STRATEGIC COOPERATION BETWEEN GERMAN AIRPORTS AND THEIR AIRLINES

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Introduction

There are around 400 airports in the 28 European Union (EU) countries; these airports compete for aircraft operated by around 250 airlines (Eurostat, 2017). In 2006, the five largest airlines supplied 41% of seats available; 10 years later the five largest airlines/airline groups (Lufthansa Group, International Airlines Group, Ryanair Group, easyJet and Air France-KLM) supplied 60% of seats available (Nagel, 2016). Since then, these airlines have driven consolidation in the market even further: slots, aircraft and staff of Air Berlin, which entered administration in 2017, have been snapped up by Lufthansa Group, easyJet and Ryanair Group. Lufthansa Group and easyJet are currently bidding to acquire Alitalia (or parts thereof), which was put under special administration in 2017 (Reuters, 2019). Airline consolidation has a significant impact on airports, as they are faced with a decreasing number of potential airline customers and an increasing number of aircraft that individual airline customers make deployment decisions on.

Airport vs. airline business

Airports and airlines have fundamentally different business characteristics. Airports are fixed cost businesses with high capital costs, and in general are rather inflexible: it takes time and resources to change terminal and runway layouts, space for expansion if often limited, and expansion often requires very long planning and approval processes. Airlines, on the other hand, are variable cost businesses and rather flexible: capital requirements can be reduced to a minimum through aircraft leasing, routes and aircraft can be changed at short notice, and there are few limitations to growth. The EU almost fully deregulated and liberalized the aviation sector until 1997 (Starkie, 2008). Liberalization gave EU airlines the freedom to serve any route within the EU and to base aircraft at any airport within the EU. Essentially, through liberalization, airlines became even more flexible (see Saraswati, 2014).

At the ten largest EU airports-28 airports the market share of the respective main airline customer, based on supplied seats from May 2018-April 2019, is 52% on average (ch-aviation PRO database, 2018). The same figure for the 24 German commercial airports is 59% (ch-aviation PRO database, 2018); both figures indicate a strong dominance of the main airline at the respective airport.

Given this rather asymmetric relationship between airport and airline (airports largely depend on a main airline which is flexible to reduce their business at short notice), airports have to take a strategic approach towards their relationship with airlines.

Airport-airline cooperation

A powerful strategic instrument for both airports and airlines to reduce risks and costs and to increase revenues and profits is cooperation. Cooperation among market participants can be observed in almost all industries; there is a rich literature on this topic dating back to the 1960s (Beamish & Lupton, 2016). Within the aviation industry, starting in the 1990s, researchers have especially focused on (horizontal) airline-airline cooperation; studies on vertical airport-airline cooperation are relatively new with first studies published in the 2000s (e.g. Gillen & Morisson, 2003; Albers, Koch & Ruff, 2005).

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Fu, Homsombat and Oum (2011) identify six forms of airport-airline cooperation:

(1) Signatory airlines of airports
(2) Airline ownership or control of airport facilities
(3) Long-term use contracts
(4) Airport issuance of revenue bonds to airlines
(5) Revenue sharing between airports and airlines
and
(6) Other agreements

Researchers have been using quantitative methods (especially multi-stage games) to explain the effect of these airport-airline cooperation forms on competition (e.g. Kuchinke & Sickmann, 2007; Oum & Fu, 2008), cost (e.g. Xiao, Fu & Zhang, 2016), profit (e.g. Zuidberg, 2017), ticket prices (e.g. Gillen & Morisson, 2003) and welfare (e.g. Barbot, 2011). In these studies, the authors relied heavily on highly simplified models and secondary data (Yang, Zhang & Fu, 2015), focused on "visible" cooperation (i.e. formal cooperation like joint venture with publication obligations) and mainly considered two stakeholders: airport and airline.

Thus, there is a methodological knowledge gap in applying sound qualitative approaches using primary data (D'Alfonso & Nastasi, 2014) and a substantial gap in understanding "invisible" cooperation (i.e. individual contracts) (Albers, Wohlgezogen & Zajac, 2016) and in how the two parties initiate and set up the cooperation (Oum & Fu, 2008).

Methodology

The aim of this study is to close these knowledge gaps, with a geographic focus on Germany. A sequential mixed-methods approach is applied. First, expert interviews will be conducted and analysed through qualitative content analysis (QCA) following Mayring (2008) and Kuckartz (2014). Then, the same experts will be asked to participate in an online survey, validating the results from the expert interview round. Finally, the validated results will be challenged by performing regression analysis using secondary data from databases (e.g. ch-aviation PRO/OAG/ACI Airport Economics Report).

Expert interviews

After defining the "expert" criteria and the population, a teaser document was created and emailed to the respective current and/or ex-Chief Executive Officer/General Manager/Managing Director/President, requesting a minimum 90 minutes timeslot for a personal, anonymous, on-site interview with the expert. During this timeslot the procedure was explained, a data protection agreement protecting the anonymity and privacy of the expert was signed, and the interview was conducted using a semi-structured interview guide which consisted of 14 questions in four categories.

A total of 49 experts were interviewed between June 2018 and February 2019; they have an average of 20 years' experience in the German aviation sector and over 70% of them represent the top management of the respective airport/airline/stakeholder. All but 2 interviews were authorised to be recorded such that the available interview data consists of 47 anonymised transcripts (simplified transcription system following Dresing & Pehl, 2015) and 2 anonymised interview notes. The interviews each had a duration of around 80 minutes on average.

Apart from experts representing the two most relevant populations airport (20 airports interviewed) and airlines (6), many other experts representing other stakeholders were interviewed: federal police (1), ground handling (2), consulting (5), regulatory agency (2), association (4), action group (1), regional development agency (1), trade fair company (1), aviation news portal (1) and airport planning (1).

The sample of airports represents 83% of the population while the sample of airlines represents 86% of the population. Both cover the diversity of its industry.

Figure 1: Airport and airline population vs. sample

POPULATION	**SAMPLE**
24 commercial airports with more than 150.000 passenger units (2x ACI1, 6x ACI2, 1x ACI3, 15x ACI4)	**20 commercial airports** with more than 150.000 passenger units (2x ACI1, 6x ACI2, 1x ACI3, 11x ACI4)
7 airlines with more than 1,600 monthly take-offs (LH, EW, U2, FR, DE, ST, X3)	**6 airlines** with more than 1,600 monthly take-offs (LH, EW, U2, FR, DE, X3)

To the best knowledge of the author, this study is the first to include such a high number of senior experts who represent nearly the whole population and the first to include various other relevant stakeholders in senior positions. There is also no comparable study using face-to-face interviews (instead of telephone interviews), which is important considering the confidential nature of some of the questions and answers.

Outlook

After the qualitative content analysis of the interview data, the characteristics of several forms of informal airport-airline cooperation will be identified. One preliminary finding is that airports with attractive catchment areas and capacity constraints follow a completely different strategic cooperation approach than those with less attractive catchments and no/little capacity constraints. All findings will be presented to the same experts through an online survey, where they will be asked to express the level to which they agree to the findings and to provide more information, if and where applicable.

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