

Analysis of Ground Transport from Poprad-Tatry Airport to a Selected Hub Airport and Creation of an Airline

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Abstract

The article deals with the possibilities of design of the airline from Berlin-Tegel airport to Poprad-Tatry airport in order to increase amount of tourists from Germany in High Tatras. Within the creation of airline to Berlin, the work mentions the process of creating the flight schedule, calculating the cost of the ticket, as well as calculating the contribution of new airlines for the subjects which are operating within High Tatras region and for state.

KEY WORDS: *flight timetable, tourism, launch of airline, air transport*

1. Introduction

Ground transport is now becoming increasingly competitive for air transport. The reason for the increasing competitiveness of ground transport over aviation is the increase of the speed and comfort of land transport modes. From the historical point of view, it is possible to monitor the gradual cancellation of airlines on very short routes (approximately 300 km) and their replacement by land transport. Currently it seems unprofitable to operate air links between Prague and Karlovy Vary, Mariánské Lázně or Liberec, or Bratislava and Žilina. After the introduction of Pendolino, air connection between Prague and Ostrava has also lost their attractiveness.

However, there is an increasing demand for air transport operated over longer distances, with preference being given to those routes that offer the lowest number of transfer. This tendency leads to rapid growth of airlines between regional centers or secondary airports of large cities. With the offer of affordable and time-consuming flights it is possible to observe an interesting effect, especially the creation of a new demand for air transport. However, this demand would not have existed if the offer was not stimulated. This phenomenon usually allows new carriers access to markets that might appear to be well covered [1-6].

The structure of the muscle with no moving parts allows achieving quite short response time – the favorable parameter for the application in active suspension. That is why as an initial stage of the presented research the investigation of the operational parameters of the muscle itself is very important.

2. Factors that affects launching of new airline

The Poprad-Tatry Airport has a potential for operating a tourist connection with regard to its geographical location. At present, however, there is no airline between the High Tatras and Germany.

Tourists come to High Tatras and Low Tatras for relaxation and the possibility of sports activities all year round, but the greatest potential for attracting tourists is in the winter. The ski season in the High Tatras and the Low Tatras usually lasts from the beginning of December to the end of March, when the flight timetable was also adapted when creating. The flights between Poprad-Tatry Airport and Berlin-Tegel Airport will be operated from 1 December to 31 March, totaling 15 weeks.

In High Tatras, there are located three ski resorts - Tatranská Lomnica, Starý Smokovec and Štrbské Pleso. Tatranská Lomnica is the starting point for the highest laid and steepest slope in the High Tatras in Lomnické sedlo. Starý Smokovec is divided into two areas - Jakubkova lúka and Hrebienok, which are 600 meters away. Jakubkova lúka has blue slopes with two lifts in the length of 70 and 853 m. Hrebienok offers one blue piste with a length of 2 350 m and a toboggan run of 2 350 m. Štrbské Pleso offers 9 km of slopes and runs cross-country ski trails with a total length of 26.5 km. The Jasná Ski Resort is located in Low Tatras, which is the largest in Slovakia and covers the northern and southern sides of Chopok. Jasná offers a total of 41 pistes in total length of 49 km.

When introducing new airlines, it cannot reliably estimate the market response to these airlines. For this reason, it is advisable to select airplanes with a lower capacity when introducing new lines. The Saab 340A was chosen as the right airplane to operate from Berlin. The Saab340A is a Swedish-made turboprop airplane with a capacity of 33 passenger seats and 1 455 km range (Table 1). The stated capacity of the airplane represents some "certainty" that the load will approach 100% and therefore the operation of the airline will be efficient and economical. In the event of a positive response to the market for new airlines and increased demand for them, it is possible to deploy an airplane with more capacity.

Table 1
Specifications of Saab 340A

Capacity	33 seats
MTOW	12 925 kg
Max. capacity of fuel tanks	2 580 kg
Type of engine	2x GE CT7-5A2
Max. cruising speed	501 km/h
Max. operating height	7 620 m
Length	19,73 m
Height	6,97 m

The airline's cost is a key factor in the deployment of the airline from which the shipping cost will depend. An airline that has agreed to cooperate with an airport will provide to the airport a calculation for new airline. This calculation mentions the direct operating costs for the airline, which include:

- the cost of aviation fuel,
- maintenance costs of aircraft,
- salaries and costs of pilots and on-board staff,
- aircraft depreciation, possible lease payments,
- navigation and route charges,
- aircraft insurance and legal liability,
- aircraft repayments (credit or leasing).

Direct operating costs are significantly associated with the type of used aircraft and the length of the phase being analyzed. For the air carrier concerned, the cost of these two items is directly proportional to the production, expressed in the "number of flights" unit.

Although the cost of transport depends on these costs, their height does not have to be reflected in the final price of the ticket for the passenger. If the cost calculation for a single ticket shows that the resulting cost from the calculation may not be attractive to the passenger, the airline may be supported by two methods:

- from the airport,
- from the region which has profit from new airline .

Economic support of airport is implemented by providing a certain amount of discount on airport charges, based on a contract between the airport and the airline, for an agreed period of time. The discount most often applies to those airport charges which are the highest, namely the landing fee, airport tax or handling charge.

The launch of a new airline has an undeniable benefit not only for the airport but also for the region itself. Therefore, it is also in the interest of regional tourism organizations in the region to support newly created airlines that will ensure the influx of other tourists. One of the support options is to provide subsidies. This subsidy may be used to reimburse a certain amount of the ticket price for the passenger. The airline and regional tourism organizations will agree on what part of the ticket price will be paid by the regional tourism organization in order to make the price for the passenger more attractive.

Another form of support from the regional tourism organizations is to reduce the airline's cost of promotion, which accounts for a substantial part of the cost of operating a new airline. Already before launching it is necessary to inform potential customers in advance of its intended operation in good time.

3. Launch of the airline

Due to the fact that Slovakia does not represent the usual and known destination for German tourists, the frequency of the flight was set once a week. Stay 7 days is a good time period for German tourists to get to know High and Low Tatras and the surrounding area.

Airline character: seasonal scheduled airline
 Duration of airline: 1. December - 15. March (totally 15 weeks)

<u>Day</u>	<u>route</u>	<u>ARR</u>	<u>DEP</u>	<u>duration of flight</u>
Saturday	TXL-TAT	14:40	15:30	1h 45 min

Table 2

The dependence of the ticket price on one passenger from the aircraft occupancy

Load factor	Airfare per 1 passenger	Load factor	Airfare per 1 passenger
100 % (33seats)	213,94 €	48% (16 seats)	441,25 €
97% (32 seats)	220,63 €	45 % (15 seats)	470,67 €
94 % (31 seats)	227,74 €	42 % (14 seats)	504,29 €
91 % (30 seats)	235,33 €	39 % (13 seats)	543,08 €
88 % (29 seats)	243,45 €	36 % (12 seats)	588,33 €
85 % (28 seats)	252,14 €	33 % (11 seats)	641,18 €
82 % (27 seats)	261,48 €	30 % (10 seats)	706,00 €
79 % (26 seats)	271,54 €	27 % (9 seats)	784,44 €
76% (25 seats)	282,40 €	24 % (8 seats)	882,50 €
73 % (24 seats)	294,17 €	21 % (7 seats)	1 008,57 €
70 % (23 seats)	306,96 €	18 % (6 seats)	1 176,67 €
67 % (22 seats)	320,91 €	15 % (5 seats)	1 412,00 €
64 % (21 seats)	336,19 €	12 % (4 seats)	1 765,00 €
61 % (20 seats)	353,00 €	9 % (3 seats)	2 353,33 €
58 % (19 seats)	371,58 €	6 % (2 seats)	3 530,00 €
55 % (18 seats)	392,22 €	3 % (1 seat)	7 060,00 €
52 % (17 seats)	415,29 €		

Due to the capacity of the aircraft, the airfare was set at 91% of load factor of the aircraft, which is a price of € 235.33 (Table 2). Excepting above mentioned direct cost of the airline, in this airfare are included airport charges, which are directly related to the operation of the aircraft, such as the landing charge and the noise charge. The noise charge is applied at Berlin-Tegel Airport, but Poprad-Tatry Airport does not apply noise charge. However, in the price of the ticket are not included airport charges which is directly related to the number of passengers, including the airport tax and the security charge. These fees are charged to the airline additionally because they are tied to the actual number of departing passengers that is known only after the departure of the aircraft. The method of their billing (monthly, after each departure, etc.) is subject of an agreement between the airline and the airport.

The launch of new airline has a beneficial effect not only on the airport itself but also on the surrounding region. Influx of tourists increases statistics in the number of passengers equipped, which ultimately reflects on the airport's economic status. Influx of tourists also supports the economic development of the region, especially in tourist centers. Table 3 shows economic benefits for the region and the state in case of launch the new airline between Berlin-Tegel Airport and Poprad-Tatry Airport.

In calculating the economic benefit, the planned number of arriving passengers was based on the planned season. The length of the season is scheduled for 15 weeks. Expected load factor of the aircraft is at level 91% in one week, which is 30 seats occupied. During the season it is expected, that totally will arrive 450 passengers.

Table 3

Economic profit of airline Berlin - Poprad

	Unit price	Amount of purchased services	Consumption/1 tourist	Total consumption	Economic benefit
Accommodation without half board - average	50 €	7	350 €	157 500 €	31 500 €
Refreshments during the day (lunch+ beverages) - average	5 €	6	30 €	13 500 €	2 700 €
Refreshments in the evening - average	15 €	6	90 €	40 500 €	8 100 €
Rental of skiing equipment - average 30% of tourists	20 €	6	120 €	16 200 €	3 240 €
Skipass (60% of passengers)	102 €	1	159 €	42 930 €	8 586 €
Transfer - taxi	10 €	1	10 €	4 500 €	900 €
Total: total consumption/economic benefit				275 130 €	55 026 €

Given that the new airline means economic benefit for the region, institutions in the region should also be interested in supporting this airline. One option is financial support in the form of subsidies. If regional tourism organizations contribute to one ticket by sum € 40.33, it will reduce for passengers the ticket price from € 235.33 to € 195, thereby increasing the attractiveness of this airline. The season would require a grant of € 18,148. This airline would contribute € 55,026 to the state in the form of taxes.

4. Conclusion

Launch of a new airline is a much more complicated process than it may seem from the outside. It is commonly reported in the literature that launch of new airline is mainly the privilege of airlines. This can be applied mainly to large airlines, which are operating a network of airlines mainly at the hub airports.

However, if we are talking about launching or introducing new airline within small regional airports, the situation is different. In their creation, it is important to cooperate with three of the most important subjects, especially:

- airport,
- regional organizations of tourism,
- the State.

The airport is the point of first contact of the arriving passengers with the region and represents a sort of imaginary gateway to the region. Its role is to provide high quality services to passengers on arrival and departure, thereby increasing the level of passenger satisfaction. Passenger satisfaction is a high probability of re-using the airport and increasing ratings for the traveling public. The new airline represents an increase in the number of passengers equipped for the airport, which is directly related to its revenues from aviation activities in the form of airport charges as well as non-flight activities. The inflow of funds is an opportunity for airports to develop and further improve passenger services.

Regional organizations of tourism has also benefits from launching new airlines. The influx of tourists also means that the tourism sector in the region also has an influx of finances. However, it is not enough to have only modern airports with high-quality services to increase the influx of passengers / tourists into the region. It is equally important to provide quality services to the subjects that tourists come into contact with - accommodation facilities, tourist attractions, and so on. Therefore, regional organizations of tourism should be interested in establishing and launching airlines, whether in the form of subsidies, promotion of airline or otherwise.

The state itself has benefits from launching airlines especially in the form of taxes. Another contribution to the state is also the development of the region, which is also related to the decrease in unemployment. The State's role is therefore to create an appropriate environment for the development of tourism entities and support of the state in improving local infrastructure.

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