if designed according to the passenger needs. The first step of such an exercise would be to investigate the PSO market and highlight consumer behaviour and satisfaction patterns through appropriate marketing research.

Sections 2 and 3 of the paper provide information on the PSO routes in Greece in 2012 and specifically in Thessaloniki. The methodology of the marketing research is discussed in

section 4 and the results that follow describe the target group, the consumer buying behaviour, the segments of the market, the customer satisfaction level and the positioning of the PSO routes of Thessaloniki. The paper concludes with recommendations concerning how these lifeline services may become viable and financially sustainable.

2. THE GREEK PSO REALITY

Greece has adopted the Public Service Obligation (PSO) mechanism in 2001, three years after the full implementation of the Third Liberalisation Package in Greece (July 1998). Olympic Airways, the national air carrier of Greece, was the sole operator for all PSO routes, until 2009, the year that Olympic Airways became a private corporation changing its name to Olympic Air. For this time period the national air carrier was receiving a subsidy of €34,500,000 per year for operating 22 PSO routes. Since then, the PSO routes in Greece are operated by several air carriers. In 2012, 28 domestic PSO routes are imposed (European Commission, 2010; CEC, 2010) and assigned to four Greek air carriers. It is interesting to note that only three of the 28 PSO routes do not receive a financial compensation; these routes connect Thessaloniki, the second largest Greek city, and a number of peripheral airports of Greece.

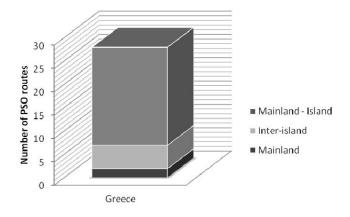


Figure 1: PSO routes of Greece by type (2012)

Figure 1 provides details about the types of the PSO services in Greece. There are five interisland routes, two routes that connect domestic mainland locations while the majority of the routes (21) are designed to link the mainland and peripheral airports located in Greek islands where there are no alternative means of transport or sufficient demand. Table 1 lists the 28 domestic lifeline air services operated in 2012 in Greece by four air carriers (sorted according to the name of operating carrier).

Table 1: PSO Routes in Greece in 2012

No	PSO route	Carrier	Period
1	Athens –Skiros	Aegean Airlines	01.04.2012 - 30.03.2012
2	Athens - Sitia	Astra Airlines	01.04.2012 - 30.03.2016
3	Thessaloniki - Kalamata	Astra Airlines	01.04.2012 - 30.03.2016
4	Thessaloniki - Kerkyra (Corfu)	Astra Airlines	01.04.2012 - 30.03.2016
5	Thessaloniki - Samos	Astra Airlines	01.04.2012 - 30.03.2016
6	Thessaloniki - Chios	Astra Airlines	01.04.2012 - 30.03.2016
7	Athens - Astypalea	Olympic Air	01.04.2012 - 30.03.2016
8	Athens – Zakynthos (Zante)	Olympic Air	01.04.2012 - 30.03.2016
9	Athens - Ikaria	Olympic Air	01.04.2012 - 30.03.2016
10	Athens - Kalimnos	Olympic Air	01.04.2012 - 30.03.2016
11	Athens - Karpathos	Olympic Air	01.04.2012 - 30.03.2016
12	Athens - Kastelorizo	Olympic Air	01.04.2012 - 30.03.2016
13	Athens - Kithira	Olympic Air	01.04.2012 - 30.03.2016
14	Athens - Leros	Olympic Air	01.04.2012 - 30.03.2016
15	Athens - Milos	Olympic Air	01.04.2012 - 30.03.2016
16	Athens - Naxos	Olympic Air	01.04.2012 - 30.03.2016
17	Athens - Paros	Olympic Air	01.04.2012 - 30.03.2016
18	Athens - Skiathos	Olympic Air	01.04.2012 - 30.03.2016
19	Athens - Siros	Olympic Air	01.04.2012 - 30.03.2016
20	Rhodos - Karpathos - Kasos - Sitia	Olympic Air	01.04.2012 - 30.03.2016
21	Rhodos - Kos – Leros – Kalimnos – Astypalea	Olympic Air	01.04.2012 - 30.03.2016
22	Athens - Kastoria	Sky Express	01.07.2010 - 30.06.2014
23	Aktion - Sitia	Sky Express	01.04.2012 - 30.03.2016
24	Alexandroupoli - Sitia	Sky Express	01.04.2012 - 30.03.2016
25	Thessaloniki - Limnos – Ikaria	Sky Express	01.09.2010 - 30.08.2014
26	Thessaloniki - Skiros	Sky Express	01.04.2012 - 30.03.2016
27	Kerkyra - Aktion – Kefalonia – Zakynthos – Kithira	Sky Express	01.04.2012 - 30.03.2016
28	Limnos - Mytilini – Chios – Samos – Rhodos	Sky Express	01.04.2012 - 30.03.2016

Source: European Commission, 2010; CEC, 2010

3. THE THESSALONIKI PSO ROUTES

In winter season 2011-2012, there were six PSO routes that linked Macedonia International Airport of Thessaloniki and seven destinations in Greece (Figure 2). Five of them connected Thessaloniki and six Greek islands (Kerkyra, Limnos, Ikaria, Skiros, Chios and Samos) and one route was designed to link Thessaloniki with Kalamata, a mainland city. Aegean Airlines, a leading air carrier of Greece and also a member of Star Alliance, operated three PSO routes. The rest of the routes were operated by Sky Express, which was founded in 2005 and Astra Airlines, a new entrant from Thessaloniki. Table 2 contrasts the characteristics (air carrier, flights per week, airfare) of the routes that link Thessaloniki to Kalamata, Kerkyra, Samos and Chios according to the results of the last two PSO tenders in Greece. Further to the last tender Astra Airlines is now the single operator for these four routes and the only air carrier that does not received a financial compensation except for the Thessaloniki – Kerkyra PSO route.



Figure 2: Map of Thessaloniki PSO Routes

Table 2: Thessaloniki PSO Routes

Destination	Air Carrier		Flights/week (winter)		Airfare (€)	
	(2010-12)	(2012-16)	(2010-12)	(2012-16)	(2010-12)	(2012-16)
Kalamata	Aegean Airlines	Astra Airlines	2	2	from €39	€41.80 - €100
Kerkyra	Aegean Airlines	ean Airlines Astra Airlines		4	from €39	€54 - €88.10
Samos	Aegean Airlines	sirlines Astra Airlines 3		4	from €39	€39.60 - €90
Chios	Astra Airlines	Astra Airlines	4	4	€57.20	€37.60 –€83.60
	(2010-14)		(201	0-2014)	(2010-2014)	
Skiros	Sky Express		2		€90.85	
Limnos	Sky Express		5		€73.45	
Ikaria	Sky Exp	ress	5		€84.75	

Source: Data based on information provided by Aegean Airlines, Astra Airlines, and Sky Express (2012)

Table 3 provides information about the aircraft types that were used during the winter season 2011-12. Aegean Airlines and Astra Airlines provided over 100 available seats per flight, but on the other hand Sky Express was operating the routes using an aircraft with 30 seats. Passengers that travelled to Limnos and Ikaria had to "share" the same aircraft and the available seats per flight were limited, but the operator offered five flights per week in winter.

Table 3: Aircraft Types used on Thessaloniki PSO Routes in Winter Season 2011-12

Destination	Air Carrier	Aircraft type	Available seats	Trip duration
Kalamata	Aegean Airlines	Airbus Industrie A320	168	1h 5m
Kerkyra	Aegean Airlines	Airbus Industrie A319	138	50m
Samos	Aegean Airlines	Airbus Industrie A319	138	1h 10m
Chios	Astra Airlines	British Aerospace 146-300	112	1h
Limnos	Sky Express	British Aerospace Jetstream 41	30	40m
Ikaria	Sky Express	British Aerospace Jetstream 41	30	1h 25m
Skiros	Sky Express	British Aerospace Jetstream 41	30	40m

Source: Data based on information provided by Aegean Airlines, Astra Airlines, and Sky Express (2012)

PSO routes that offer over 100 seats per flight are listed in Table 4, which provides aircraft capacity and passenger traffic information for the years 2010-12. The PSO route that links Thessaloniki to Kerkyra does not exhibit high levels of passenger traffic (as seen on Table 5 there is a daily connection by coach and ship), whereas the air service Thessaloniki – Kalamata seems to have a sufficient level of passengers per flight, but the number of flights per month is limited. On the other hand, PSOs that connect Thessaloniki to Samos and Chios have the highest passenger traffic.

Table 4 Passenger Traffic of four Thessaloniki PSO routes (2010-12)

Destination	Average number of available seats per month	Average number of flights per month	Average number of passengers per month	Average number of passengers per flight
Kalamata	1,503	11	692	63
Kerkyra	2,598	20	754	38
Samos	2,193	17	1,339	79
Chios	2,200	20	1,440	72

Source: Data based on information provided by Aegean Airlines and Astra Airlines (2012)

As seen on Table 5 there are no other alternative transport modes to connect Thessaloniki to Skiros and Ikaria. Passengers can travel to Limnos, Chios and Samos by ship once a week and the trip lasts between 8.5 and 23 hours. The cost of the one way fare starts from €24 and depends on destination, passenger type and accommodation class. Thessaloniki is linked to Kalamata by coach, three times per week. The duration of the trip is ten hours and the

cost of the one way fare is €65. Kerkyra is the only island that connects to Thessaloniki every day and the cost is €40, but the passenger has to travel by coach and ship for seven hours.

Table 5: Thessaloniki PSO Routes and Alternative Transport Modes

Destination	Alternative transport mode	Routes per week	Trip duration	One way fare (€)
Kerkyra	Coach & Ship	7	7h	39.70
Kalamata	Coach	3	10h	65
Limnos	Ship	1	8.5h	24 – 60
Chios	Ship	1	19h & 35m	37 – 88
Samos	Ship	1	23h & 45m	42 – 99
Skiros	_	_	_	_
Ikaria	_	-	_	-

Source: Data based on information provided by Macedonia Intercity Bus Station and Nel Sea Lines (2012)

Table 6: Thessaloniki PSO routes and Related Airport Characteristics

	Airpor	t Operating	g Hours				
Airport	Total hours per year	Winter season	Summer season	Runway dimensions (m)	Runway area (m²)	Terminal area (m²)	Apron area (m²)
Kerkyra	8,760.00	3,720.00	5,040.00	2373 X 45	106785	26662	70450
Kalamata	1,785.89	664.29	1,121.61	2660 X 45	119700	2520	22100
Limnos	3,383.46	1,296.75	2,086.71	3000 X 45	135000	5600	66584
Chios	3,353.21	1,162.50	2,190.71	1500 X 30	45000	400	8000
Samos	4,618.96	1,705.00	2,913.96	2030 X 45	91350	8850	53600
Skiros	1,564.29	664.29	900.00	3000 X 30	90000	750	15000
Ikaria	1,616.43	686.43	930.00	1310 X 30	39300	1200	8000

Source: Hellenic Civil Aviation Authority; Tsekeris & Vogiatzoglou, 2011

The common feature of all PSO routes is the fact that each participating carrier has to operate into the regional airports of Greece. One of the main problems encountered at these airports is the extremely short and narrow runway (length between 700m to 1,500m – width between 25m to 40m), because of the geomorphology of the country and lack of flat field areas. In addition, some other weaknesses of the Greek regional airports are the limited operating hours, the location, the lack of necessary infrastructure and a number of service quality problems. Strong winds, poor visibility and adverse weather conditions reduce aircraft efficiency during take-off and landing. Small aircraft that operate PSO routes face bad weather conditions, electrical power losses or communication failures, and sometimes are forced to divert instead to an alternate airport (Fragoudaki et al., 2005; Papatheodorou, and

Arvanitis, 2009). Table 6 above provides information on the airports that link to Thessaloniki via PSO services. The airports of Kalamata, Limnos, Ikaria, Samos, Skiros and Chios are open for a limited number of hours during the day.

4. RESEARCH METHODOLOGY AND EMPIRICAL RESULTS

A field research was conducted to 200 passengers of the six Thessaloniki PSO routes, to the departure lounge and gates of the Macedonia International Airport of Thessaloniki from 31.01.2012 to 15.02.2012, in order to investigate the profile, the consumer buying behaviour, the satisfaction and the information level of passengers. For the purposes of the marketing research, a probability single random sampling method was used and the required data were collected by questionnaire where the questions were addressed directly and personally to respondents using a structured interview. The research instrument was a series of 26 questions, two of which were open-ended. There were five dichotomous questions and 19 multiple choice questions, three of which were multiple-response. The respondents had to answer in one hierarchical question, one frequency question and six satisfaction scales using a five point Likert item. The questionnaire was divided in two parts; the main body of the questionnaire included three subsections and focused on the characteristics of the consumer buying behaviour, the customer satisfaction and the PSO information level of passengers. The socio-demographic questions were asked at the end of the interview.

The data were edited and analysed using the SPSS statistical package. Descriptive statistics and cross tabulations (chi-square tests and non-parametric Monte Carlo tests with a 95% confidence or a 0.05 significance level) were used to estimate correlations between the variables; only statistically significant relations are reported here. P-values of Pearson Chi-Square test results (Asymp. Sig 2 sided) and Fisher's Exact test results (Monte Carlo Sig. 2 sided) under $\alpha = 0.05$ (p < $\alpha = 0.05$) were taken into consideration to reject the null hypothesis H_0 that variables are independent.

4.1 Target Group

As seen in Table 7 the target group of the Thessaloniki PSO routes consists of male and female passengers, who are aged 18 to 64 years old (99%) and have a Bachelor's degree (58%), a certificate or diploma of vocational training (7.5%) or are high school graduates (21%). Half of the passengers of these routes live on the islands that connect to Thessaloniki (Ikaria, Kerkyra, Limnos, Samos, Skiros and Chios), 40% of them live in counties of North Greece (Thessaloniki, Drama, Kavala, Kilkis, Kozani, Larisa, Serres) and 10% in Peloponnesus (Kalamata, Pilos, Pirgos).

Table 7: Demographic Characteristics of the Sample

	Gender												
				Male Femal			ale						
Respondents				84			116	5					
Percentage				42% 58%									
						Age							
	<18	3	18	-24		25-44			45-6	54		>64	
Respondents	1		ć	56		87			45			1	
Percentage	0.59	6	33	3%		43.5%			22.5	%		0.5%	
					Pla	ice of resic	dend	ce					
	PSO is	lands	Nor	th Greece		Pelopon	nes	us	Athe	ns	Α	msterdam	
Respondents	98	3		79		20			2	2		1	
Percentage	499	%		39.5%		109	6		1%	,	0.5%		
						Educatio	n						
	Element schoo	-	Secondar school	y High schoo		Vocational training		Bach	elor	or Maste		PhD	
Respondents	6		6	42		15		116		12		3	
Percentage	3%		3%	21%		7.5%		58	%	6%		1.5%	
						Professio	n						
	Unemplo	yed	Public sector employee	Freeland	ce	Private sector employee	Но	usekea	eping	Retired		Student	
Respondents	11		53	43		26		10		8		48	
Percentage	5.5%		26.5%	21.5%		13%		5%		4%		24%	
				Perso	ona	l monthly i	inco	me (€)				
	<600	60	0-800	800-1,20	0	1,200-2,400		0 >2,400		Pro	Do not know / Prefer not to answer		
Respondents	38		26	32		16			4			84	
Percentage	19%	1	3%	16%		8%			2%	_		42%	

Table 8 shows that the variable "destination" (Kalamata, Kerkyra, Limnos, Ikaria, Samos, Skiros, and Chios) is affected by a number of other variables, such as profession and income of the passenger. People who work in the public sector or own a business travel primarily to Samos, Chios, Kerkyra, Limnos and Kalamata. Students travel to Kalamata, Limnos, Samos and Chios and passengers that work in the private sector or homemakers use the PSO route

Thessaloniki – Chios. People who travel to Ikaria work in public sector or in private corporations. Moreover, passengers with low monthly income (less than €600) travel primarily to Limnos and Samos and people that have a monthly income from €600 to €1,200 usually visit Chios. As seen on Table 8 the variable "destination" is also affected by a number of other variables that define consumer buying behaviour and passenger satisfaction.

Table 8: Summary of Fisher's Exact Test Results for the Variable "Destination"

Variables	Value	Monte Carlo Sig. (2 sided)		
		95% Confidence Interval		
		Lower Bound	Upper Bound	
Profession	53.842	0.031	0.038	
Monthly income	43.153	0.012	0.016	
Buy ticket from travel agency	68.548	0.000	0.000	
30% price increase	36.586	0.000	0.000	
50% number of flights per week decrease	30.328	0.000	0.001	
Number of flights per week	59.198	0.000	0.000	
Days of flights	68.051	0.000	0.000	
Hours of flights	39.513	0.003	0.006	
Services level	28.379	0.029	0.036	
Sense of safety during flight	61.677	0.000	0.000	

4.2 Consumer Behaviour

To investigate consumer behaviour, passengers were asked about the reason for flying; most of them answered that they visited friends and family (34%), others were business travellers (27%) and some of them travelled for educational reasons (17%) or leisure (12%). Half of the passengers used the PSO routes once or twice every six months and the rest of them travelled once a month (17%) or once a year (15.5%). Only 4.5% of the respondents travel during holidays and public holidays and 2.5% of them use the PSO route once a week. Almost all passengers of PSO routes are repeat customers, because only 10% of the respondents were travelling for the first time. It is interesting to mention that 75% of the passengers travel throughout the year not focusing on certain periods.

A significant percentage of passengers (50%) of the Thessaloniki PSO routes buy their ticket from the internet - air carrier website (30%) or third party websites (20%) - and the rest of them choose travel agencies (31.5%) or book their ticket directly from the company's counters at the airport (18.5%). Passengers who travel to Limnos, Ikaria, Samos and Chios prefer to buy their ticket through travel agencies (Table 8). Consumer behaviour is also affected by the sense of safety that a passenger feels during a flight, by the cost of the

ticket and the time (trip duration, flight hours). On the other hand, passengers answered that they are less affected by the quality of the services and the air carrier per se.

Passengers were also asked how they would react in case the price of the ticket would increase by 30%. Most of them answered that they would choose an alternative means of transport; however, people who travelled to Chios and employees that work in the private sector stated that they would continue to use the PSO route (Table 8). Moreover, in a hypothetical decrease in the number of flights of 50%, respondents would choose the PSO route except for the passengers who travel to Kerkyra and Limnos; these stated that they would seek another mode of transport to travel to their destination (Table 8).

4.3 Market Segmentation

A market segmentation analysis was undertaken based on the consumers' profile and buying behaviour. In particular, the market is divided into three groups according to different demographic, socioeconomic and behavioural passenger characteristics. Five variables were significantly associated (p < 0.05) with the main reason for using the PSO routes. The Pearson Chi Square test and the Fisher's Exact test results are summarized in Tables 9 and Table 10.

Table 9: Summary of Pearson's Chi-Square Test Results for "Travel Motive"

Variable	Value	Df	Asymp. Sig (2 sided)
Gender	26.486	4	0.000

Table 10: Summary of Fisher's Exact Test Results for "Travel Motive"

Variables	Value	Monte Carlo Sig. (2 sided)		
		95% Confidence Interval		
		Lower Bound Upper Bound		
Age	74.891	0.000	0.000	
Education level	55.080	0.000	0.000	
Profession	151.813	0.000	0.000	
Monthly income	64.167	0.000	0.000	
Travel frequency	45.389	0.000	0.001	

The first group consists of young female and male students aged between 18 and 24 years old with university education and low income (less than €600). This group uses the PSO routes once or twice every six months, for educational reasons or to visit friends and family. The second group of male and female business travellers is aged 25 to 44 and works in the public sector or owns a business. Their monthly income is €600 to €1,200 and they travel once a month or once or twice every six months. The third group comprises male and female travellers, 25 to 64 years old, who work in the public sector or own a business. These

passengers are university educated and their income is over €1,200 per month. This group travels once, twice or four times a year primarily to visit friends and family.

4.4 Consumer Satisfaction

The passengers of Thessaloniki PSO routes were asked about their opinion on the number of flights per week and the timetable (days and hours) of flights. Table 8 lists the variables (number of flights per week, days and hours of flights, services satisfaction level, sense of safety) that are related to the destination of the passengers. People who travel to Kalamata and Samos would be more satisfied if there were a larger number of flights per week and those who travel to Kalamata and Skiros would like to see the days of flights changed. The users of the Thessaloniki – Kerkyra and Thessaloniki – Samos PSO routes are satisfied neither from the days nor from the hours of the flights.

Although respondents stated that the services provided by the operator do not affect their buying behaviour, people that travelled to Limnos and Chios mentioned that they felt uncomfortable with the services provided by Sky Express and Astra Airlines. It is interesting to mention that 40% of passengers had travelled in the past (before 2009) with Olympic Airways on the same PSO routes. Almost half of them were unsatisfied by the type of the aircraft, the limited availability of tickets, the high fares, the inaccuracy, the low frequency, and low reliability exhibited by Olympic Airways in the past.

4.5. Positioning

The respondents did not seem to have a clear understanding of PSOs; 60% of them did not know the term "Public Service Obligation" although there was a number of passengers that knew and could actually define the term. Most users believe that a PSO route is an air service that has been awarded a subsidy. Only half of the passengers knew that they were travelling on a PSO route. Table 11 lists factors that have an effect on passengers' PSO awareness level. These are state of residence, destination, profession, and the personal monthly income of the passenger. Passengers who live on Limnos, Samos and Thessaloniki, work in the public sector and have a monthly income between €800 and €1,200, are better informed about the Public Service Obligation mechanism. Those who travel to Kalamata and Kerkyra could not believe that the state has imposed PSO to these routes. Passengers that travelled to Chios stated that the air carrier operated the route with a subsidy (which is not actually the case).

Table 11: Summary of Fisher's Exact Test Results Regarding Passengers PSO Awareness

			Monte Carlo Sig. (2 sided)			
Passengers' PSO awa	Value	95% Confidence Interval				
		Lower Bound	Upper Bound			
Knowledge of the PSO scheme	Residence	33.069	0.000	0.001		
December to the t	Destination	40.754	0.000	0.000		
Passengers know that they use a PSO route	Profession	14.752	0.023	0.029		
they use a P30 route	Monthly income	15.540	0.004	0.007		
Travellers know that they use a subsidized route	Destination	30.011	0.000	0.000		

5. CONCLUSIONS

This paper has undertaken a first step in developing a marketing plan for the PSO routes of Thessaloniki, aiming to contribute into making these routes self-sustaining. In 2012, while the financial crisis continues to plague Greece, it is necessary to highlight the role of the PSO mechanism and use these lifeline air services as a tool for regional development, territorial and social cohesion and socioeconomic development. By focusing on the consumer and adding value, but also by preserving the long-term interests of the society, an air carrier can create a successful plan oriented to social marketing to achieve the desired results. The current PSO scheme in Greece requires restructuring, in order to exploit the benefits of this mechanism to the maximum. Therefore, to produce personalised services that will contribute to create value for the customer, it is necessary to adapt the air services to the needs of the passengers. This will become possible after the identification of the market and the target groups, based on the understanding of the consumer behaviour and the level of passenger satisfaction.

The marketing research led to the classification of the Thessaloniki PSO routes market into three target groups. Each group has its own unique characteristics and motives, so the reconfiguration of the related air services should be based on the needs of every individual market segment for every single PSO route. Users of the lifeline air services travel throughout the year and price is very important for them. Passengers of the new entrants (Sky Express and Astra Airlines) are not loyal to the brand and do not feel comfortable when flying with these air carriers. The timetable of the PSO routes has to be redesigned according to passengers' needs and wants. There is a lack of adequate information about the PSO mechanism in Greece. New entrants should focus on the online ticket market, the quality of the provided services and have to focus on building strong bonds with the customers using customer relationship management and loyalty programmes. Last key to success is to inform

passengers about the PSO mechanism and create a competitive positioning and finally a successful brand. Finally, a marketing plan for each single PSO route has to be developed in order to create differentiate, personalised air services that can offer true value to the passengers.

REFERENCES

- CEC (1992), Council Regulation (EEC) No 2408/92 of 23 July 1992 on Access for Community Air Carriers to Intra-Community Air Routes, Brussels: Commission of the European Communities.
- CEC (2008) Regulation (EC) No 1008/2008 of the European Parliament and of the Council of 24 September 2008 on Common Rules for the Operation of Air Services in the Community (Recast), Brussels: Commission of the European Communities.
- CEC (2010) Commission Communication pursuant to Article 17(5) of Regulation (EC) No 1008/2008 of the European Parliament and of the Council on Common Rules for the Operation of Air Services in the Community Invitation to Tender in Respect of the Operation of Scheduled Air Services in Accordance with Public Service Obligations, Brussels: Commission of the European Communities.
- European Commission (2010) *PSO Inventory Table*, Brussels: European Commission.
- Fragoudaki, A., Keramianakis, M., and Jancovich, S. (2005) The Greek PSO Experience. 4th International Forum on Air Transport in Remoter Regions, Stockholm, May 24–26.
- Gordijm, H., and van de Coevering, P. (2006) Aviation as public transport: which regions are underserved? *European Transport Conference*, Strasbourg, September 18-20.
- Halpern, N. and Niskala, J. (2008) Airport Marketing and Tourism in Remote
 Destinations: Exploiting the Potential in Europe's Northern Periphery, In Graham, A.
 Papatheodorou, A. and Forsyth, P. (Eds.) Aviation and Tourism: Implications for Leisure
 Travel, Aldershot: Ashgate, 193-207.
- Merkert, R. and Williams, G. (2010) The Impacts of Ownership, Level of Competition and Contractual Determinants on the Efficiency of European Public Service Obligation Air Transport Operators. *European Transport Conference*, Glasgow, October 11-13.
- Papatheodorou, A. (2004) Exploring the Evolution of Tourist Resorts. Annals of Tourism Research, 31(1): 219-237
- Papatheodorou, A. (2008). The Impact of Civil Aviation Regimes on Leisure Travel, In Graham, A. Papatheodorou, A. and Forsyth, P. (Eds.) Aviation and Tourism: Implications for Leisure Travel, Aldershot: Ashgate, 49-57.

- Papatheodorou, A. and Arvanitis, P. (2009) Spatial Evolution of Airport Traffic and Air Transport Liberalization: The Case of Greece. *Journal of Transport Geography*, 17: 402–412.
- Rigas, K. (2009). Boat or Aeroplane? Passengers' Perceptions of Transport Services to Islands. The Example of the Greek Domestic Leisure Market, *Journal of Transport* Geography, 17(5): 396-401.
- Santana, I. (2009) Do Public Service Obligations Hamper the Cost Competitiveness of Regional Airlines?, Journal of Air Transport Management, 15(6): 344-349.
- Tsekeris, T. & Vogiatzoglou, K. (2011) *Air Transport and Airports in Greece: Current Developments, Economic Significance and Efficiency.* Athens: KEPE (in Greek).