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Airport – airline relation

Vodochody: The secondary airport in Prague, Czech Republic

by

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Master Thesis within the main profile of International Business

Abstract

This thesis looks at the current trends in the global airport industry, mainly studying what impact the low-cost carriers have had on the airport – airline relationship. Studies have shown that the low-cost carriers have been the driver behind the emergence of low-cost airports. While focusing on the airport services market in the Czech Republic, the thesis examines the case of the Vodochody Airport, currently a private international airport located in the Prague metropolitan area, which is planning to expand its operations and become a low-cost secondary airport in the area by 2013 and the second largest public international civil airport in the Czech Republic. As both the demand for air transport and the share of low-cost carriers are expected to increase at the Czech market in the future, the project of the Vodochody Airport is not only consistent with the global trend, but also responds to the regional demand.

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Abbreviations

ACI	Airports Council International
ADP	Aéroports de Paris
CEE	Central and Eastern Europe
CSA	Czech Airlines (Ceske aerolinie)
EIA	Environmental Impact Assessment
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
LCC	Low-cost carrier
MAW	Maximum authorized weight
MTOW	Maximum takeoff weight
T	Tonne
YoY	Year-on-Year

1. Introduction

When searching for the topic of my thesis one of my main criterion was to write about something that I have interest in and which is a contemporary issue. I have decided to research the airport industry, mainly what impact have the low-cost carriers (LCCs) had on the relationship between airport and airline.

PURPOSE OF THE PAPER

The main purpose of this paper is (1) to analyze the current situation at the Czech Republic's airport market; (2) to introduce the concept of airport low-cost airport Vodochody and suggest what impact on availability of LCCs in the Czech Republic will this new airport have based on effects seen; and (3) to examine theories describing the airport – airline relationship.

I believe the topic of introduction of a secondary low-cost airport in Prague, Czech Republic, to be very up to date and the reader of this paper should benefit namely from a summarized point of view on the concept of the airport industry and the regional market analysis. From theoretical point of view, this paper should be interesting to anyone who is interested in air transport economics, airport – airline relationship and especially low-cost carriers and low-cost airports.

RESEARCH QUESTIONS

1. What is the current situation at the Czech air transport market? Who are the main players?
2. What consequences will the launch of new low-cost airport have on: a) on availability of LCCs in Czech Republic, and b) airport competition at the regional market?

STRUCTURE OF THE THESIS

Following the introduction, Chapter 2 will summarize the data sources and methods of analysis used in this thesis. Chapter 3 provides a review of the airport industry, including theories and existing empirical examples. The chapter examines airport – airline relations as well as the impact the low-cost carriers had on the relationship, and finally discusses the specifics of low-cost airports. Chapter 4 provides and overview of the key market players in

the air transport industry in the Czech Republic. Chapter 5 first introduces the projected low-cost and secondary airport in the Prague metropolitan area, Vodochody Airport, and then builds on the knowledge gained from the previous chapters when analyzing the Vodochody Airport by using Porter's five forces framework, Kotler's SWOT analysis and Goetsch and Albers airport – airline relationship model. The final chapter concludes the main findings, summarizes the answers to the research questions and suggest areas for further research.

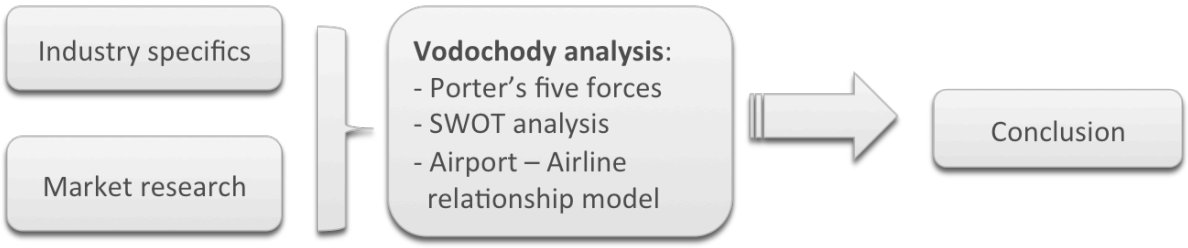

Figure 1 Structure of the thesis

LIMITATIONS AND ACKNOWLEDGMENTS

The main limitation faced was to collect relevant data about the Vodochody Airport. The data collected was secondary (see in Chapter 2) as it was not possible to obtain primary data by e.g. qualitative in-depth questionnaire technique. However, the reasons are understandable: at the time when this thesis has been written, the airport is still on paper and any information is highly confidential due to strategic concerns. The information published so far is aimed to increase public knowledge about the airport, set the facts straight and "calm down" the voices against by pointing out the benefits, which the airport will bring to the area, such as new jobs, and information regarding the planned operations which is also of concern to the inhabitants of the villages neighbouring to the future airport.

Furthermore, I had little prior knowledge of the air transport industry before I started writing this thesis, thus there is a threat that the paper does not provide a complete and/or correct picture of all forces influencing the industry.

Last but not least, the real effects will only show in the future, which will allow for an interesting synthesis of effects suggested in this paper and effects that took place in reality.

I would like to thank my advisor professor Siri Pettersen Strandenes for her guidance through the process of writing this thesis, her invaluable insides into the field of airline economics and her advice on how to approach evaluation of proposed effects of a project which has not yet been completed.

2. Methodology

This chapter provides an overview of the research methods used to obtain data for this thesis. I have decided to use the qualitative approach to this research, as I believe it is the most appropriate and suitable approach to serve finding answers to the research questions as defined in Chapter 1, which is the desired outcome of this paper.

As already explained in Chapter 1, this paper is limited to secondary data, i.e. no field research was performed and no primary data obtained.

First, I have reviewed the relevant literature and theory relating to the topic and have analyzed the global air transport industry to identify the main challenges affecting operations of airlines and airports.

The next step was to gather information about the Czech market, the airports and airlines already operating in the market, including search for data that provided information about the planned airport in Vodochody.

The collected secondary data comes from a number of sources, for example:

Research journal articles **-** industry related journals such as Journal of Air Transport Management, Journal of Transportation Planning and Technology and Review of Network Economics.

Newspaper articles – articles from Czech newspapers, both online and printed, mainly: E15, iHned, iDnes;

Websites of companies – websites of the Prague Airport and other Czech airports, website of Vodochody Airport were used to gather information about the services offered by these airports; further the websites of the main Czech airlines were used to gather information;

Websites of government institutions – websites of the Ministry of Transport of the Czech Republic was used as source of information regarding the civil aviation, websites of the Ministry of the Environment of the Czech Republic to gather information regarding EIA.

Market and industry reports – Datamonitor and information published on international aviation portals (such as ACI) were used to gather global data, the Czech Statistical office for local data;

Official reports – EIA documentation for the project of the parallel runway at the Prague Airport and for the development project of the Vodochody Airport were examined.

Finally, I have applied Porter's Five Forces model, the SWOT framework and the airport – airline relationships model to analyze the forces that effect the business environment and to determine the strategic position of the Vodochody Airport (based on the information published before this thesis was completed).

Porter's Five Forces is a widely used analytical framework that allows an analysis of the industry environment, which is formed by the firm's relationships with its customers, suppliers and competitors. With the help of Porter's Five Forces, the competitive structure of the airport transport industry will be determined. According to this model the competitive structure of an industry is shaped by the interplay of five forces: threat of new entrants, threat of substitutes, bargaining power of buyers, bargaining power of suppliers and rivalry among existing competitors (Porter, 1998). Based on the strength of these forces, the profitability and hence attractiveness of an industry can be determined. The stronger the forces are, the more challenging the business environment is. Figure 2 illustrates the five forces.

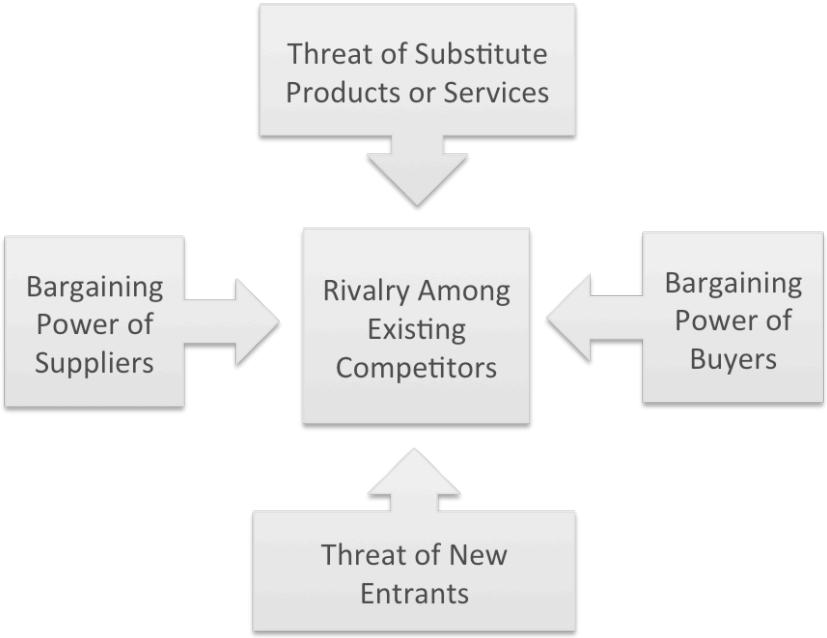

Figure 2 Porter's Five Forces. *Source: Porter, 1998.*

The *SWOT analysis,* a framework described for example in Kotler (2007) analyzes both the external (macro) environment as well as the firm's internal activities. The analysis will be

used to determine the airport's strengths, weaknesses and the main threats and opportunities it is facing.

The *airport – airline relationship model* is described in great detail in the Subchapter 3.5.

3. Airport industry: review of theories and existing empirical examples

This chapter provides an overview of the global airport industry today and describes the specifics of the industry. Further, the chapter analyzes the airport – airline relationship and how the emergence of low-cost carriers has shifted this relationship. One of the impacts the low-cost airlines had is the rise of low-cost airports.

3.1. Global overview of the airport industry

Airports are the key part of air transport infrastructure, the start and end point of the air transport process and also the place of transit. Airport is the place, where the users of the air transport interact with the services provided by the individual subjects that participate in the process. As Prusa et al. (2007) points out, the quality and efficiency of air transport is to a significant extent determined at the airport, because the co-ordination between the main providers of air transport – air carriers, airport enterprises and air navigation services bodies – takes place there.

The airport industry is dominated by North America (33 per cent) and Europe (31 per cent) in terms of passenger numbers and Asia Pacific (37 per cent) and North America (31 per cent) in terms of cargo tonnes carried, see Figure 3 and 4 below.

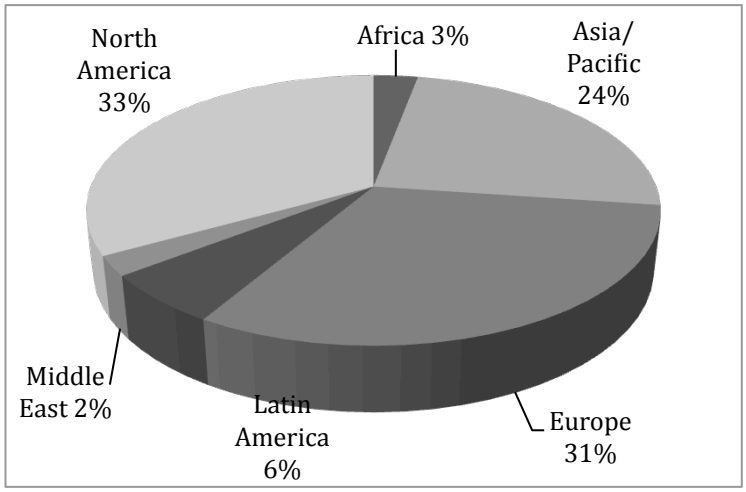

Figure 3 Airport passengers by world regions, YE Jan 2010. Total passengers enplaned and deplaned, passengers in transit counted once. *Source: Airports Council International (ACI)*

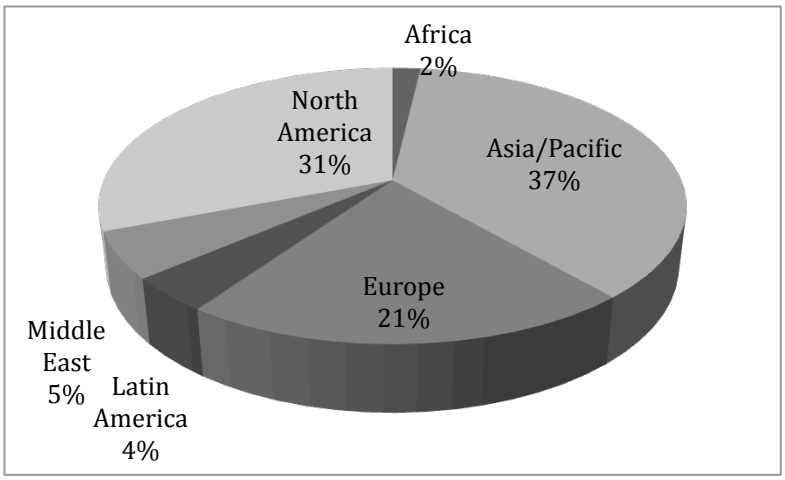

Figure 4 Cargo by world regions, YE Jan 2010. Loaded and unloaded freight and mail in metric tonnes. *Source: ACI*

Out of the 20 largest global airports, 13 are US airports in terms of passenger numbers, 6 in terms of cargo and 14 when aircraft movements are being considered. However, when just international air traffic is examined, the European region's significance becomes much more important with Heathrow having the most international air traffic (Graham, 2008).

The global airport services market generated total revenues of 99.5 billion USD in 2008, representing a compound annual growth rate (CAGR) of 6.7 per cent for the period 2004 – 2008, which was followed by a decline in the growth in 2009 and it is expected that the market will recover in 2010 and grow steadily through to 2013 (Datamonitor, 2009).

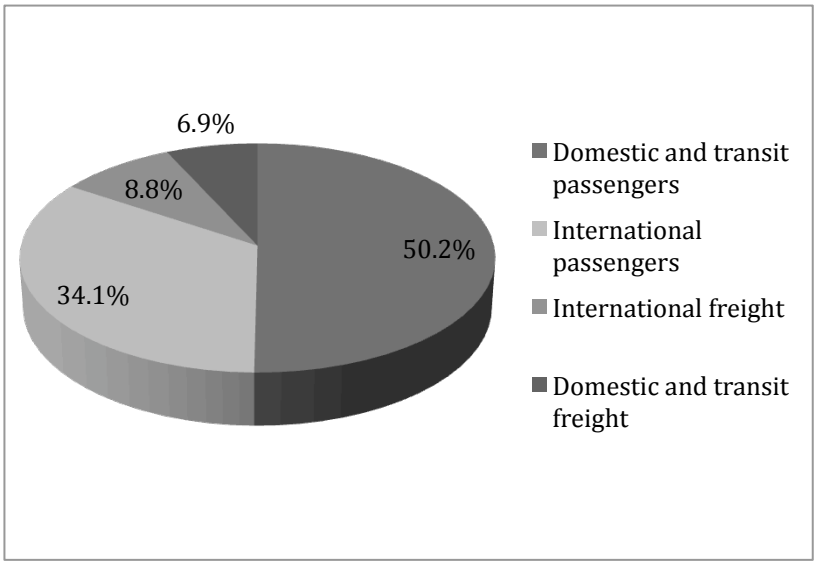

Figure 5 Global Airport Services Market Segmentation: Share (%) by Volume, 2008. *Source: Datamonitor, 2009.*

As visible in Figure 5, the domestic and transit passenger segment was the dominant

segment in 2008, representing 50.2 per cent of the market's overall value, the international passengers equalled to 34.1 per cent; the remaining volume 15.7 per cent are represented by domestic, transit and international freight (Datamonitor, 2009).

The biggest players in the global airport market, as listed by Datamonitor (2009), are BAA Ltd, Port Authority of New York & New Jersey, Aéroports de Paris and Fraport AG; their cumulated share in the airport market in 2008 was 9.2 per cent. *BAA Ltd* owns and operates seven airports in the UK (Heathrow, Gatwick, Stansted, Southampton, Glasgow, Edinburgh and Aberdeen) and provides management airport facilities (such as cargo handling, fire services, security) both in the UK and overseas. *Port Authority of New York & New Jersey* is a company managing numerous US airports. *Aéroports de Paris* is a company operating and managing 14 airports around Paris (Paris-Charles de Gaulle, Paris-Orly, Paris-Le Bourget etc.). *Fraport AG* manages German's largest and Europe's third largest airport Frankfurt Airport and offers airport services both in Germany and abroad.

The buyers in the airport services market are airlines, retailers and passengers, and the suppliers are the entities that provide products and services for airports (baggage handling services, equipment etc.). Both supplier and buyer power is viewed as moderate in the market, considering the effects of the many factors influencing it. On one hand is the buyer's power weakened by the fact that airports are often owned by government entities or large scale companies and also by the high number of buyers in the market, on the other hand the buyer's power is strengthened by the fact that the landing costs and slot allocation are determined by independent companies and by the differentiation of products and services that airports provide. The supplier power is weakened by the high specialization of the suppliers and by the larger number of small-scale companies providing the basic services. On the other hand the supplier power is strengthened by the high importance of the products and services supplied that have effect on efficient running of the airport (Datamonitor, 2009).

The airport service industry is generally characterized by high entry and exit costs; it is problematic to enter the airport service industry as it is dominated by national government entities or large-scale private companies (Datamonitor, 2009). In Europe, an increasing number of airports have become private firms thus the competition among Europe's airports is becoming intensive. However, it still applies, that national/regional markets are dominated by small numbers of large companies, e.g. BAA Ltd who operates seven airports in the UK.

The threat of new entrants is weak (Datamonitor, 2009).

Today, the economics of airport enterprises is to a large extent the same as economics of standard market subjects; competitiveness and globalization penetrate into the sector. The key advantage of airports is their unique position in a given geographic area; this on the other hand is also seen as a disadvantage because it allows only a limited growth given by the capacity and the demand in the given catchment area. Expansion/development of airports is also conditioned by the ability of finding a suitable form of co-existing with the surrounding area: on one hand an airport positively influences the socio-economic development in the proximate area, on the other hand the negative side effects of air transport show the most in the surrounding area (such as excessive noise).

The demand for airport (and airline) services goes hand in hand with the demand for air transport. As Graham (2008) puts it, the aviation industry has been growing virtually continuously since the Second World War with periodic fluctuations because of economic recessions or other external factors such as the Gulf War in 1991. However this growth was dramatically halted due to the events of 9/11 combined with a global economic downturn (Graham, 2008). Further events with significant impact on the air transport events, which occurred in the recent history, are events such as the outbreak of SARS (2003) or most recently the shutdown of European air spaces due to the ash emissions from the Icelandic volcano Eyjafjallajokul (2010).

3.2. Role of airports in the air transport infrastructure

Airports provide the entire infrastructure needed to enable passengers and freight to transfer from surface modes of transport to air modes of transport and allow airlines to take off and land. Airports bring together a wide range of facilities and services to fulfil their role within the air transport industry (Graham, 2008).

These services include air navigation services (air traffic control), meteorological services, security, fire and rescue services, police and custom services, maintenance services, handling facilities, fuel services and commercial facilities (shops, restaurants, hotels, conference services). Typically, the actual airport operators themselves provide only a small proportion of an airport's facilities and services and other organizations such as airlines, government bodies (e.g. Air navigation services), handling, fuel, catering, cleaning or other specialist companies can provide these operation services. External companies usually provide

services such as shops, restaurants, bars or car rentals (Graham, 2008 and Zurynek, 2008).

Airports can be classified based on their operations output in the following way (Prusa et al., 2007):

- *Main hub airport (25 million and more passengers annually)*
- *Secondary hub (over 10 million passengers annually)*
- *Large regional airports (over 5 million passengers annually)*
- *Small regional airports (over 1 million passengers annually)*
- *Small airports (over 200 thousand passengers annually)*

There are several possibilities how to look at airport structure and its role. For example, Prusa et al. (2007) describes the following four roles of an airport:

i. *Airport as an operation complex.*

   Looking at an airport as an operation complex represents the broadest way of looking at an airport, its original purely operational meaning. An airport is a specially adjusted territory, including buildings and equipment, assigned for take-off, landing and manoeuvre of airplanes. Thus, the basic infrastructure of an airport consists of a system of runways, taxiways, apron space, gates, parking and manoeuvre space, hangars, navigation tower, administrative buildings, passenger and cargo handling terminals. Part of the airport infrastructure is also the air navigation infrastructure. Furthermore, part of the airport complex are purely commercial buildings/areas, which can be used by both airport passengers/visitors and general public, such as shops, restaurants, travel agents etc.

   One can also come across terms such as “airside” and “landside”; airside meaning the premises and building directly connected to the airport’s main function (take-off and landing), while the landside means the premises used commercially. Airside can be described also as the non-public or restricted area, while on the other hand landside as the public area. As a consequence to the growth of commercial services offered at the airports hence the growth of the “landside”, airports are becoming large complexes, so called “airport cities”.

   Important parts of the airport infrastructure are also transport facilities such as bus/train terminals, allowing connection with the proximate cities or transfer to other means of transport. A good connection of an airport with regional transport

infrastructure is becoming a more and more important factor in airport's competitiveness.

ii. *Airport as an economic complex*

Examining the airport from the economic point of view means looking especially at the company as such, usually the organization that runs the airport and secures its operation.

iii. *Airport as a social complex*

Large airports build complexes that employ thousands of persons, both directly in the airport operations and in supplementary services. There are socio-economic studies that show that there is a direct relationship between the amount of passengers (and/or cargo) and employment. Airports create a significant number of jobs thus enhance employment.

iv. *Airport as a part of the environment*

Airports are an important part of the landscape, the significantly influence its immediate proximities as well as in areas where take-offs and landings are navigated through. In most cases, the airport's influence on environment is negative, mainly due to elevated noise levels and emissions.

3.3. Airport organization structure and ownership

Spruit (2003) presents four different levels of airport ownership: (1) public state ownership with direct government control, (2) public ownership through an airport authority, (3) mixed public and private ownership, and (4) full private ownership. Dependent on the country the airport ownership and control are regulated differently: in Italy for example, the owning city is responsible for the fire brigade on the airport and not the airport itself, while in the Netherlands the airport authorities are responsible (Spruit, 2003).

Historically, the airports were owned by the public sector (at national and/or local level) and usually organized under state's civil aviation authorities, together with other bodies of the air transport system, such as flight navigation services, inspection bodies, legislation bodies etc.

Since 1970s there have been major regulatory and structural developments, which have

affected the way in which both the airport and airline industries operate. Most changes were experienced within the airline sector as a consequence of airline deregulation, privatization and globalization trends. The deregulation and privatization trend in the airline industry led to developments in the airline industry such as emergence of transnational airlines, airline mergers and alliances, low-cost airline development, which have affected the airport sector. The pace of change was slower in the airport industry (Graham, 2008). While the 1970s and the 1980s were dominated by airport commercialization, the 1990s were the decade when airport privatization became a reality and when there started to be a significant presence of privately, or partially privately, owned airports (Graham, 2008). In some countries, airports were privatized entirely, including the lands (UK), while in other the land stays in the state ownership (Australia) – in such cases, long term concessions are granted for airport operations (e.g. 40 years – Italy, 75 years – Budapest) (Prusa et al., 2007).

Graham (2008) describes three key developments in the airport sector:

1. ***Airport commercialization*** - transformation of an airport from a public to commercial enterprise, adopting more businesslike management philosophy, has brought healthy profits, market-oriented management;
2. ***Airport privatization*** - transfer of management and/or ownership to the private sector;
3. ***Airport ownership diversification*** – emergence of a number of different types of new investors and operators of airports (financial investors, infrastructure companies).

Moreover, there has also been a trend of isolating airports from the complex air transport system, by creating special government bodies to manage airports (Prusa et al., 2007). However, we still find numerous examples where airport organizations maintain in close connection with the government, for example a major airport group Aéroports de Paris (ADP), the airport authority that owns and manages civil airports in the Paris area. ADP was created as a government organization in 1945, and in 2005 became a public limited company with the Cabinet appointing the Executive Committee. Even so, there are cases, where the airport and navigation services organizations are connected, for example the Spanish Aeropuertos Españoles y Navegación Aérea (AENA) managing apart for the airports also the air navigation services.

The internal organization of an airport depends on the extent of its activities. Obviously, the

possible organizational structures are numerous. According to Prusa et al. (2007), most often, three major segments are recognized: the operations of the airport itself, handling, and commercial activities.

Airports are now complex enterprises that require a wide range of business competencies and skills – just as with any other industry. Airports can no longer see their role simply as providers of infrastructure but, instead, as providing facilities to meet the needs of their users (Graham, 2008).

3.4. Airport economics

This subchapter aims to discuss the key cost and revenue streams of airports, with a focus on revenues as these are more significant for the purpose of this paper: what is revenue to airport is cost to the airline. The airport – airline relationship, which is discussed in the Subchapter 3.5, builds on this fact.

Prusa et al. (2007) states the following **costs** to be the most significant for airports: labour costs, maintenance and repair cots and fixed assets costs. *Labour costs* can be a significant part of airport's total costs, especially if the airport also provides services which are labour-intensive, such as handling services or services linked to the airport's security. Mostly, airports tend to outsource both the handling and the security services. There are a number of global handling companies (e.g. Menzies) who provide their service at a number of international airports and it can be also provided by the airlines themselves. The *maintenance* of the extensive airport properties is financially demanding. The airport properties are large in volume, crucial for the airport's operation and have a high financial value. The property is characteristic by a long useful lifetime as well as exposition to weather conditions. Thus, a regular and sound maintenance is necessary. Any repairs are also a challenge for time management, as the aim is not the decrease the airport's operational capacity or anyhow affect its operations. Because the purchase *costs of the fixed* assets are high (and even though the useful life is long,) depreciation of the fixed assets is a significant part of airport's cost. Modernization and/or expansion of airport's property usually cannot be done from the regular airport incomes, thus alternative sources of financing have to be sought (bank loans, bonds) and such financing can also be costly (repayment terms, interest rates).

3.4.1. Revenue streams

Traditionally, airports were dependent on a combination of governmental funding and revenue from airlines by charging them so-called aeronautical charges for the use of their services (Humphreys et al., 2006). Traditionally, aeronautical charging has been relatively simple with most revenue coming from a weight-based landing charge and a passenger fee dependent on passenger number; nowadays, charging practices become more complex and more market based (Graham, 2008). Additionally, due to the move towards privatization and/or commercialization of airports in recent years, airports seek different ways then aeronautical charges of making economic profit.

Humphreys et al. (2006) list the following airport charges to airlines as typical (despite the variety of practice worldwide):

- Weight related fee to land an aircraft;
- Fee per passenger that passes through the terminal;
- Aircraft parking charges;
- Charges for office space;
- Additional charges relating to ground handling (may be provided by the airline itself or by a third party company.

Landing charges

Mostly, the landing charge is weight-related and is based either on the maximum takeoff weight (MTOW) or on the maximum authorized weight (MAW). The simplest method is to charge a fixed amount unit rate regardless of the size of the aircraft; this simple method is used by many airports throughout the world (e.g. US, Germany), some airports have unit landing charge which declines as the weight of the aircraft increases (e.g. Oslo), at other airports the unit rate increases for larger aircrafts (e.g. Spain, Paris) (Graham, 2008).

A growing number of airports have noise-related surcharges or discounts, associated with their landing charges, which can be based either on airport or country specific aircraft acoustic group classification of the ICAO classifications are used (Graham, 2008).

Passenger charges

Next to landing charges, the passenger charges are the other main source of aeronautical revenue. They are usually charged per departing passenger. Graham (2008) points out, that

most airports tend to have a lower charge for domestic passenger (to reflect the lower cost associated with these types of passengers) and a smaller fee for transfer passenger (especially European airports). An interesting recent development at some of the German airports, such as Düsseldorf and Frankfurt is a fee cap related to passenger charges: this means that a refund is provided for all passengers when the load factor exceeds 80 per cent, provided that the airline has maintained load factors above 80 per cent throughout the year (Graham, 2008).

Other charges

Other airport fees can include anything from already discussed noise charges to parking charges to air-bridge fee to lightening charges to emission charges. These fees tend to be relatively small, compared to the landing and passenger charges. A parking charge is rather common and is usually based, similarly to the landing fee, on the weight of the aircraft. As described in Graham (2008), most airports have a free parking charge ranging from one to four hours to allow turnaround, but a few airports have no free parking, which should encourage the airlines to minimize turnaround time. Graham (2008) also states, that 73 per cent of the European airports apply a noise charge (while 35 per cent of them incorporate it into the landing fee).

Ground handling and fuel charges

These services cover passenger handling, baggage handling, cargo and mail handling, ramp handling, fuel and oil handling, and aircraft services and maintenance (Graham, 2008). Ground handling services are at most airports provided by airlines or handling agents, however, at some airports by the airport operator. Fuel services are usually levied to independent fuel companies.

Charge	Common basis for charging	Income to airport operator?
Landing	Weight of aircraft	Yes
Terminal navigation	Included in landing charge or based on weight of aircraft	Sometimes
Air-bridge	Included in landing charge or based on aircraft movement	Yes
Passenger	Departing passenger	Yes
Security	Included in passenger charge or based on passenger numbers	Yes
Parking	Weight of aircraft per hour	Yes
Ground handling	Different charges for different activities	Sometimes
Fuel	Volume of fuel	No
Government taxes	Departing passenger	No

Figure 6 Main aeronautical charges at airports. *Source: Graham, 2008*

Airports issue published charges, yet research has revealed that these offer a guideline and in many cases, the amount actually paid by the airline can be somewhat less, depending on the volume of flights and whether or not the route is a new service (Francis et al., 2003). Additionally, Graham (2008) states, that it is rare to find published data relating to handling and fuel charges as these are usually negotiable and depend on a variety of factors such as the size of the airline, scale of its operation etc.

3.4.2. The impact of aeronautical charges on airline operations

In the recent years airport charges have been of growing concern to airlines especially due to the increased competitiveness in the industry and falling yields, which have resulted in cost-cutting activities of internal activities (staff, wages etc.) that the airlines can control. However, as written in Graham (2008), airlines have also been looking at their external cost such as airport charges and demanding that airports adopt cost cutting and efficiency saving measures themselves, rather than raising their charges.

It is important to say, that airport charges are the most significant for the charter and low-cost carriers as these airlines have minimized or completely avoided some of the other costs which traditional scheduled airlines face, and also, because most low-cost airlines operate short sectors which means that they pay airport charges more frequently. On the other hand, airport charges are the least important for long-haul operators, since the charges are levied relatively infrequently. Airport costs generally represent a relatively small part, on average around four per cent of an airline's total operating costs (Graham, 2008). However, this ratio is significantly higher for low-cost airlines as Graham (2008) illustrated on an example of UK airlines: Figure no. 7 compares passenger and landing charges (thus not the total turnaround costs, however, the most significant airport charges) as a share of total cost of the airlines. It becomes apparent, that the share for regional short-haul operators (Flybe, British Midland), low-cost airlines (easyJet) and charter operators (My Travel) is higher than for long haul operators (British Airways, Virgin). For low-cost airlines, the airport charges are the third most important cost, right after fuel and aircraft leasing cost.

Figure 7 Landing and passenger charges as a share of total costs (%) 2005/06. *Source: CAA airline statistic in Graham (2008)*

An airport charging policy probably has its greatest impact on airline operations when new routes are being considered – especially when being operated by low-cost airlines or on short regional sectors: this is due to the existence of airport incentive schemes or discounts which are most likely to be offered at smaller airports that want to encourage growth and provide inducements to airlines which might otherwise not choose to use the airport (Graham, 2008). Such discounts have, in many cases, been critical factor when low-cost carriers are selecting suitable airports for their operations (in addition to sufficient demand and fast turnaround facilities) (Graham, 2008).

Apart from landing and passenger charges, as stressed out in Graham (2008), ground handling activities at airports are very important to airlines as they have an impact both on an airline's cost and the quality of services provided to their passengers. This may more apply to full service carriers, as they are keener on quality of the services.

3.5. Airport – airline relationship model

Airports and airlines are the most prominent and important exchange partners within the aviation industry (Goetsch and Albers, 2007)

Having discussed the specifics of airport industry in the previous subchapters, I will now turn to the business relationship between airports and airlines, the two most important elements of air transport industry. The high interdependency of airport-airline interface can

lead to a mutually supportive relationship or may result in tensions and pose difficulties for both actors strategic and operational development. In this subchapter, I will present the model of airport – airline relationship as it was introduced by Goetsch and Albers (2007).

The model of the airport – airline relation, provides and understanding of the relevant elements of this relationship and offers insights in their interaction. The model should be beneficial as both a diagnostic tool which enables analysis of the existing relationship and a tool to develop courses of action for improving the relationship based on the dependencies proposed in the model.

The model constructed by Goetsch and Albers (2007) is based on an interaction model between a buyer and a seller and includes the following dimensions: Environment, Actor Characteristics, Atmosphere, Interaction Process and Strategic Outcome. Figure 8 provides a graphic interpretation of Goetsch and Alber's model.

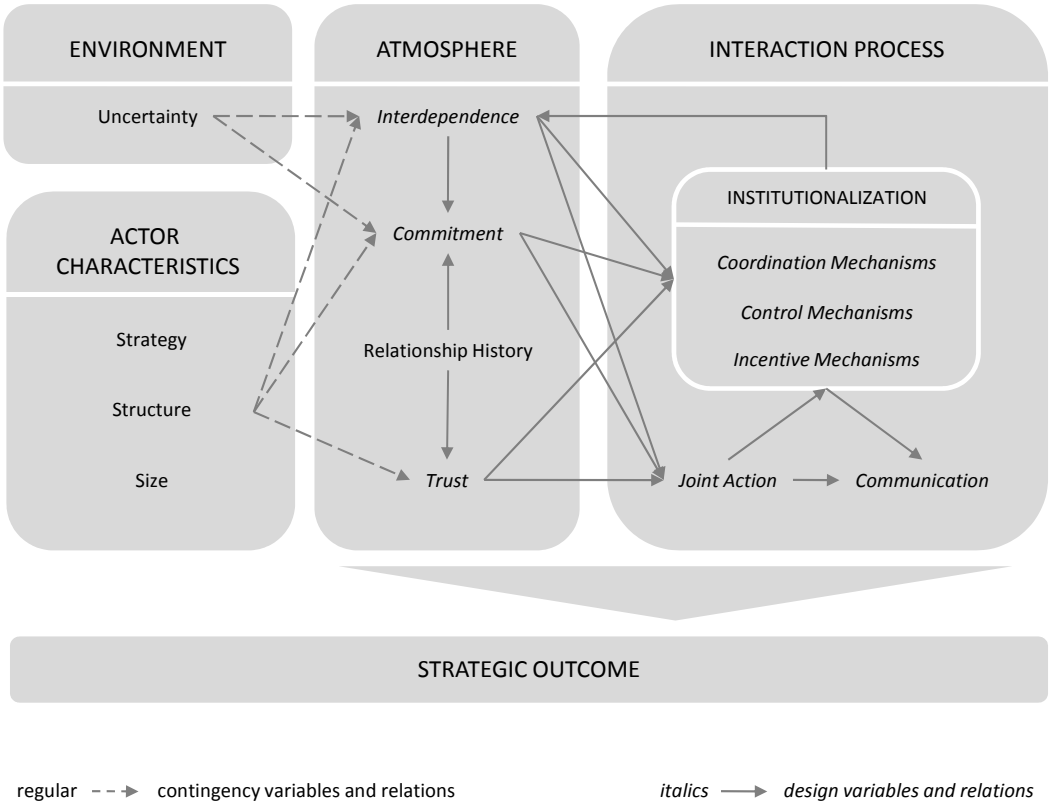

Figure 8 Extended interaction model including elements and variables *Source: Goetsch and Albers, 2007*

Furthermore, there are two types of variables affecting the interrelationship: (1) ***contingency variables***, i.e. variables which influence the relationship, but which cannot be actively

influenced by management decisions, and (2) ***design variables,*** variables which can be directly influenced by management decisions, thus offer opportunities to shape the nature of the relationship.

Environment

The external environment, especially the level of environmental uncertainty, influences the airport – airline relationship in the following way: highly uncertain environments hinder the formulation of complete contracts and lead to increase in value of existing relationships because alternative exchange partners are either scarce or not willing to engage into long-term relationships due to uncertainties.

Actor Characteristics

The main characteristics of the actors, i.e. airports and airlines, are size, structure and strategy.

The *size* of an organization affects the airport – airline relationship, as in general a larger firm has a greater bargaining power that a small firm, however, this is not necessary true for the airport-airline relationship as will be shown in an example below. Large airports are in a better negotiation position than small airports, as size indicates a large and economically powerful catchment area which is therefore sought after by the airlines, and the same holds for large airline companies which can almost dictate the conditions towards regional airports (e.g. Ryanair and Frankfurt Hahn).

Structural features, such as heterogeneity of airport's customers are an important indicator of the organization's negotiating position. There is a high interdependence between a hub airport and a hub airline, whereas the airport is less dependent on non-hub airlines. Thus, as indicated above, in the case of a hub airport, which is dominated by one airline, the size of such airport is not a reliable predictor of the relationship between the actors.

Next, it is the *strategy* of the actors that has a significant impact on their interrelationship. There are three main business models for both airports and airlines: major hub airports, secondary airports and regional airports, and major hub carrier, low-cost carrier and regional carrier, respectively. The demand for airport services differs significantly between full service and low-cost carriers. Because full service carriers require higher level and greater

extent of services, there tends to be much more contact between a full service carrier and the airport, which together with the fact that quality of the service has a greater importance to full service carriers than in does to low-cost carriers leads to increased level of commitment between a full service carrier and the airport. Moreover, low-cost carriers are more flexible in switching the destination airport as they usually operate on a point-to-point basis, whereas on the other hand, full service carriers usually operate a more sophisticated hub-and-spoke system with interdependent flights which makes it less flexible to change the partner airport. This fact has a direct effect on the level of interdependence between the actors.

The level of interdependence, in turn, is moderated by the level of utilization of the respective airport. An empty airport depends heavily on the traffic from the airlines whereas busy airports have a stronger bargaining position.

Atmosphere

The model describes the relationship atmosphere along the dimensions of interdependence, relationship history, commitment and trust.

Interdependence involves bilateral dependence or a form of reciprocity. Because interdependence implies a mutual dependence by the actors in question, there is a possibility of retaliation in case of defection by one party, which reduces the risk of opportunistic behaviour. The presence of interdependence in an exchange relationship implies that own activities which are necessary for the organizations' successful operations will be hindered by an underperforming transaction partner while on the other hand, a non-defecting behaviour supports a positive perception of the partner (sign of trust, commitment) thus can encourage mutual cooperation. The interdependence is also reflected in the institutionalization of the actors' relationship, i.e. the governance structure (control, coordination, incentives). As the degree of interdependence between two organizations increases, the use of more complex performance measures will increase, the involvement of higher hierarchical levels of both organizations can be expected, and more complex modes of coordination should be employed (a shift from occasional communication to more formal structures, such as project teams, standardization, direct supervision). Furthermore, there are incentive mechanisms, which are used as a complement to control and coordination mechanisms to govern inter-organization relationships. Important categories of these incentive mechanisms are relationship specific investments. In the aviation context, there are

various forms of specific investments on both sides, e.g. airports may adapt their infrastructure to carriers' needs. Another example of an incentive mechanism is the design of specific payment and compensation schemes; however, the authors stress out that this supportive character is most effective in balanced relationships because if one actor were more dependent on the other, conditions and behaviour could be influenced directly and more easily. If the relationship were unbalanced, the airline would either not be receptive to such manipulation since it is in a position that allows for retaliation (withdrawing from the airport) or not be receptive to such manipulation because it lacks the importance for the airport to provide individualized charges. The authors of the model propose, that the airport user charges can only be used as an incentive mechanism in airline – airport relationships that are characterized by a high degree of interdependence.

Relationship history is another important variable in the model. It is necessary to distinguish between the effects of past experience and duration on the relationship history. While the past experience (such as successful projects) increases the tendency to expand joint activities, with the course of the relationship the level of trust increases. Thus the relationship history moderates the relationship between trust and joint actions or institutionalization, respectively, and due to past experiences also influences the level of commitment.

Commitment, which describes the desire to continue the relationship and to work for its stability, should be positively related to the level of joint action (cooperation) within a relationship. Commitment can be demonstrated by long-term contracts between the actors as in most cases they enjoy the advantage of reduced uncertainty. Airlines benefit from an extrapolation of current conditions (e.g. regarding airport charges) and airports assure traffic and passenger volume to cover infrastructure investments. Additionally, commitment is reflected in a higher level of institutionalization of the relationship. This statement is supported by the fact, that in general, the set up of dedicated and efficient governance structure is costly and therefore only justified in the interactions within the relationship are frequent and recurrent.

Trust is the willingness to rely on a partner and have a confidence in him. There is a) a positive relationship between trust and joint actions (trust as a motivation for increasing levels of joint actions), and b) a negative relation to controls effort in a relationship (trust leads to mutual expectation that the exchange partner will act in each other's interest thus

monitoring activities within the relationship become less distinct).

Interaction Process

Institutionalization can be conceived along the dimensions of coordination, control, and incentives and materialize in the respective mechanism. Equity participation is a means of control and an incentive mechanism in inter-organizational relations. There are several consequences to taking the exchange partner's equity: on one hand it is a signal of commitment, on the other hand it means control rights thus, equity integration increases the level of commitment, mutual equity linkage is positively related to interdependence and unidirectional financial linkage is negatively related to interdependence.

The level of cooperation (joint actions) among the partners is a further variable in the interaction process among the actors. Joint actions can include e.g. joint planning or forecasting, joint decision-making, or joint financial projects. The degree of institutionalization and communication are positively related to the level of cooperation among the partners: as the joint actions increase, the level of institutionalization and communication increases. This is due to the fact, that as the level of joint actions increases, the need for comprehensive coordination mechanisms is a logical consequence.

Strategic Outcome

Both parties, an airport and an airline, enter into the airport – airline relationship for their own benefit. However, the relationship can used to obtain additional, strategic benefits for both parties: profits that result from the dyadic collaboration, as opposed to the profits earned by the efforts of one firm alone. These profits are not a sum of the two parties' individual profits, but profits that result form the interdependence.

This model, introduced by Goetsch and Albers (2007), of the interface between airports and airlines, provides and analysis tool of the relationship. However, taking the low-cost carriers into account, the authors conclude that it remains unclear whether due to the different demand the LCCs have in relation to airports different relationships are included too. The specific impacts of LCCs on the airport – airline relationship are discussed in the next subchapter.

Low-cost airline definition (Spruit, 2003)

Low-cost airlines (or low-cost carriers = LCC) are airlines that are profiling themselves in their strategy as a company that via relative simple, standardized production processes and means of production tries to keep the cost structure of the company as low as possible. They are also known for making full use of the mechanism of price elasticity. The best-known model is that of Southwest Airlines (United States), which is also known as the mother of the low-cost model. Southwest only uses small or regional airports. Contrary hereto, in Europe there are low-cost airlines flying to major hub airports as well (like Virgin Express and easyjet).

3.6. LCCs impact on the airport – airline relationship

The relationship between the airport operator and the airline is clearly fundamental to the success of any airport business. The changes which have occurred within the airline industry have meant that airlines, more than ever before, are trying to control their costs in order to improve their financial position in an ever increasing competitive and deregulated environment, which has an impact on the aeronautical policies of airports, and it is hardly surprising that it is the low-cost airlines that have been most active in attempting to bring down their airport costs by negotiating incentive deals at airports or operating out of secondary or regional airports which have lower charges (Graham, 2008).

The low-cost carrier sector has seen considerable growth and already in 2006 comprised 12 per cent of the world scheduled flights (Humphreys et al., 2006). In 2009, the share of low-cost carriers was boosted also by the affects of the global financial crisis which has forced also some corporate clientele (as a result of cost-cutting measures taken within the firm) to fly low-cost and reached 40 per cent at the European air passenger transport market: in 2009 European full service carriers lost 6,7 per cent passengers, while the LCCs have gained 8,7 per cent more customers (iDnes, March 2010).

The low-cost model has significantly changed the nature of the airport – airline relationship, forcing airports to negotiate contracts which significantly reduce aeronautical revenues whilst seeking to address this short fall by commercial revenues via increased passenger numbers (Humphreys et al., 2006). Whilst airports still receive aeronautical revenues, the changing airport – airline relationship has seen non-aeronautical revenue from commercial sources becoming increasingly significant (Gillen and Lall, 2004). Forecasts of further low-cost airline growth and the stagnation of traditional legacy airlines has led some to suggest

that low-cost airlines might completely change the way in which airports are utilised (Humphreys et al., 2006).

The main reason behind the impact of the low-cost model has been already indicated above: it is the flexibility of low-cost carriers to switch the destinations that gives them such bargaining power. LCCs tend to be footloose in nature and have less commitment to their route networks than legacy airlines and can change the choice of airports at short notice; this allows the airlines a tough negotiating position to help maintain their cost advantage (Humphreys et al., 2006).

As Humphreys et al. (2006) point out, airports have sometimes found it difficult to turn increased passenger volume into additional revenue and traditional airports are challenged in terms of if and how they should accommodate LCCs. Humphreys et al. (2006) list and comment on the following eight issues airport managers need to consider when accommodating LCCs:

i. ***Continual market monitoring*** – keeping the low-cost airline market under continual review and reassessing whether to accommodate LCCs or not;
ii. ***Volatile nature of the low-cost sector*** – consider volatility in both revenue streams, networks available, high number of route entries, operators going out of business or transferring operations to another airport, especially when the airport management should be considering investing into new capacity;
iii. ***Significance of the non-aeronautical revenue*** – having sufficient retail and car parking capacity to create commercial revenue streams, carefully calculate the break-even, monitor revenue streams;
iv. ***Capacity to cope with the LCCs*** – in terms of airport capacity, both terminal and runway, need for new facilities at a low-cost structure (devoid of air bridges etc.)
v. ***Tensions between incoming and incumbent airlines*** - the threat of pressure to reduce charges to existing operators when accepting LCCs;
vi. ***Need for transparency*** – especially applies to publicly owned airports where the incentives might be seen as a not permissible subsidy;
vii. ***Benefits to local economy*** – again, especially applies to public owned airports with interest in bringing benefits to the local economy, management should beware that such effects can be difficult to predict and quantify;

viii. ***Innovative/risk sharing contracts*** – the research of Humphreys et al. (2006) has revealed that a number of airports use contracts that contain clauses that relate the charges to the number of passengers carried or the number of services operated and that several airports have invested into software that enables monitoring of passenger spending by flight number. With this detailed data airport management can build up a picture of what passengers spend what, on what routes, at what times of day. As finding shows, particular routes at particular times can pay for themselves just by passenger spending.

The fact, that airports needs to find additional sources of income when accommodating LCCs who are not willing to pay the (full amount) of airport charges, can, as suggested by Spruit (2003), create the necessity for smaller regional airports to convert into low-cost airports with a 'no frills' concept. The growth of low-cost airline services has had a profound effect on secondary airports and in recent years, there is evidence that a network of scheduled services that utilize secondary airports has emerged in parallel with the traditional network of major airports, hence the expansion of the low-cost sector is seen as a way of increasing passenger numbers most notably by smaller, regional airports (Humphreys et al., 2006). In other words, the development of low-cost airports and airport facilities is largely catalyzed by the expansion of low-cost airlines: low-cost airlines come first, and the low-cost airports come afterwards (de Neufville, 2007). De Neufville (2007) provides the following examples of low-cost airlines, which have been major drivers of the development of low-cost airport: Ryanair has been the impulsion behind the development of Barcelona/Girona, Brussels/Charleroi, Frankfurt/Hahn, London/Stansted, easyJet of Manchester/Liverpool and London/Luton. For more details, refer to Figure 9.

De Neufville (2007) points out, that in the past, the development of multi-airport systems used to be typical for metropolitan areas with over 10 million departing passengers a year but now these are a feature of smaller areas also (e.g. Oslo, Budapest etc.).

Secondary airports are seen as ideal by LCCs since they typically offer the right conditions in which this specific type of carrier can prosper; namely low airport and handling charges, less congestion both in terms of the runway and surface access capacity for growth, available slots (Barrett, 2004). The lack congestion, together with work rules that permit fast turn-around times at the gate, enables low-cost airlines to increase the flying time and thus the

productivity of their aircraft, and thus lower their operating costs significantly. Low-cost airlines promote secondary airports because they are generally integral to their efficiency (de Neufville, 2007).

Metropolitan Region	Secondary Airport	Low-cost Airline
Barcelona	Girona	Ryanair
Boston	Providence	Southwest
Boston	Manchester, NH	Southwest
Brussels	Charleroi	Ryanair
Budapest	Balaton	Ryanair
Copenhagen	Malmo, Sweden	Ryanair
Dallas/Fort Worth	Love	Southwest
Frankfurt	Hahn	Ryanair
Glasgow	Prestwick	Ryanair
Hamburg	Lübeck	Ryanair
Houston/Galveston	Hobby	Southwest
London	Stansted	Ryanair
London	Luton	easyJet
Los Angeles	Long Beach	jetBlue
Manchester (UK)	Liverpool	easyJet
Manila	Clark	Air Asia
Melbourne (Australia)	Avalon	Jetstar
Miami	Fort Lauderdale	Southwest
Milan	Orio al Serio	Ryanair
New York	Islip	Southwest
Orlando	Sanford	Allegiant
Oslo	Torp	Ryanair
Paris	Beauvais	Ryanair
Rome	Ciampino	easyJet, Ryanair
San Francisco	Oakland	Southwest
Stockholm	Skvasta	Ryanair
Vancouver	Abbotsford	Westjet
Venice	Treviso	Ryanair

Figure 9 Low-cost Carriers Preferentially Serve Secondary Airports in a Metropolitan Region.
Source: de Neufville, 2007

3.6.1. Specifics of low-cost airports

As de Neufville (2007) confirms in his study, low-cost airlines have become significant drivers of airport planning and being a sizeable participant of the air transport industry, they are influencing the airport design and their different needs (relative to full service carriers)

lead to the creation of "low-cost airports for low-cost carriers around the "legacy main airports" build to serve the "legacy airlines". However, de Neufville (2007) stresses out that the core element is to build "real options" into the design (apply flexible design), which will allow the airport owners to match the development to the way the traffic demands evolve in the coming years and decades. This subchapter examines the business model of low-cost airports and their competitive positions in relations to major airports.

Business model for low-cost airports

Mirroring the difference between low-cost and legacy airlines, low-cost airports emphasize profitability through operational efficiency and minimal frills, thus the business model for low-cost airports is distinct from that of the traditional major airports (de Neufville, 2007). Most obviously, low-cost airports avoid grandiose signature architects buildings, use space effectively, provide lower level of services and do not build vast commercial (shopping) areas.

Airport terminals of low-cost airports are simple designs, as low-cost airlines simply do not intend to pay for architectural showcases through the high airport charges associated with them. The simple architecture of low-cost airports allows the low-cost airlines to avoid the amortization and operation cost that legacy carries operating from fancy terminals are charged. For example, this cost is around GBP 10 to 15 (EUR 11 to 17) per passenger for airlines operating out of Terminal 5 at London/Heathrow (de Neufville, 2007).

The *interior spaces* of low-cost airports reflect the performance standards of the low-cost airlines, which use space more intensively (higher densities of passengers per unit of area) and process passengers more quickly (turn-around time of around 30 minutes instead of the more standard hour) (de Neufville, 2007). As a result of these characteristics/requirements of LCCs, the low-cost airports will not have individual gate lounges but shared hold rooms instead and thanks to faster turn-around time will need fewer gates for a given number of daily flights. Thus, the low-cost airports will have lower service levels in terms of space per person at any time, and overall higher annual capacity per square meter of space (de Neufville, 2007).

Low-cost airports will not create large amounts of expensive *commercial space,* even though, as indicated above and stated for example by Francis et al. (2004), retail activities

can be important sources of revenue for low-cost airports. Building and operating commercial space on airports can be particularly expensive (de Neufville, 2007). As de Neufville (2007) suggests, the economic rationale for building airport terminals as shopping arcades is not clear: "is one thing to stuff an otherwise empty space with shops, as has been widely done in the existing terminals at main hub airports, for example at London/Heathrow. It is quite another to spend around GBP 4.3 billion (around EUR 4.9) on Terminal 5 at Heathrow, much of which is designed around multiple shopping floors." The cost of developing low-cost airports has been minimal – in contrast to that of a new or expanded traditional major airport that cost several billions of dollars, euros or pounds, low-cost airports have almost been free, due to the fact that obsolete or abandoned military and other airfields are plentiful (de Neufville, 2007).

Competition with the primary hub airports

Low-cost airports largely develop in competition with major airports, either as secondary airports in a metropolitan area, or as distributed destinations that by-pass the metropolitan hub (de Neufville, 2007). According to de Neufville (2007), there are three ways in which the low-costs airports compete with the primary airports:

1. *An alternative to the major hub.*

   A secondary airport provides an alternative to the major hub and can be more convenient for some users (e.g. London-Stansted for travellers from Northeast of London) and can provide a less expensive range of services (e.g. parking).

2. *Opportunity to by-pass the hub.*

   The low-cost airports offer the opportunity to by-pass the hubs. De Neufville gives and example of Londoners who are interested in going to the south of Spain: they can fly with Ryanair directly to Jerez, and avoid passing through Madrid as they would ordinarily have to do on a legacy airline such as Iberia. Other example is flying to Carcassonne in France while avoiding travelling through Paris or Toulouse.

3. *Parallel routes.*

   Jointly, the low-cost airlines and the low-cost airports compete against the routes of the legacy airlines and the major hubs. E.g. Ryanair provides service between London, Brussels, Frankfurt and Barcelona – using the low-cost airports of Stansted, Charleroi,

Hahn, and Girona.

As low-cost airlines expand and low-cost secondary airports along them, the market share of the main airports in a metropolitan area, where the secondary low-cost airport competes with the main hub, is reduced (illustrated in Figure 10). The impact of this competition on the specific routes served by low-cost carriers can be much stronger (Barrett, 2004).

Metropolitan Region	Primary Airport	Market Share (%) 1994	2004
Boston	Logan	90	72
Brussels	Zaventam	99	90
London (UK)	Heathrow	65	53
Miami	International	69	56
Rome	Fiumicino	99	91
San Francisco	International	68	58

Figure 10 Example of Market Share Drops for Primary Airports Associated with Rise of Low-Cost Carriers. *Source: de Neufville, 2007.*

De Neufville (2007) suggests that the low-cost airports will further expand at the expense of the legacy airports, just as low-cost airlines do at the expense of the legacy carriers.

4. Regional analysis: air transport at the Czech market

The purpose of this chapter is to provide an overview of main airports operating in the Czech Republic, their classification, basic information including list of airlines and routes served from the airports. The most important airports of the Czech Republic in terms of both international and domestic air transport are publicly owned (either at the state or regional level). The state's civil aviation central administration body is the Ministry of Transport of the Czech Republic, which controls the Civil Aviation Authority of the Czech Republic (Úřad pro civilní letectví) and the Air Navigation Services of the Czech Republic (Řízení letového provozu – RLP). A full scheme of the structure of the civil aviation in the Czech Republic is available in Appendix 1.

Brief overview of main domestic airlines:

České aerlonie (ČSA) – Czech Airlines

CSA is Czech Republic's flagship airline, founded as a state owned enterprise in 1923. Today, the state ownership of the Czech Republic is 91,51 per cent. The airline was meant to be privatized in 2009 but the privatization fell through. CSA is a member of SkyTeam, and was rewarded the best airline in CEE in the past three years (World Airline Awards – WAA). Traditionally no. 1 carrier (in terms of passengers) at the Prague Airport. In 2009 carried 4.7 million passengers, majority of which were on scheduled flights, one fifth were charter flights. CSA's fleet comprises of 49 aircrafts. CSA flies to 104 destinations in 44 countries. In 2009, CSA was in red numbers: loss 3.7 billion CZK (145 million EUR). CSA is managed by the same CEO as the Prague Airport (Miroslav Dvořák). Restructuralization process has been approved by the government in 2010, organizational restructuring into holding and daugther companies should take place.

Travel Service

Travel Service Airline was established in 1997. Travel Service is the biggest Czech private air carrier and one of the fastest growing charter airline companies in Central Europe. Since 2004, it has been operating regular low-cost flights in Europe under the "Smart Wings" brand. Travel Service Airline flies to more than 250 airports worldwide throughout the year. In 2009, Travel Service Airline transported 2.7 million passengers not only in the Czech Republic but also in Hungary (Travel Service Kft). Travel Service's fleet comprises 20 modern aircrafts. Member of Iceland Air Group. Currently no. 2 at the Prague Airport. Travel Service is profitable and in 2009 bid for CSA in the announced privatization which did not take place after all.

4.1. Airports in the Czech Republic

The Aeronautical Information Service by the Air navigation services of the Czech Republic uses the following grouping of aerodromes/heliports in the Czech Republic:

1. *Primary/major international aerodromes/heliports – public*

   Aerodromes/heliports of entry and departure for international and domestic air traffic, where all formalities concerning customs, immigration, health, animal and plant quarantine and similar procedures are carried out and where air traffic services are available on regular basis.

2. *Other international aerodromes/heliports – public*

   Other aerodromes/heliports available for entry or departure of international and domestic air traffic, where the formalities concerning customs, immigration, health and similar procedures and air traffic services are made available, on a restricted basis, to flights with prior approval of aerodrome operator.

3. *International aerodromes/heliports – private*

   Aerodromes/heliports available for entry or departure of international and domestic air traffic for designed users. These aerodromes are marked by letter 'P' in the Index to Aerodromes (Appendix 2a). The permission to use them can be obtained from aerodrome operator.

4. *Domestic aerodromes/heliports*

   a) Domestic aerodromes/heliports – public

   The aerodromes/heliports available for domestic air traffic.

   b) Domestic aerodromes/heliports – private

      The aerodromes/heliports available for domestic air traffic for designed users. The other aircraft operators shall obtain permission for landing at these aerodromes from aerodrome operator in advance.

To view the full list and map of all aerodromes/heliports in the Czech Republic, please refer to Appendix 2a and 2b. There are 89 civil airports in the Czech Republic. In total 20 airports are permitted to international traffic the majority of which are private airports.

The ***Prague Airport*** traditionally holds the most important place among the airports in the Czech Republic. The majority of both passenger and cargo traffic is realized at the Prague Airport: approximately 92 per cent of total passenger traffic and 82 per cent of air cargo (calculated from data available at the Czech Statistical Office and Prague Airport, 2008). Besides the Prague Airport, there are four significant ***regional airports*** (Brno, Ostrava, Karlovy Vary and Pardubice), the rest are smaller airports, including airports dedicated to aero clubs and aero sports. The domestic air transport is only 1 per cent of the total civil transport (Czech Statistical Office, 2008).

Regional airports are public domestic or international airports, owned by the region, city or privately, with the state acting as the regulator. These airports have the necessary navigation utilities and runway system and can provide the necessary services to both airlines and passengers. Charter flights have the largest proportion on the total passengers at the regional airports. The regional airports are not very profitable but they are an important factor of the region's infrastructure and bring secondary revenues to the region from tourism (Ministry of Transport). However, in recent years all larger regional airports are facing growing demand for air transport, civil and/or cargo. Some airports reach YoY growth of 30 per cent (Pardubice Airport) and there are cases, where the YoY growth reached 100 per cent (Karlovy Vary Airport) (Ministry of Transport). The Ministry of Transport expects that the demand will be saturated over time and the growth rates will reach the central European trend of around 8 per cent YoY growth.

The airports in Brno, Ostrava and Karlovy Vary were until 1 July 2004 owned by a state owned enterprise (Česká správa letišť); currently, they are owned by the respective regions, which means that they are still in public ownership. However, the airports are run by private companies. Shifting the ownership from the state to the regions allowed more effective management of the regional airports and access to European Union funding (Ministry of Transport).

As of 21 December 2007 the Czech Republic became part of the Schengen area, while the customs and passport controls at international airports remained until 30 March 2008 (Ministry of the Interior of the Czech Republic). Joining the Schengen area meant transformation of the terminals as well as the passport and customs controls to allow for separate flow of Schengen and non-Schengen inbound and outbound travellers. At all regional airports the necessary adjustments were achieved by construction of new buildings

and terminals and connecting them to existing infrastructure. All regional airports meet the Schengen standards and can accommodate flights from both Schengen and non-Schengen area.

As indicated above, the largest (in terms of passenger traffic) and most important international civil airports are the Prague Airport and the regional airports Brno-Tuřany, Ostrava, Karlovy Vary and Pardubice. These will now be examined in greater detail.

4.1.1. Prague Airport - Letiště Praha – (IATA/ICAO code: PRG/LKPR)

Czech Republic's largest international civil airport is located in the centre of the western part of the country, right outside the country's capital city Prague. The Prague Airport is operated by a joint stock company Letiště Praha, a.s., The company has a sole shareholder: the Czech Republic represented by the Ministry of Finance. Prague Airport was established on December 1st, 2008 as a transformation of the state enterprise Správa Letiště Praha, s.p. The airport started its operations already in 1937. There are about 2,300 employees at Prague Airport; the company profit amounted to more than one billion CZK in 2007 (Letiště Praha, a. s.).

The Prague airport, in terms of dispatched passengers, is the largest airport of the new EU countries and is the second largest airport in the CEE region (after Vienna's airport). Thanks to is location in the heart of Europe, Prague Airport is also becoming increasingly important as a transit hub: the ratio of transiting passengers (to total passenger numbers) increased from 19.5 per cent in 2008 to 23.1 per cent in 2009 (Prague Airport). Long-term growth has been fuelled by the Czech Republic's accession to the European Union in 2004 and its consecutive admission to the Schengen area. In 2009, the airport was awarded as the best airport in Eastern Europe within the World Airport Awards and in 2010 in was placed 15th in Europe (Prague Airport).

In 2008, Prague Airport handled a record 12.6 million passengers, in 2009 it was 11.64 million passengers which is 7.8 per cent less than in 2008 (Prague Airport). However, January YoY numbers already show a 5.5 per cent increase and the Prague Airport expects the 2010 outputs to be similar to those of 2008. In 2009, total aircraft movements were 164 thousand, which is 8.3 per cent less than in 2008 (Prague Airport). In the year 2009 one-off issue influencing the airports outputs occurred – bankruptcy of SkyEurope, formerly a number two carrier at the airport in terms of passenger numbers (in 2008, SkyEurope had 8

per cent share at the Prague Airport). See Figure 11 for details regarding Prague Airport's operational performance from the year 2000 until 2009.

Year	Movements (aircraft landing/take-off)	Dispatched passengers
2000	94,117	5,553,532
2001	97,542	6,098,742
2002	103,904	6,314,653
2003	115,756	7,463,120
2004	144,962	9,696,413
2005	160,213	10,777,020
2006	166,346	11,581,511
2007	174,662	12,436,254
2008	178,628	12,630,557
2009	164,000*	11,643,366

*approximation

Figure 11 Prague Airport Operational Performance, 2000 – 2009. *Source: Prague Airport*

As illustrated in Figure 12, the catchment area of the Prague Airport is population of 2.4 million within 60 minutes (radius of circa 120 km), 4.2 million within 90 minutes (radius of circa 150 km) and 7.9 million within 120 minutes (Prague Airport).

Figure 12 Catchment area *Source: Prague Airport*

These numbers seem to be a little exaggerated, as for example travelling from Prague to Ceske Budejovice, which is supposed to be in the catchment area of 90 minutes more

realistically takes 120 minutes, and to Olomouc, which is supposed to be in the catchment area of 120 minutes takes 160 minutes[1].

The Prague Airport is a modern airport with three passenger-handling terminals with a capacity of 15.5 million passengers (Prague Airport). Terminal 1 is dedicated for non-Schengen area flights, Terminal 2 to Schengen area flights and Terminal 3 to general aviation. The main terminals are Terminal 1 and 2, with 27 and 26 gates, respectively. Most gates (33 in total) have air-bridges. In terms of luggage equipment, both terminals can handle up to approximately 3000 items per hour. The passenger terminals offer several shopping areas, restaurants, cafés and other services.

Airlines and routes

Currently (summer season 2010), there are 50 airlines operating at the airport, connecting Prague to 131 destinations. In 2009, scheduled routes accounted to 87.5 per cent of the traffic charter flights for 12.5 per cent. The full service carries captured 74 per cent of the scheduled traffic, low-cost carriers 26 per cent (Prague Airport). The low-cost sector is the most dynamic growing sector at the Prague Airport.

Czech Airlines (CSA) with almost half of the market share (42.8 per cent in 2009) is traditionally the largest carrier at the Prague Airport. The other large carries are Travel Service, easyJet and Lufthansa.

easyJet, the third largest carrier at the Prague Airport, has recently expanded its operations at the Prague Airport by opening three new direct routes this spring (2010) to Paris, Doncaster and Amsterdam, which meant a 50 per cent increase of its operations (from 34 to 51 flights a week) (Prague Airport). Compared to the average aircraft utilization (occupation) of the carriers at the Prague airport, which is 60 per cent, easyJet reaches an average occupation of 85 per cent (iDnes, 29.3.2010). However, easyJet cancelled some routes in the past (e.g. Geneva, Dortmund, Newcastle) and this expansion means a return to its past passenger volumes (iDnes, 29.3.2010). In 2010, easyJet expects 375 thousand passengers on its Prague flights (Prague Airport).

Full overview of carriers operating at the Prague Airport and its destinations is available in Appendix no. 3.

[1] For the route calculations the route planner at www.mapy.cz was used.

Passenger profile

The most passenger fly to destinations in Europe (90.5 per cent in 2009), with the following top five destination countries, which together account to 42 per cent of total passenger traffic: 1. United Kingdom (1.4 million passengers in 2009), 2. Germany (1 million passengers in 2009), 3. Italy (869 thousand passengers in 2009), 4. France (818 thousand passengers in 2009), and 5. Spain (742 thousand passengers in 2009), see Figure 13 for graphical interpretation. The top five destinations Paris, London, Frankfurt, Moscow and Amsterdam account for 19 per cent of the total passenger traffic. The biggest YoY increase in 2009 of passengers was on the route to Tel Aviv (13.3 per cent) (Prague Airport).

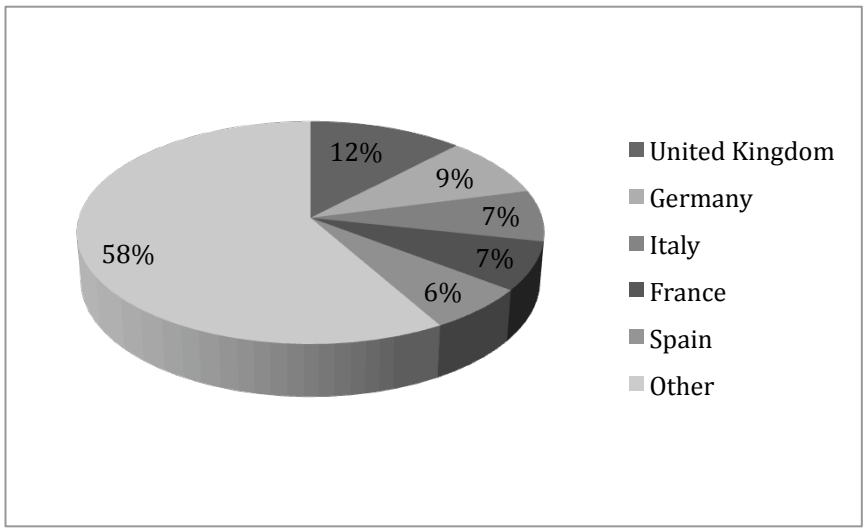

Figure 13 Passengers by destination, 2009. *Source: Prague Airport.*

The majority of Prague Airport's passengers are persons with residence in the Czech Republic (71 per cent) and the majority travels privately (67 per cent), the rest for business purposes (33 per cent) (Prague Airport, 2008 data).

Airport charges[2]

The airport's landing and parking charges are based on MTOW. The parking charge consists of a flat charge and charge based on MTOW; flat charge increases with weight but the charge per tonne MTOW decreases. The Prague Airport offers an off-peak discount of 50 per cent on landing fees for all flights between 07:45 and 08:45 and between 12:45 and 14:30 local time. The airport offers 2 hours free of charge and cheaper parking in remote

[2] Source: Prague Airport

positions. See Figure 14 for overview of Prague Airport's landing, parking and passenger charges.

Landing charges	CZK 1,953 flat rate for A/C up to 9 t MTOW For A/C over 9 t MTOW various flat rates (CZK 2 ths to CZK 17.6 ths) plus charge per t MTOW
Parking charges	Contact stands: CZK 16.20/hour/t MTOW – day (0500 – 1900)CZK 10.80/hour/t MTOW – night (1900 – 0500) Remote positions: CZK 13.20/hour/t MTOW – day (0500 – 1900) CZK 9/hour/t MTOW – night (1900 – 0500)
Passenger charges (incl. passenger security charges)	CKZ 525 per departing passenger CZK 190 per transfer/sightseeing flight passenger

Figure 14 Airport charges *Source: Prague Airport*

Additionally, the airport has air-bridge charges, bus services charges, and noise charges. Air-bridge charge is differentiated based on number of aircraft seats: for aircrafts up to 200 seats the charge is CZK 2,200 per 120 minutes and for aircrafts with more than 200 seats it is CZK 4,000 per 180 minutes. The passenger bus service to the aircraft is charged per ride and 30 minutes: CZK 490. The noise charges are based on the aircraft category as per the Noise Certificate, from CZK 5.50 per tonne for aircrafts form category one to CZK 114 per tonne for aircrafts from category five. Additionally, Aircrafts included in category 3 or worse are charged three times the rate of the given noise category from 22:00 to 6:00 o'clock.

In 2009, the Prague Airport started applying an enlarged incentive scheme to support new destinations and frequencies. For a new short-haul or medium-haul route destination, the airline receives discount on landing fees for the next three years: 95 per cent discount in the first year, 50 per cent in the second year and 25 per cent in the third year. If a new long-haul route or a new service on a discounted long-haul route is introduced, the airline receives discount on landing fees for five subsequent years: in the first three years the discount is 95 per cent, in the fourth year 75 per cent and in the last year 50 per cent. There is also a special incentive for airlines already flying to/from the Prague Airport on existing routes with aircraft with MTOW over 100 t. A 50 per cent discount applies on the landing fee for every ton over the 100 t MTOW. A discount of 75 per cent on landing fees for one year applies to the additional flights that an airline puts into operation with a respective destination to which they have already for 12 months without interruption been operating regular flights and

where the total seat capacity and total number of flights of all carriers are higher when compared to the same operating period of the year before.

Prague Airport also offers marketing support to the airlines, usually in form of co-branding.

Current issues

There are several important issues that the Prague Airport is facing at the moment. These include construction of a new runway as a response to the necessity of capacity increase and speed connection to the city centre.

There is only one adequate runway and the airport at the moment, the main runway (3715x45m) which can accommodate aircrafts of all categories. The airport has two other runways which cannot be used to increase the airports capacity for different reasons: one is also a fully equipped runway but with restrictions regulating its operations and the other is suitable only for smaller types of aircrafts, currently without a navigation services and not used for take-offs and landing (EIA – Prague Airport). Given the airport's growth, both in the number of passengers and the number of aircraft movements, the next crucial step in the development of the airport is to expand the runway system. Based on Prague Airport's studies, the demand for air transport will within seven years exceed the current airport's capacity (15.5 million passengers per year) (iHned, 18.2.2010). Prague Airport has already been planning and started preparations to build a ***new parallel runway*** for some time now to meet the increasing capacity requirements as the airport's capacity is reaching its limits. The new runway should allow the airport capacity to increase to 21.2 million passengers and 274.5 thousand aircraft movements per year which is expected to be reached around year 2020 (EIA - Prague Airport). The expected costs of the new runway are 9 billion CZK (iHned, 18.2.2010). The project of the parallel runway is currently waiting for approval by the Ministry of Environment. Figure 15 depicts the existing main runway and the projected parallel runway of the Prague Airport.

Construction of the new runway should start in 2012 and should be completed by 2014 when the new runway should be put into operations. However, there is a threat that it will be postponed; originally, the airport wanted to start constructions already in 2006 and the runway should have been operating already in 2009. At the moment the project is blocked by the City of Prague as the regional planning does not allow construction of a parallel runway until the airport is connected with the city by underground or a speed rail (iHned

29.12.2009). Additionally, expansion of the Prague Airport is facing protest from the neighbouring villages, however, as will be discussed in the next chapter, these protest are not as strong as in the case of Vodochody Airport.

The negotiations are ongoing and the aim is to exclude the condition of the speed rail from the regional planning. The City of Prague fears that the road transport would be troubled if the capacity of the airport is increased before a speed connection is build. On the other hand, the Prague Airport, who supports the project of the speed rail, believes, that it does not have to be build prior to the parallel runway. If the parties do not reach agreement, the project of expansion of the Prague Airport could be postponed until either the speed rail or the underground will be build which is expected to happen in 2017 and 2021 respectively, as indicated below.

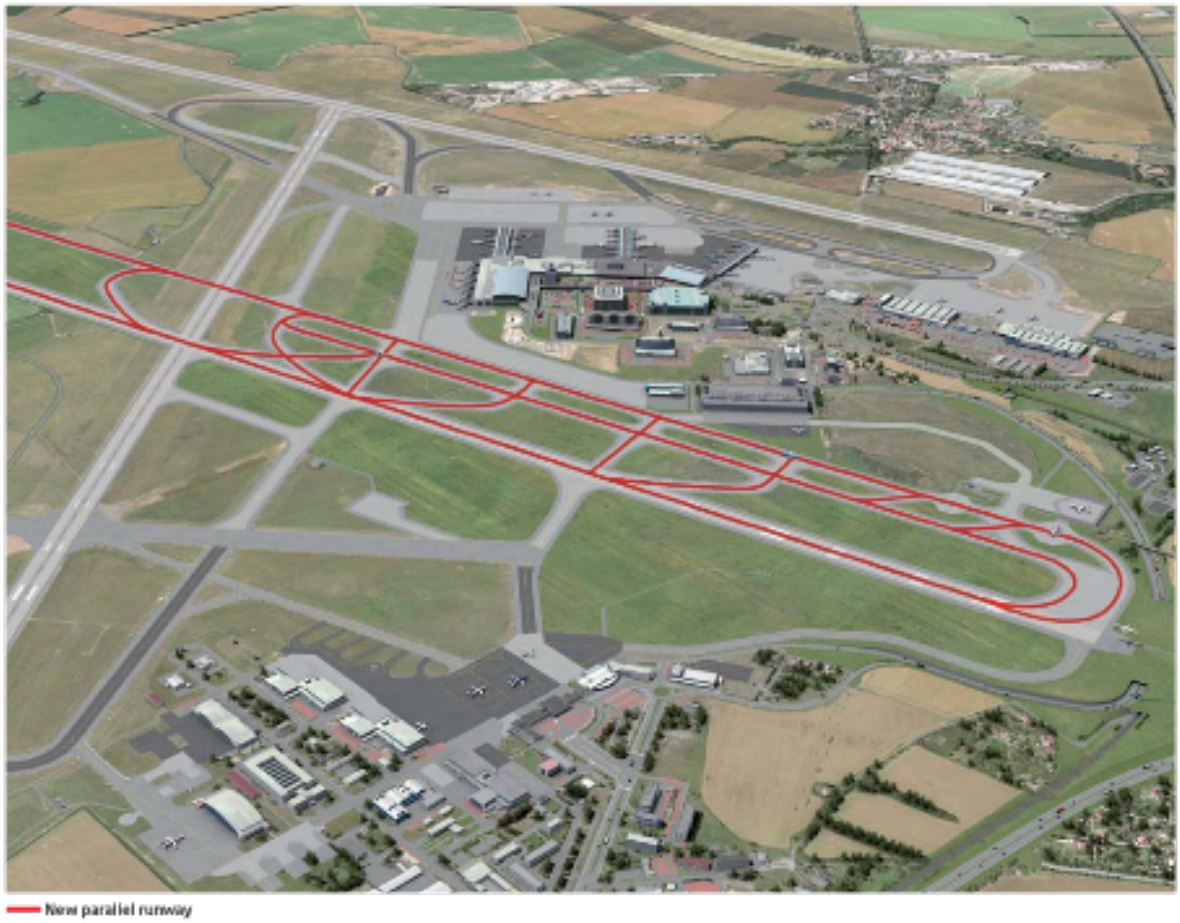

Figure 15 New parallel runway *Source: Prague Airport*

Considering that the Prague Airport is the country's main airport, the connection to the city centre is rather poor. There are public transport buses; however, they do not go to the city

centre, it is necessary to change to the underground. Other options are taxis and similar services, generally quite expensive.

A ***fast connection to the city centre*** has been discussed for a few years now. The options are extension of the existing underground line or a speed rail. Both of these plans, however, do not seem to be realized in the next coming years. According to iHned (15.12.2009), it will take at least another 8 years, even though the project of the modernization of the existing Prague – Kladno railway and building connection to the Prague Airport has been first introduced already in 1993 and was supposed to finally start in 2011 with first trains using the railway already at the end of 2013. It can be expected that the speed rail connection will not be available before 2017; the reason is insufficient budget (Ministry of Transport). Furthermore, the extension of the underground has been also proposed, however, based on current information the part to the airport will not be finished until 2021 (iHned, 15.12.2009)

4.1.2. Letiště Brno-Tuřany – Brno Airport (IATA/ICAO code: BRQ/LKTB)

The Brno Airport is located in the south-eastern part of the Czech Republic, outside the Czech Republic's second largest city Brno and is the second largest international airport in the Czech Republic. The airport operations started in 1954 as a state airport for military operations. As of 1992 the airport became a public civil international airport and already in 1995 reached one hundred thousand dispatched passengers. The airport is in public ownership of the South Moravia Region (from 1 July 2004) and is operated by a joint stock company Letiště Brno, a.s. (since 2002). The concession to operate the Brno Airport was granted to the company for 35 years (Brno Airport).

The airport's catchment area includes mainly customers from South Moravia Region, part of neighbouring regions, part of Austria and Slovakia, with a population of 2.5 million within a radius of 100 km and a population of 5 million within a radius of 150 km (Brno Airport).

The airport serves scheduled flights to Prague-PRG, London-STN, Moscow-VKO and Zadar (Croatia). The main airlines flying to this airport are Czech Airlines, Ryanair, Atlant-Souyuz Airlines, Central Connect Airlines and Travel Service. The charter destinations (holiday destinations) are numerous, especially in the summer season (e.g. Palma de Mallorca, Barcelona, Monastir, Djerba, Rhodos, Antalya, Dubrovnik, Ibiza, Tunis, Zakinthos, Corfu, Larnaca, Kos, Hurghada, etc.)

Overview of scheduled routes:

Airline	***Destination***
Ryanair	*London-Stansted (STN), UK*
CSA	*Prague (PRG), Czech Republic*
Anlant-Soyuz Airlines	*Moscow-Vnukovo (VKO), Russia*
Central Connect Airlines (Job Air)	*Zadar (ZAD), Croatia*

In 2009, the airport had accommodated 441 thousands passengers and 31 thousands aircraft movements (Brno Airport). At the Brno Airport, the most passengers are traditionally dispatched in July (83 thousand passengers on both scheduled and charter flights in 2009) (Brno Airport).

Year	Movements (aircraft landing/take-off)	Dispatched passengers
2000	6,289	112,797
2001	8,136	128,583
2002	12,620	157,257
2003	16,596	166,142
2004	17,823	171,888
2005	16,126	315,672
2006	20,105	393,686
2007	22,893	415,276
2008	29,303	506,174
2009	30,513	440,850

Figure 16 Brno Airport Statistics (2000 – 2009). *Source: Brno Airport.*

As other regional airports, the Brno Airport faced a decrease of passengers and air transport in 2009, especially the scheduled traffic. The total decrease in passenger volume was by 13 per cent, while the scheduled traffic fell by 24 per cent (to 166 thousand passengers), caused mainly by Ryanair's cancellation of a number of flights in spring 2009 (due to delays in aircraft delivery) and then lowering the flight frequency on the route Brno-London to four in a week in fall 2009, which led to the lowest number of number of passengers on this route since 2005 when decreasing to 101 thousand passengers, a 15 per cent decrease relative to 2008 (Brno Airport and E15, 30. 3. 2010). On the other hand, the route Brno-Prague became more popular in 2009: an increase by 18 per cent compared to 2008 (2009: 43 thousand travellers, 2008: 36 thousand travellers) caused especially by increasing the frequency to four times a day as of fall 2008 (Brno Airport). There was a 5 per cent increase on the route Brno-Moscow, from 21 thousand passengers in 2008 to 22 thousand passengers in 2009 (Brno Airport). The charter transport decreased by 4 per cent (to 275 thousand passengers) relative to 2008 (Brno Airport).

Airport charges[3]

Landing charges	CZK 300 per tonne MTOW CZK 150 per tonne MTOW for scheduled traffic
Parking charges	2 hours free of charge (Cargo A/C 3 hours free) CZK 14/hour/t MTOW – day (0500 – 1900) CZK 7/hour/t MTOW – night (1900 – 0500) Cargo A/C CZK 7/hour/t MTOW Special rates for long term parking
Passenger charges (incl. passenger security charges)	CKZ 370 per departing passenger CZK 185 per departing passenger for scheduled traffic Transit passengers: N/A

4.1.3. Letiště Leoše Janáčka Ostrava – Leos Janacek Ostrava Airport (IATA/ICAO code: OSR/ LKMT)

The city of Ostrava, where the airport is located, is situated in northeast of the Czech Republic, at the border with Poland and the Slovak Republic. The Leos Janacek Ostrava Airport (until 2006 called Ostrava-Mošnov) is the third largest airport of the Czech Republic and has started its civil operations 50 years ago (in 1959). The airport is in public ownership of the Moravian-Silesian Region (as of 1 July 2004) and is operated by a joint stock company Letiště Ostrava, a.s.

Overview of scheduled routes

Airline	***Destination***
CSA	*Prague (PRG), Czech Republic*
Aeroflot Russian Airlines	*Prague (PRG), Czech Republic*
Central Connect Airlines (Job Air)	*Vienna (VIE), Austria*
	Split (summer only) (SPU), Croatia
	Zadar (summer only) (ZAD), Croatia
Austrian Airlines	*Vienna (VIE), Austria*

The Ostrava Airport serves scheduled flights to Prague (Czech Republic) and Vienna (Austria), and in the summer season also to Split (Croatia). There is also a regular charter route to Tel Aviv (Israel) and in the summer season there are a number of charter flights to the holiday destinations such as Spain, Greece and Bulgaria. The main airlines operating at the Ostrava Airport are Czech Airlines (CSA), Aeroflot Russian Airlines, Central Connect Airlines, SmartWings and Travel Service.

In 2008, the airport accommodated 354 thousand passengers and 17 thousands aircraft movements (Ostrava Airport). Out of the 354 thousand passengers, approximately one third

[3] Source: Brno Airport

is scheduled transport and two thirds are charter flights. In 2009, there was a decrease by 13 per cent in the passenger numbers and similar decrease is expected for 2010 (E15, 30. 3. 2010). Based on E15 (30. 3. 2010), this decrease is related mainly to lower demand for holiday destinations thus decrease in charter flights.

Year	Movements (aircraft landing/take-off)	Dispatched passengers
2004	13,110	216,259
2005	16,306	265,864
2006	16,096	300,735
2007	15,944	332,266
2008	17,167	353,737
2009*	16,200	305,000

*approximate numbers

Figure 17 Ostrava Airport Statistics (2004-2009). *Source: Ostrava Airport*.

4.1.4. Letiště Karlovy Vary – Karlovy Vary Airport (IATA/ICAO code: KLV/LKKV)

The town of Karlovy Vary is situated in the west part of the Czech Republic, approximately 120 km west from the capital Prague. The Karlovy Vary Airport started domestic air transport operations already in 1931 and in 1936 the airport was enlisted into the European airport network (Karlovy Vary Airport). The airport is in public ownership of the region Karlovy Vary (as of 1 July 2004), the operator is a limited liability company Letiště Karlovy Vary s.r.o. In 2006, a reconstruction of the existing runway and modernization of its supporting facilities (such as the flash lightning system) took place. In 2008, the existing terminal was modernized to accommodate the needs of the Schengen agreement and later a new terminal was constructed. The new terminal was opened in May of 2009 and will allow the airport to dispatch up to 500 thousand passengers per year (iHned, 6. 2. 2009). See Appendix 4 for visualisation of the new terminal building.

The airlines operating at the Karlovy Vary Airport are Czech Airlines (CSA), Aeroflot Russian Airlines and Travel Service. There are both scheduled and charter flights operated from the airport. The scheduled routes are to Prague-PRG (Czech Republic) operated by CSA, St. Petersburg-LED (Russia) operated by CSA and Moscow-SVO (Russia) operated by both CSA and Aeroflot. The charter routes are to a holiday destination: Antalya-AYT (Turkey), operated by Travel Service.

Overview of scheduled routes

Airline	***Destination***
Aeroflot Russian Airlines	*Moscow (SVO), Russia*
CSA	*Moscow (SVO), Russia*
	St. Petersburg (LED), Russia
	Prague (PRG), Czech Republic

There were almost 8 thousand aircrafts movements at the Karlovy Vary Airport and the total dispatched passenger number was 68 thousand in 2009 (including transiting passengers), which is 16 per cent less than in 2008 (2008: 82 thousand dispatched passengers) (Karlovy Vary Airport, see Figure 18). Since the decrease was caused especially by decrease in charter flights and the passenger numbers on the two Russian routes decreased insignificantly, it is expected that the results of 2010 will not vary much from 2009 numbers (E15, 30. 3. 2010).

Year	Movements (aircraft landing/take-off)	Dispatched passengers
2000	4,285	19,919
2001	3,398	21,748
2002	3,630	19,168
2003	5,428	25,805
2004	6,617	38,704
2005	7,865	37,313
2006	5,111	34,975
2007	6,801	64,641
2008	5,575	81,720

Figure 18 Karlovy Vary Airport Statistics (2000 – 2009). *Source: Karlovy Vary Airport.*

The Russian clientele is the traditional clientele at the Karlovy Vary Airport. In 2009, the major destination was Moscow with 49 thousand dispatched passengers (77 per cent of total passengers), followed by 10 thousand passengers (15 per cent of total passengers) to St. Petersburg (Karlovy Vary airport, calculated from total dispatched passengers less the transiting passengers). The decrease on the two Russian routes was 3,5 per cent, relative to 2008.

The Karlovy Vary Airport offers incentives for new destinations (such destinations that were not in the regular schedule for the past two year) in a form of discount from the landing and passenger charges. For the first 12 months of operating a new destination, the landing charge per t MTOW is CZK 150 and the passenger charge is CZK 185 (Karlovy Vary Airport).

Airport charges[4]

Landing charges	CZK 300 per tonne MTOW
Parking charges	CZK 14/hour/t MTOW – day (0500 – 1900) CZK 7/hour/t MTOW – night (1900 – 0500)
Passenger charges	CKZ 370 per departing passenger

4.1.5. Letiště Pardubice – Pardubice Airport (IATA/ICAO code: PED/LKPD)

The Pardubice Airport is located in central part of the Czech Republic, approximately 120 km east from the capital Prague. The history of the international public Pardubice Airport dates back to 1995 when the airport was opened for civil purposes. Until 1995 the airport was used for military purposes only. Today, the airport serves both civil and military air transport services. The airport is owned by the city of Pardubice (since 2002) who is the only shareholder of a joint stock company East Bohemian Airport (EBA) a.s. who is the operator of the airport (founded in 1993 and operating the airport since 1995).

The airport accommodates mainly charter flights and there are no scheduled routes at the moment. The airport accommodates mostly incoming routes from Moscow (Russia). The main airlines flying to the Pardubice Airport are Travel Service and Bulgarian Air Charter with holiday destinations in Turkey, Greece and Bulgaria.

Year	Movements (aircraft landing/take-off)	Dispatched passengers
2000	412	6,087
2001	424	1,814
2002	448	3,872
2003	712	28,392
2004	912	46,999
2005	912	49,165
2006	1,302	71,655
2007	1,502	93,659
2008	1,560	86,863
2009	994	49,032

Figure 19 Pardubice Airport Statistics (2000 – 2009). *Source: Pardubice Airport.*

In 2009, the airport accommodated almost one thousand of aircrafts movements and 49 thousands of passengers which is the least in the last four years (Pardubice Airport).

[4] Source: Karlovy Vary Airport

The Pardubice Airport has a very simple terminal and does not offer the same quality of services as the other regional airports introduced above do. The airport plans to invest into its facilities, such as modernization of the check-in facilities. At the end of 2009, an airport restaurant was opened. The airport also recently announced incentives for vacation travellers such as free parking (E15, 30. 3. 2010).

Airport charges[5]

Navigation charge	CZK 105 per t MTOW
Flat charge for aircrafts with MTOW under 2000 kg	CZK 150
Landing charges	CZK 240 per tonne MTOW
Parking charges:	2 hours free of charge CZK 14/hour/t MTOW – day (0500 – 1900) CZK 7/hour/t MTOW – night (1900 – 0500)
Passenger charges	CZK 260 per departing passenger
Passenger security charges)	CZK 60 per departing passenger
Extra charge	Operations outside the operation hours: CZK 2800 per hour

Other airports

There are at least two other regional airports, so far domestic only, which could become public international airports: airports in České Budějovice and in Hradec Králové. The airport in ***České Budějovice*** is currently not equipped to accept large civil carriers, however, the plan is to rebuild the airport by 2012 so that carriers such as Boeing 737 or Airbus A 320 could fly to the airport. The airport plans to accommodate approximately 10 flights a day, both scheduled and charter and 350 thousand passengers by 2015 (E15, 30. 3. 2010). The airport in ***Hradec Králové*** does not have the necessary navigation and technical facilities to become an international airport at the moment. However, in the future this airport should serve charter flights (vacation destinations) and/or scheduled routes in a small volume.

Airport Vodochody, now an international private airport, which plans to become a second largest international public airport in the Czech Republic, is discussed in great detail in the next chapter.

[5] Source: Pardubice Airport

5. Vodochody Airport

This chapter will introduce the project of Vodochody Airport, the current situation and the projected development. The majority of the data about the project has been obtained from the airport's website and from official documentation of the project. An analysis of the forces present in at the Czech airport market with impacts on the Vodochody Airport as well as the SWOT analysis of the project will follow.

5.1. Introducing Letiště Vodochody - Vodochody Airport (ICAO code: LKVO, IATA code: N/A)

Airport Vodochody is an international private airport. Its current main customers are private jets and air schools. The airport is operated by a joint stock company Letiště Vodochody a.s., established in 2007, whose only shareholder is AERO Vodochody a.s., the largest aircraft manufacturer in the Czech Republic with 90 years-long history. Until the end of 2006, AERO Vodochody was a state-owned enterprise. From January 4, 2007, private equity group Penta became a sole shareholder of AERO Vodochody. In 2009, there were over 9 thousand aircraft movements, which is a 100 per cent increase to the year 2008.

Its development plan, first publicly announced in the summer of 2007, is to extend the infrastructure of the existing airport so that it becomes a modern public civil international airport, second of its kind in the Prague's metropolitan region. Figure 20 illustrates the location of the two airports in the Prague's metropolitan region: "Letiste Ruzyne" is the Prague Airport, the major hub, "Letiste Vodochody" should become the secondary airport the in the area.

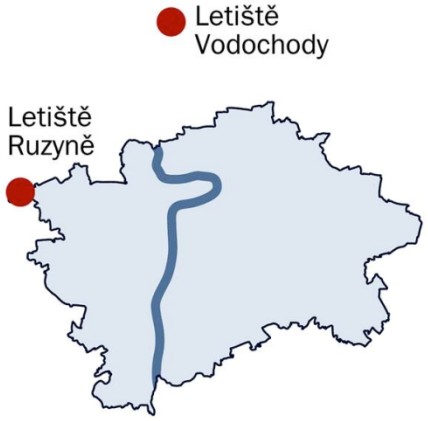

Figure 20 Prague metropolitan area. *Source: iDnes (3.9.2009)*

The airport wants to target low-cost airlines, charters and private jets. In 2008, Letiště Vodochody a.s., has received all necessary licenses to operate the Vodochody Airport, e.g. from the Czech Air Navigation Services, custom authorities etc. At the moment the project is in the state of updating the documentation of the project, Environmental Impact Assessment (EIA), upon the commemorations received from the Ministry of Environment in April 2009. The company expects to submit the updated EIA for approval within the first half of 2010. After the EIA will be approved, Airport Vodochody can apply for cadastral change and construction permission. Operations for low-cost carries should be launched at the end of 2012 by the earliest, more realistically in 2013.

Key fact about the project of expansion of the Vodochody Airport are summarized in the table below (Figure 21)

Total planned investment	CZK 3 billion
Number of passengers per year	3.5 million
Number of aircraft movements per year	17 thousand
Average number of dispatched aircrafts per day	48 (70 on average in the summer season, 30 in the winter season)
Projected hour capacity of the terminal	1200 passengers per hour
Runway (existing runway is sufficient to meet the project's goals)	2500 x 45 meters
Public parking space	572 parking spaces

Figure 21 Project facts *Source: Vodochody Airport*

After construction adjustments to the current runway system, the airport will be able to accommodate up to 15 medium-haul aircrafts with wingspan of 36 meters (ICAO category C, e.g. Boeing 737, Airbus A320). A new modern terminal with capacity up to 3.5 million passengers per year should be constructed in the place, where the administrative buildings of Aero Vodochody stand today. The concept of the terminal will correspond with the needs of low-cost and charter airlines, the terminal will be first of all functional and simple. The terminal will have two floors; first floor will be the departure hall and the second floor will be the arrival hall with a restaurant and security facilities, shopping area and entrance into the two departure areas, one assigned for Schengen area travellers and the other for non-Schengen travellers. There will be both classical check-in facilities as well as self-service check-in counters. The Vodochody Airport will be tailor-made for low-cost carriers. There will be no air-bridges, no facilities for passenger transit – the airport will be a "point-to-point". Visualization of the projected development is available in Appendix 5.

Current **airport charges** of the private international Vodochody Airport (Source: Vodochody Airport)

Navigation services	CZK 150 per t MTOW (100 per cent surcharge at night)
Landing charges	CZK 150 per t MTOW (100 per cent surcharge at night)
Parking charges – apron Parking charges – hangar	CZK 7 per t MTOW and hour CZK 20 per t MTWO and hour
Custom charges	CZK 450
Passenger charges	CZK 350 – weekdays CZK 500 – weekends and statutory holidays
Passenger bus charges per journey	CZK 100
Margin for securing 3rd party services	15 per cent

After the airports expansion and once operating as a public international airport, the airport charges are expected to be half of what the Prague Airport's charges are (Motejlek, 2010).

The airport is currently negotiating with low-cost airlines; the most up-to-date information regarding airlines that should be flying to the Vodochody Airport on regular bases includes Wizz Air, easyJet, Ryanair, Air Berlin and flyNiki (Motejlek, 2010). Quite possibly, also Travel Service, who operates mostly charter flights.

At the moment, the airport operates non-stop, but for the future it is planned that the operating hours will be fixed and there will be no traffic between 10 pm and 6 am, which is a compromise as a response to the opposition of the areas in the airports proximity (discussed below).

Challenges

Apart from the official documentation that yet has to be approved, the biggest challenge the airport is facing is the disapproval with the project of the neighbouring villages. There has been a lot of negative response and rather a firm opposition towards the airport's expansion project from the neighbouring villages (see Figure 22 for illustration of the villages affected by the airport's operations), who have created an initiative „Stop letišti Vodochody" (translation: Stop the Vodochody Airport) to fight against the development project of the airport. The neighbouring villages fear especially increased noise exposure and emissions due to increased air traffic, increase in road traffic, but also, in case of aircraft crash, an ecological catastrophe because of a refinery which is located nearby (in Kralupy nad Vltavou). However, aircrafts fly over the refinery also when landing/taking-off at the Prague Airport, only 300 meters higher (iDnes, 21.12.2009).

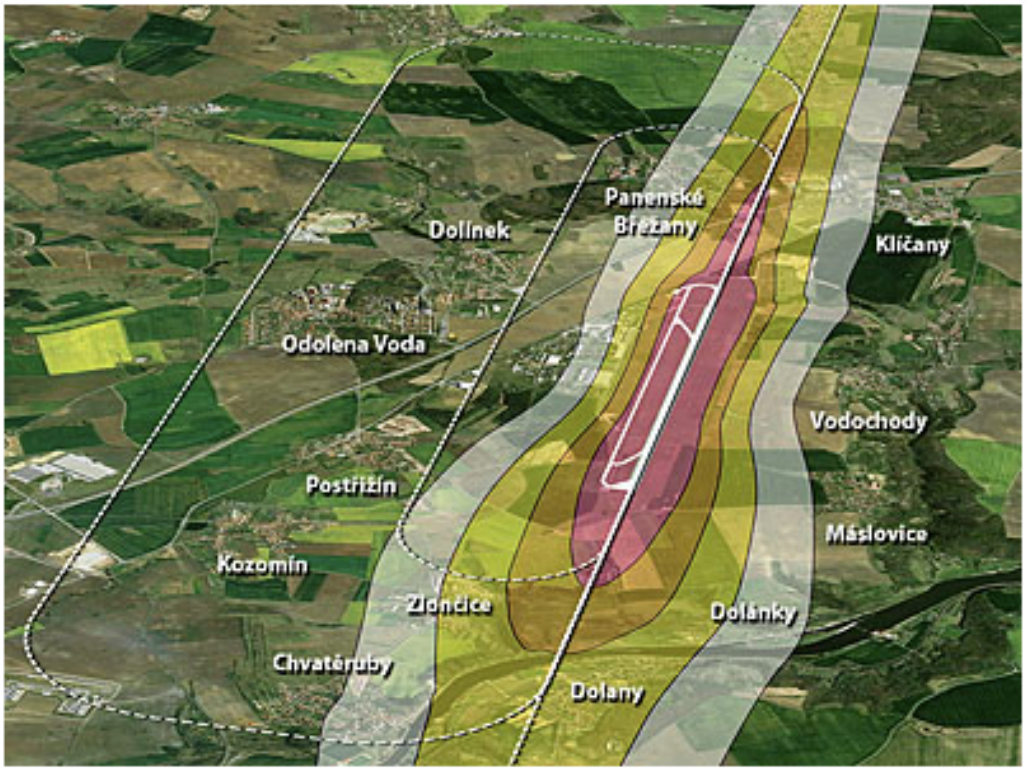

Figure 22 Vodochody Airport and neighbouring area. *Source: Cesky rozhlas, 13.1.2010*

In spring 2010, local referendum took place in the villages, in which the majority of citizens of the affected areas, who participated in the referendum were against the project. Results are known for seven neighbouring villages, where approximately 59 per cent of the inhabitants participated in the referendum and 90 per cent were against the expansion of the airport (iDnes 20.4.2010). On the other hand, countrywide research from March 2010 of Factum Invenio (results published on Vodochody Airport webpage on 19. 4. 2010) regarding the Vodochody Airport has showed that 72 per cent of citizens of Prague and other cities in the central Bohemia support the planned development of the airport as proposed by the investor. Though, these citizens will not be affected by the negative side effects of the airport operations. The citizens of Prague have also showed increased interest in development of air transport in the Czech Republic, thus are likely to become the airports' customers. However, when looking at the responses of the citizens of the villages neighbouring to the airport, the agency's research showed that the majority is against, but it was less (two thirds of the population) than what the referendums have revealed. On the other hand, the research has revealed that the inhabitants of the neighbouring villages have lower factual knowledge of the airport's development project than the citizens of Prague and the Central Bohemia Region.

So far, Airport Vodochody has agreed to reduce the noise exposure by adjusting the take-off/landing trajectories and there will be no night traffic. Furthermore, the investor expects, that there will be numerous benefits that the airport will bring: 3000 new permanent jobs in the region, both direct and indirect, new travelling options for the Czech citizens, new destinations, lower price for air tickets, higher level of air transport services and further development of the capital city and its region. Furthermore, the infrastructure of the road transport has also been considered in the development plan, which will help the current situation (Vodochody Airport). However, there are still a lot of negotiations ahead.

5.2. Vodochody Airport Analysis

What forces are present in the Czech air transport market, how does Vodochody Airport's entry influence the competition, and what implications does it have for Vodochody airport? The answer will be given based on Porter's Fife forces framework and Kotler's SWOT analysis.

PORTER'S FIVE FORCES

Customers' bargaining power

Vodochody Airport will face two tiers of customers. Firstly, it will be the airlines flying to the airport and purchasing its services, and secondly, the travellers/passengers.

The passengers:

When looking at the outputs of the country's largest international airport, it shows that the majority of passengers in air transport in the Czech market are Czechs and the majority is international traffic. The domestic routes have an insignificant share so far.

In a recent survey by Factum Invenio (published at Prague Airport's webpage on 18.2.2010), has revealed that the Czech citizens do not use air transport very frequently: only one third of Czechs fly at least once a year. However, the number of users of air transport is higher in the Prague region where 50 per cent of the population fly at least once a year and 25 per cent use air transport several times a year. These findings show that there is still potential for air transport development in the Czech Republic in the future.

It is expected that the demand for air transport will increase in the Czech Republic in the next years; benchmarking to neighbouring and culturally close Austria with 2.8 flights per citizen and year, it is only 1.3 flights in the Czech Republic (Factum Invenio at Prague Airport).

On the other hand, the demand for air transport has fallen at all Czech airport's which is due to the effects of the current economic situation. Tough economic conditions at present mean that businesses in many sectors are seeking cost reductions, and business travel may be one area where savings can be made; while, rising unemployment and lack of job security may lead to consumers avoiding expensive leisure flights (Datamonitor).

Thanks to online bookings, customers can compare services available to them, meaning services offered by airlines. The low-cost air transport industry is highly price sensitive and most often consumers seek the most economic way to travel, the loyalty is low. The price sensitivity increases the buyer power. However, the large number of customers acts to reduce buyer power, since airlines do not feel the impact of losing an individual customer (Datamonitor). The high price sensitivity, however, is convenient for the Vodochody Airport as it is targeting LCCs who offer lower air fares. Thus, the Vodochody Airport will profit from the high price sensitivity and is likely to attract customers who currently fly from the Prague Airport as well as recruit new customers from the population who did not consider flying as a means of transport due to its higher costs relative to other means of transport. Thus it seems, that in the case of low-cost airports, the passenger buyer power is somewhat weakened.

The airlines:

So far, the Czech air transport market has been dominated by the CSA and the Prague Airport in terms of dispatched passengers. The low-cost sector had been dominated by the LCC SkyEurope until they went bankrupt in the summer of 2009. Ryanair, European's major LCC, is recently withdrawing from the Prague Airport because of the airport's high charges (Ryanair's share at Prague Airport was 2 per cent). At the moment the largest LCC at the Czech market is easyJet who is number two at the Prague Airport.

It is known in the industry that the LCCs are not an „easy win" but that they are „tough players". This is especially known about Ryanair who is not eager to pay landing and

handling fees. According to the CEO of Vodochody Airport who has recently been negotiating with many LCCs, „Ryanair's manners" have been adopted by other LCCs also.

Thus, the bargaining power of the LCCs is rather high, which will have an implication for Vodochody Airport. However, there is still the fact that Vodochody will be the best alternative to the Prague Airport and exactly what the LCCs could wish for in the Prague metropolitan area.

Summarizing the findings, as well as extrapolating the global industry trends, consumer power in the airport industry is moderate.

Suppliers' bargaining power

According to Porter (1998), the distributors have substantial power when few substitutes exist and when the distributors' products are important to the company. Suppliers are those entities providing products and services for airports, which can mean a wide range of services and products to the airports from baggage handling services to airport coordination as well as from terminal seats to construction materials.

It is not been studied what suppliers the Vodochody Airport will use, nor what suppliers operate in the Czech market, thus at this point of the study, the supplier power can be only extrapolated from the industry's global experience, as assessed by Datamonitor (2009):

„Supplier power is weakened somewhat since it is difficult for specialized suppliers such as these to find another market for their products and services outside of this industry. Those suppliers providing basic services and products such as baggage handling services are usually small-scale local companies and the large number of this kind of supplier also reduces supplier power. However, suppliers of general services such as catering often provide products and services to a wide range of industries, thereby reducing their dependence on the airport service industry. All these products and services are highly important to the efficient running of airports and these further increases the power of suppliers. Overall, supplier power is viewed as moderate in this market."

Threat of substitutes

Substitutes are products and services of another industry that satisfy the customer's needs sufficiently. In the case of airports, there are no real alternatives for the customer-airline, but there are alternatives for the customer-passenger. The passengers can choose to use other means of transport, such as road and rail transport. The same applies to cargo transporters. As summarized in Datamonitor's industry profile (2009), these are the main advantages and disadvantages of the other modes of transport:

Mode of transport	Advantages	Disadvantages
Road transportation	Flexibility of the road network	Road congestion, driver shortages, and restricted
Rail transportation	Ability to carry freight in bulk	Restricted by a lack of flexibility and limited trail network
Marine transportation	Ability to transport a high volume of goods over long distances at comparatively low cost, where journey time is relatively unimportant	Time demanding

Source: Datamonitor (2009)

Taking into consideration that the Vodochody Airport will focus on passenger air transport provided by LCCs and therefore mainly short-haul destinations, speed trains and road transport can be considered as the main substitutes. These substitutes win the passengers for transport especially in terms of the domestic market, as the share of air transport on the domestic market is insignificant. The only rail transport provider is the state enterprise Ceske drahy (Czech railways) who offer both domestic and international transport. Out of the bus transport providers, worth mentioning is Student Agency, who offers cheap yet quality transport services to destinations throughout Europe.

On the other hand, the biggest advantage of air transport from its very beginning is the speed. When compared to the most modern speed trains, a slow commercial aircraft is still at least two times faster. Studies show, that the speed trains are adequate alternatives for distance of up to 300 kilometres (Vodochody Airport).

Overall, the threat of substitutes is very weak.

Threat of new entries

The likelihood of potential new entries depends on the level of competition within the industry and the barriers to entry and exit the industry. There are according to Porter (1998) six main barriers to entry an industry. Those are economies of scale, product differentiation, capital requirements, cost disadvantage independent of size, access to distribution channels and government policies.

The threat of new entries is rather low, as it is extremely problematic to enter the airport market, as the industry is dominated and regulated by the national entities (globally in some cases also by a few large-scale private companies). Moreover, running an airport is a rather complex business that requires a number of operations to run smoothly. Daily operations not only include looking after security; property management; retail facilities; fire services and cargo, but also maintaining efficient relationships with many other organizations such as airlines, immigration, and National Air Traffic Services etc.

Additionally, the typical business model of the market also requires large amounts of capital outlay and fixed costs in terms of materials needed, further development and labour costs etc. (Datamonitor, 2009). On the other hand, as proposed above, low-cost airports are not exactly capital intensive as they often emerge from existing regional and/or former military airports. As indicated in the previous chapter, there are some regional airports in the Czech Republic who want to become public international airports and compete for LCCs, though neither of them in the metropolitan region.

Moreover, the very uncertain situation of global air carrier companies threatens also the airports which major income comes from service of the airlines, which discourages prospective new entrants from investing in this market (Datamonitor, 2009).

Overall, the threat of new entrants is weak.

Degree of rivalry and competitive structure

A competitor is a company that covers the same needs for the customer and operates within the same industry. If the competition is mild, there will be a tendency towards increasing prices and profits in the industry (Porter, 1998).

Considering the passenger and low-cost fragments of the air transport market, the main direct competitor of the Vodochody Airport would be another low-cost airport in the Prague metropolitan area. The closest fit to these criteria are regional international airports Pardubice Airport and in Karlovy Vary Airport, as they lay approximately 120 km east, and west respectively, from Prague. However, at this moment these airports offer only limited amount of destinations and were not able to attract LCCs. This can of course change in the future and there are indicators that it might: Karlovy Vary Airport has opened a new terminal in 2009 and Pardubice Airport is planning to improve its services.

A wider group of competitors are international public airports in the Prague metropolitan area, and low-cost (regional) international airports in the Czech Republic. In the Prague metropolitan area, the Vodochody Airport will compete with the Prague Airport, the major metropolitan hub. It will compete for LCCs and it is very likely that apart from attracting new LCCs who do not currently fly to/from the Czech Republic, it will take Prague Airport's LCCs as Vodochody Airport will be able to offer half the airport charges. Consistent with empirical examples introduced in Chapter 3, it is likely that Vodochody Airport, as the secondary airport in a metropolitan area, will grow at the expense of the legacy airport - Prague Airport - whose market share is likely to drop after the launch of Vodochody Airport for two reasons: 1. the total market will increase with new LCCs who will be captured by Vodochody Airport and 2. the current Prague Airport's LCCs migrating to Vodochody Airport. At the country level, the main competitor is identified as Brno Airport, at the moment Czech Republic's second largest airport and soon the only Czech airport Ryanair flies to/from. Brno Airport has a convenient location and for parts of the Czech Republic is easier accessible than airports in the Prague area.

An increasing number of European airports have become private firms, driven by shareholder value and free to invest around the world. Therefore, the competition among Europe's leading airports is becoming intensive (Datamonitor, 2009). Should the Czech Republic's market follow this trend, the rivalry will become more intense.

At the moment, overall, rivalry is assessed as moderate.

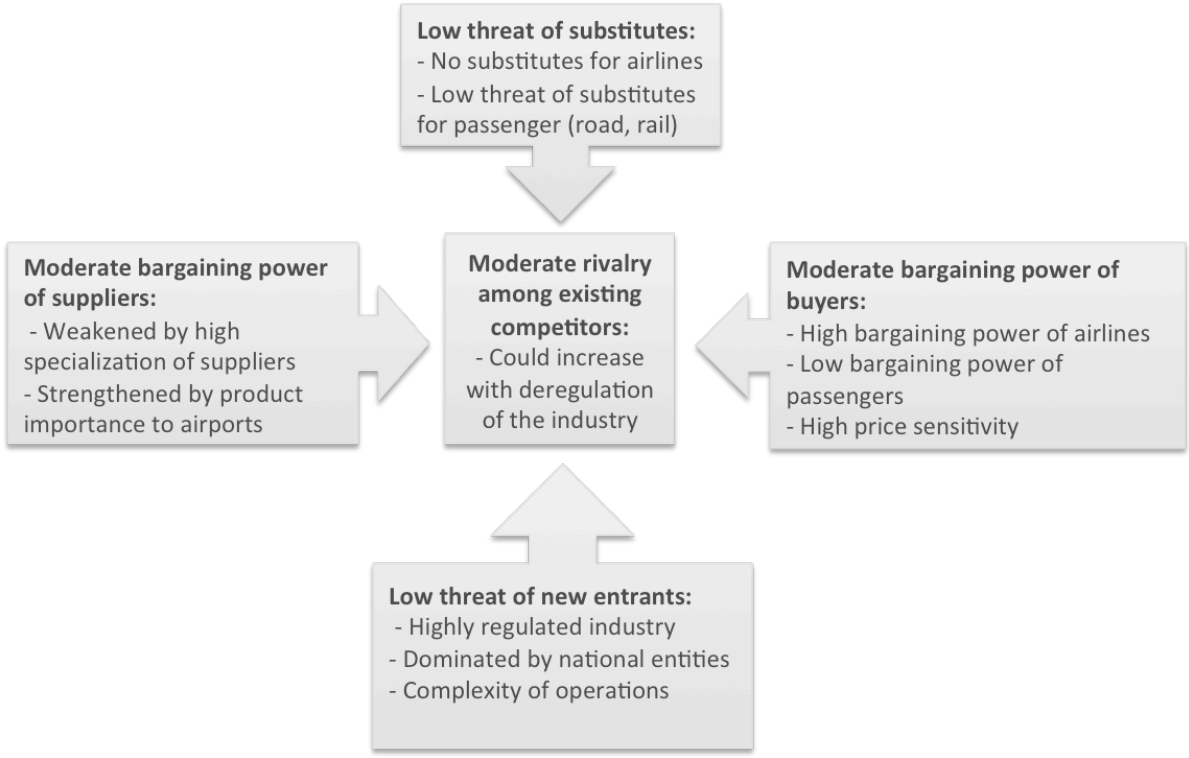

Figure 23 Porter's five forces analysis summary

SWOT ANALYSIS

The analysis of strengths and weaknesses, opportunities and threats of the Vodochody Airport will allow answering the question, what is the airport's strategic position of the airport at the Czech market.

Strengths

The main strength of the Vodochody Airport is its location and the low-cost concept. From global experience it shows, that secondary low-cost airports increasingly emerge in metropolitan areas, following the emergence of LCCs because the legacy airports do not meet the demands of LCCs and are too expensive for them.

The Prague Airport belongs to the most expensive in Europe, for example the LCC Wizz Air is not capable of generating profit on routes to and from Prague due to the high airport charges (Motejlek, 2010). As indicated earlier in this paper, airport charges are a significant cost factor for LCCs, thus with the airport charges being half of what the Prague Airport's charges are, Vodochody Airport has a clear advantage in attracting LCCs. Airport Vodochody will potentially also be able to offer better slot times. Hence the Vodochody

Airport will offer facilities that the LCCs are seeking and which are not available in the Prague metropolitan area at the moment. Vodochody Airport is an answer to a global trend as well as to the regional demand.

Furthermore, the strength of the project of the Vodochody Airport is its timing. Prague Airport is reaching its capacity limits and is itself attempting to expand. The demand for air transport is growing and the LCCs do not have an equivalent to what Vodochody Airport will be at the moment. However, to retain this advantage, the Vodochody Airport needs to act fast.

Weaknesses

The project of expansion of the Vodochody Airport has first been introduced in the summer of 2007; a few months after the current investor took over the airport. The original plan was to start operations of the public international Vodochody Airport earlier than it is proposed now (2013). Basically, the project is still on paper, even though negotiations with low-cost airlines, the future airport's customers, are in full speed. The process is lengthy as it includes negotiation with several government institutions, approvals of the project documentation etc.

Furthermore, the airport's management has not been able to reach agreement with the representatives of the neighbouring villages whose fight against the airport has been rather fierce and widely promoted by the media. The negative environmental side effects need to be balanced out by positive side effect. Even though the investor states what the benefits for the region will be, the neighbouring villages do not support the airport's development. Communication and relations with the neighbouring villages need to be improved.

Opportunities

There are several opportunities in the market for the Vodochody Airport. The key opportunity is the potential of growth of air transport in the Czech Republic. As discussed above, research has shown the Czechs lag behind in using of air transport when compared to western European countries.

Simultaneously, the growth of LCCs share at the Czech market can be also expected. As indicated earlier in this paper, the average ration of LCCs in other European countries is around 40 per cent of the air traffic. However, in the Czech Republic the ratio is lower, about

26 per cent (based on Prague Airport's outputs). Hence further growth mirroring the global European market can be expected.

Furthermore, considering the very low ration of the domestic air transport on the total air traffic in the Czech Republic, this could also be an opportunity for the new low-cost airport. However, this is definitely a topic that needs a further research, as it is not clear to what extend and under what conditions would the domestic air routes be competitive to the alternative means of transport (rail and road). The travel time to the airport and the check-in time would need to be eliminated to a minimum to offer substantial time saving on domestic routes, for which the customers would be willing to pay a higher price compared to rail/road transport. However, as discussed in Section 4.1.2, an increase on a domestic route Prague – Brno was seen in 2009, which could be an indication of potential growth in the domestic air transport demand.

Last but not least, the increased share of LCCs at the Czech market may result in fierce competition amongst the airlines, which may lead to decrease of airfares. The cheaper flight tickets are likely to attract more as well as new customers: persons who did not consider air transport before due to its higher cost.

Threats

The most apparent threat the project of the development of the Vodochody Airport is facing is that the updated EIA will not be approved, the project will not be allowed as it is proposed now and the documentation will need to be updated again and go through the approval process yet again which would delay the launch of the airport. This is closely connected to the opposition of the neighbouring villages who have the right to comment the official documents. A delay of the project would take away the timing advantage as described above.

Apart from the threat of delay of the project, the threat of substitutes and new entrants are rather low, as discussed above.

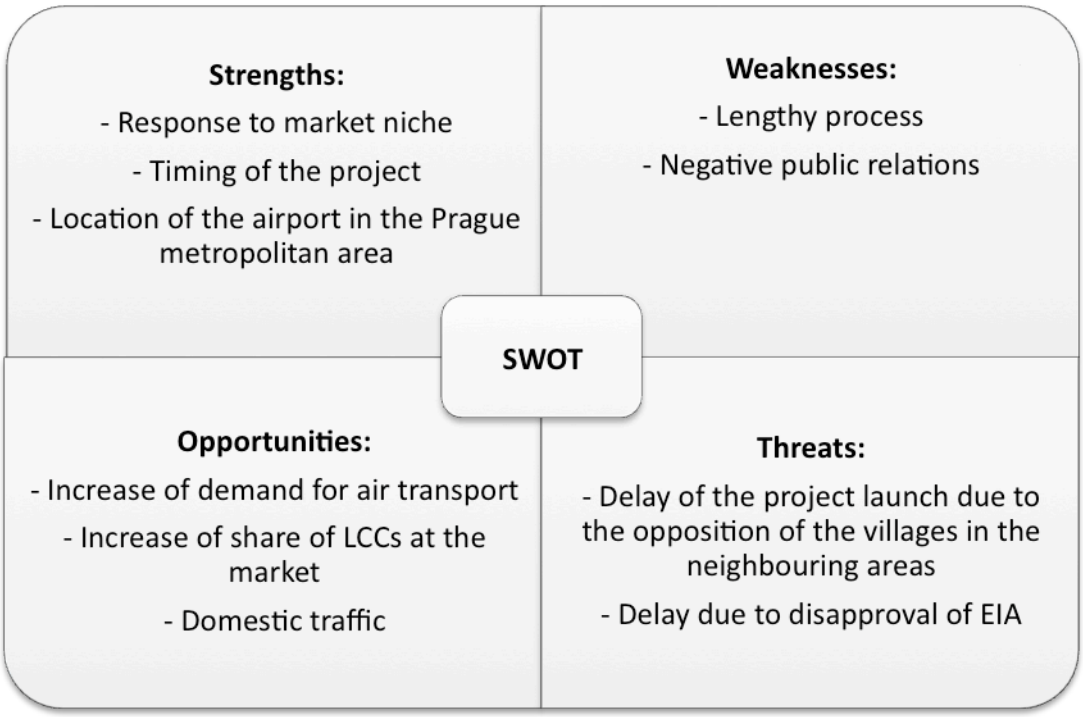

Figure 24 SWOT analysis summary

The **airport – airline relationship model** as introduced by Goetsch and Albers (2007) and described in Subchapter 3.5 is now used to determine how the dependencies in the model apply to the Vodochody Airport case. However, it is not possible to use this model as a diagnostic tool to analyze existing relationships which is what the model has been designed for as such relationships are non-existent at the moment. The model can, however, be a helpful tool in indicating the dependencies in the future relationships too, and so help developing effective relationships with the airlines based on these dependencies.

Environment

The external environment influencing the relationship between the Vodochody Airport and the airlines has been analyzed using the Porter's five forces framework above. As indicated above, the global environment is highly uncertain and the low-cost sector is volatile. This will affect the future relationships of Vodochody Airport with the airlines as either or both partners are likely to not be willing to engage into long-term relationships in uncertain environments.

Actor characteristics

In the Czech context, the Vodochody Airport wants to become a secondary airport in the

Prague metropolitan area (strategy) and plans to accommodate 3.5 million passengers annually which corresponds with the size of a small regional airport. As suggested by the model, a small airport has a worse negotiation position. On the other hand, the Vodochody Airport's strength is the powerful catchment area which is sought after by the low-cost airlines but their needs are not accommodated at the hub airport (Prague Airport) at the moment. It has already been indicated that the LCCs are hard negotiators and the LCCs in question (Rynair, easyJet, Wizz Air) are large powerful companies. Additionally, the nature of LCCs indicates that these airlines flexible in switching destination airports which has a direct impact on the level of interdependence between the airport and the airline. If the Vodochody Airport becomes a sought after, busy airport, as it is proposed by the investors, its bargaining power would increase.

Atmosphere

Contrary to the proposal of Goetch and Albers (2007) to only use airport charges as an incentive mechanism in an airport – airline relationship characterized by a high level of interdependence, it is likely, that the Vodochody airport will use introductory incentives (similarly to the other Czech airports) to attract the airlines in the first place, prior to any interdependence exists. There will also be no relationship history with the airlines.

The level of commitment and trust between the Vodochody airport and the airline will depend on the long-term contracts between the parties. Even thought the long-term contracts decrease the level of uncertainty, the environmental uncertainty, as indicated above, hinders the willingness to engage into long-term relationships in the first place. Furthermore, the already mentioned nature of the LCCs is not exactly supportive of long-term contracts. As the model indicates, the level of commitment is boosted also by joint actions; at this moment it is not known that the Vodochody Airport would be planning to engage into joint actions with any of the LCCs.

Interaction process

The level of interaction between the Vodochody Airport and the airlines will depend on the joint actions (cooperation) between the airport and the airlines. As already stated, no such planned cooperation is known at the moment. If the Vodochody Airport should plan any kind of joint action with the airline(s), the degree of interaction, institutionalization and communication would increase. With joint actions there would be a need for comprehensive

mechanisms and it is likely that project teams with members from both actors (the Vodochody Airport as well as the airline) would be established. This would increase the commitment and trust between the airport and the airline.

Strategic outcome

As the airport – airline relationship model suggests, there can be profits resulting from the interdependencies between the two parties. The strategic outcome from the relationship between the Vodochody Airport and the airline will be defined by the dependencies and interactions as described above.

6. Conclusion

Having analyzed the global airport industry, the main current global as well as regional trends and the situation at the Czech air transport market, it can be concluded that the Vodochody Airport is an answer to a global trend as well as to the regional demand.

From global experience it shows, that secondary low-cost airports increasingly emerge in metropolitan areas, following the emergence of LCCs because the legacy airports do not meet the demands of LCCs and are too expensive for them. The Prague Airport belongs to the most expensive in Europe. Vodochody Airport that will be tailor-made for low-cost carriers and is expected offer half charges when compared to the Prague Airport has a clear advantage in attracting LCCs. The Vodochody Airport will offer facilities that the LCCs are seeking and which are not available in the Prague metropolitan area at the moment. Moreover, there are valid expectations that the demand for air transport in the Czech Republic will increase in the future as well as it is expected that the LCCs share at the Czech market will grow and so reflect the development in other European countries. Hence, the Vodochody Airport corresponds with the global trend supported by empirical examples as well as responds to the niche at the Czech market and to the increasing demand for air transport in the Czech Republic.

MAIN FINDINGS

Porter's five forces framework has allowed determination of the structure and power balance of the competition in the Czech airport market industry. The industry is characterized by relatively low threat of new entrants, low threat of substitutes, moderate bargaining power of suppliers and overall moderate bargaining power of buyers (while the low-cost airlines as a buyer have a high bargaining power, whereas the buyers-passengers have low bargaining power). This implies that there is moderate rivalry in the industry, which, however, is likely to become stronger in the future with privatization tendencies in the industry.

The SWOT analysis has allowed identification of the main strengths, weaknesses, threats and opportunities of the Vodochody Airport. The main strength is the airport's low-cost concept and location in the metropolitan area by which it responds to a market niche at the Czech market as well as mirrors a global trend of emergence of secondary airports in

metropolitan areas. Furthermore, the major hub in the Prague metropolitan area is reaching its capacity, while the perspective is that the demand for air transport will increase in the Czech Republic, hence the timing of launching of Vodochody Airport is an advantage too. The Vodochody Airport's opportunities result from the expected increase of demand for air transport as well as expected increase of share of LCCs at the Czech market. Since the Vodochody Airport will be targeting LCCs, it is likely to benefit from these proposed trends. Vodochody Airport could attract new/more passengers by more affordable airfares offered by the carriers operating at the airport. The main weakness of the project is closely connected to the external threats; the airport is facing fierce opposition from the neighbouring villages that will be directly affected by the airport's operations and the project of the airport's development is still undergoing the approval process. Hence, there is a threat that the project could be delayed.

ANSWERS TO THE RESEARCH QUESTIONS

1. *What is the current situation at the Czech air transport market? Who are the main players?*

The market analysis has revealed, that the international airport market in the Czech Republic is dominated by the Prague Airport that generates over 90 and 80 per cent of passenger and cargo transport, respectively. The other largest (in terms of passenger traffic) and most important international civil airports are the regional airports Brno-Tuřany, Ostrava, Karlovy Vary and Pardubice. All airports have seen a decrease in passenger numbers and aircraft movements in 2009. The Prague Airport, as well as the mentioned regional airports, are publicly owned and operated by private companies.

The airline market is dominated by Czech Airlines, a joint stock company owned from the majority by the Czech Republic. European major low-cost carrier Ryanair is withdrawing from the Prague Airport due to high airport charges and has decreased its operations at the Brno Airport. In the past, the major low-cost airline was SkyEurope, who went bankrupt in 2009; currently the largest low-cost carrier, in terms of passengers, is easyJet, who operates at the Prague Airport.

The majority of passengers in air transport in the Czech market are Czechs and the majority is international traffic. The domestic routes have an insignificant share so far (1 per cent).

2. *What consequences will the launch of new low-cost airport have on: a) on availability of LCC in Czech republic; b) airport competition at the regional market?*

Based on the analyses performed and the empirical examples examined, it can be expected that the Vodochody airport will develop on expense of the major hub in the metropolitan area, the Prague Airport. The Vodochody Airport is very likely to attract both new LCCs who do not currently fly to/from to Prague due to high airport charges (such as Ryanair) as well as drag over Prague Airport's LCCs. Thus Prague Airport's market share is likely to drop after the launch of Vodochody Airport for two reasons: firstly, the total market will increase with new LCCs who will be captured by Vodochody Airport, and secondly, the current Prague Airport's LCCs migrating to Vodochody Airport will result in decrease of market share of the Prague Airport.

FURTHER RESEARCH SUGGESTIONS

First of all, once the Vodochody Airport is launched and has operated for some period of time, it will be interesting to research the real effects seen.

Secondly, there are expectations that the Vodochody Airport will affect the airfares; it is assumed that when a higher number of LCCs are present at the market, the competition for customers among them will become fiercer and thus may result in decrease of airfares. This hypothesis is another possible field of research connected to the project of Vodochody Airport.

Finally, it has been indicated in this thesis, that the share of domestic air transport is extremely low. If and how the introduction of the Vodochody Airport will affect the domestic air transport is another topic for further research.

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