

**Air Transport and Tourism - perspectives and challenges
for destinations, airlines and governments**

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Abstract

Air Transport and Tourism are two interlinked areas with important interdependencies. Tourism was a driving factor and enabler of many developments in air transport as new business models like charter emerged. On the other hand air transport did lay the grounds for entirely new destinations or tourism forms like long haul excursions. In this contribution these interlinks are going to be analysed based on a system model. As a key influential factor the type of business model turned out to be decisive for the influence of a destination as well as for an airline. For the strategic development of destinations a clear airline policy and air access strategy seems to be necessary. For airlines an assessment and understanding of the business models of destinations is essential. By shaping the external regulative environment of air traffic government may influence air traffic as well as tourism.

Keywords: tourism, air traffic, business models, destinations.

1. Introduction and Research Question

It would be too short sighted to just consider a one direction influence from air transport as a driving factor of tourism. Developments in tourism, especially new forms of tourism and new forms of destinations also affected air transport by creating new forms of demand and providing the bases for example in form of attractions to develop traffic streams. The availability of attractions like Theme Parks or the demand of second home owners for flexible travels to their second homes are important for creating big and regular enough traffic streams for Low cost carriers. New forms of travels like short vacations, visit friends and relatives (for the relevance of these trends in saturated travel markets compare Bieger, T., Laesser, C. 2001, Travel Market Switzerland) also ask for new flexibility and lead to a shift from charter to Low cost carrier. Therefore, it is worthwhile to closer analyse the interrelation between tourism, especially tourism destinations, and air transport. Therefore the goal of this paper is:

1. to develop a systems model to analyse the interrelation between air transport and tourism.
2. to develop an analytical framework to analyse these interrelations based on the most important influential element of this systems approach.
3. to derive conclusions for airlines destinations and policy makers.

2. Rational

The development of Air transport and tourism can be structured in 4 stages:

1. Tourism as a neglected business

Scheduled and regular Air Transport did start after world war I with postal services and services for business people. But very early, already in the thirties with the emergence of bigger planes like the DC2 and DC3, leisure and tourism traffic became an element of the passenger portfolio.

2. Tourism as a side business

In the aftermath of world war II with the abundance of airplanes available network and flag carriers did rely more and more on passenger revenues stemming from tourists. Swissair for example operated in the sixties even a winter link from London directly to the upper Engadin to St. Moritz. Even more, a new type of airlines did emerge. Charter airlines operated with DC4, DC6 and similar airplanes and opened

new destinations for traditional markets in the United States and Europe, for example the Canary Islands, Hawaii, Barbados, etc..

3. *Specialisation for tourism*

With the development of wide-body airplanes, a new dimension of tourism and air traffic development emerged. A new generation of aircraft allowed for even cheaper prices and airlines had to rely even more on the leisure and tourism market to fill the new capacities. New tariff categories like Apex or Superapex laid the grounds for long haul intercontinental tourism with network carriers.

4. *Tourism and business traffic interlinked*

The latest and by now the last stage of development occurred based on the deregulation of the air transport industry in the eighties in the United States and in the nineties in Europe. New competitors besides the flag and network carriers have been founded and a new business model, the so called Low cost Carrier model has been developed. With their point to point flights between sometimes peripheral airports on a very cheap price level this new type of air transport attracted huge traffic streams. New forms of tourism like individual short haul city tourism or residential and second home tourism and also visiting friends and relatives fed this new offers in the airline industry. Low cost carriers substituted the traditional charter services on many short haul OD's.

This short chronological analysis shows the strong interlinks between the development of tourism, especially specific forms of tourism and destinations on one hand side, air transport and different forms of airlines on the other hand. In fact air transport has a major quantitative influence on tourism:

- First of all Air Transport is of major importance for many tourism countries at the main form of transport. In some countries and places up to 100% of the international tourism arrivals come through air transport with extreme cases like Malta or Ireland or Iceland where 100% of all international arrivals account for this form of transport.

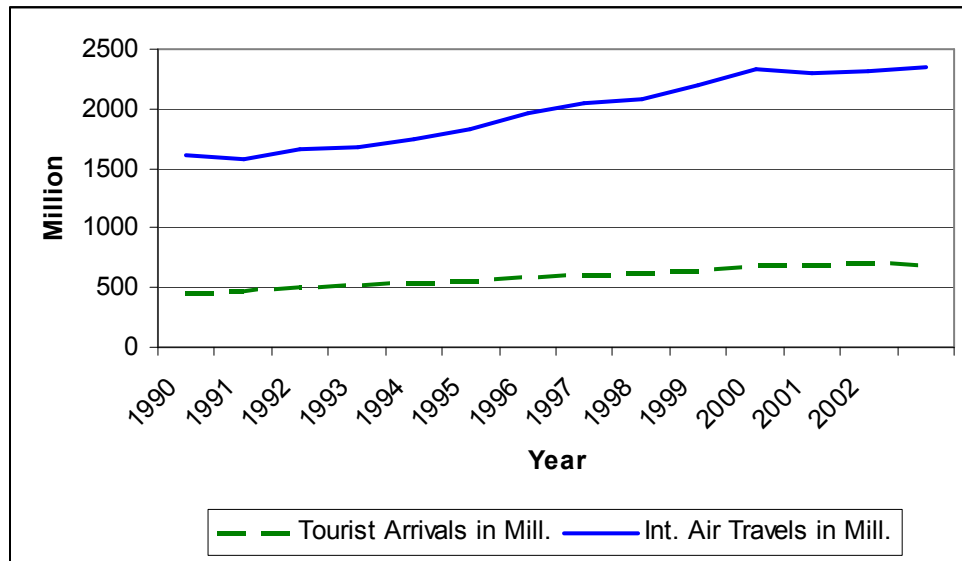
Table 1: Air transport's share of international tourism in specific places

Country	Air transport's share of arrivals (%)	Country	Air transport's share of arrivals (%)
	2000		2000
Japan	100	Cyprus	84
Taiwan	100	India	83
Australia	99	Thailand	80
New Zealand	99	Greece	79
Philippines	98	Egypt	76
Korea	95	Singapore	74
Dominican Republic	94	Puerto Rico	73

Source: WTO, Madrid 2000, according to Keller AIEST 2002

- The cheap availability of air transport can also be considered as one of the main driving forces of international tourism development. There is an interesting correlation between the number of air travels and the international arrivals of tourists.

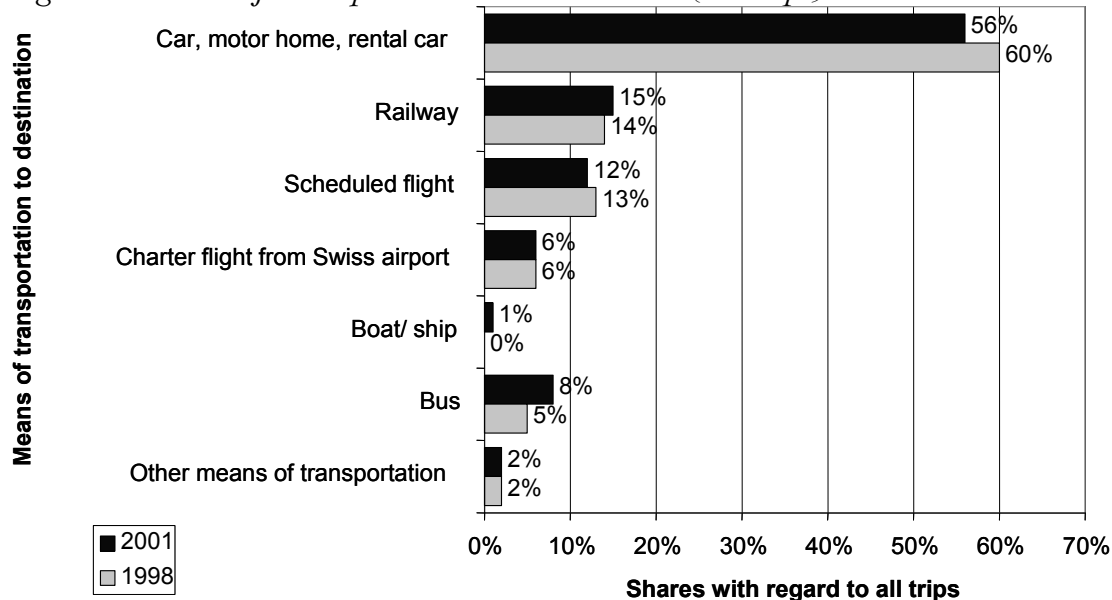
Figure 1: International tourist arrivals and air travels



Source: World Tourism Organisation (WTO)

- In well developed travel markets there is an increasing importance of air transport as main transport means for overnight stays of more than 4 nights. The share of charter flights however continuously decreased. This can be shown at the example of the Swiss travel market, whereas Switzerland as an affluent country with a well developed travel industry can be considered as a kind of a role model for this development.

Figure 2: Means of Transportation to Destination (all Trips)



Source: Travel Market Switzerland 2001

Also the structure of tourism in terms of type of destinations or type of travels has been influenced by air transport development. For the above mentioned latest stage with the upcoming of Low cost carriers a series of case studies of destinations, especially in northern Italy, exists where new Low cost connections led to an access to new markets and a significant increase in certain forms of tourism (Signorini, A. et al, 2002). The evolvement of long haul charter flights allowed the development of overseas destinations like the Caribbean Islands or the Maledives and Seychelles

(Kaspar et al., 1993). This leads for example to a new competition in winter tourism with warm water destinations as a new alternative to ski destinations.

3. Systemic models of air transport and tourism

System analyses always played an important role in tourism. Tourism can be defined in the following way:

- Tourism includes all relationships and appearances which result when people travel to or stay at a place which is neither the main and permanent domicile nor their place of work (Kaspar, C. 1996).
- The WTO defines international tourists as persons who visit another country than the one which is their usual residence for any other reason than for working (Inskeep, E. 1991).

Tourism by these definitions deals with persons and their effects who stay or move around in other areas than their usual area of work and life.

Modern tourism research analyses the interrelation of different spheres of tourism like demand, supply, transport with the relevant environment. The methodological type of system analyses in tourism changed during the last 30 years and followed the developments of system analyses in general (Bieger, T. 2004).

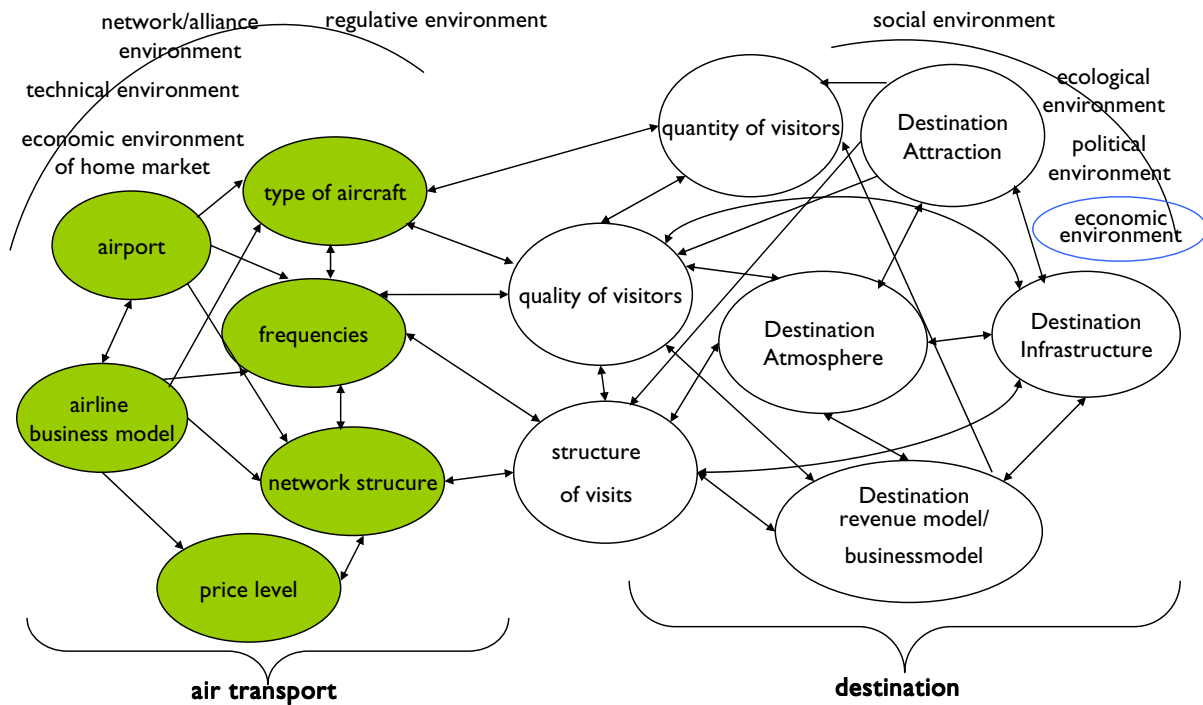
Figure 3: Development of System Analyses in tourism

Level	Type of relationship	Example of authors	Examples of tourism systems
Closed systems	Simple, linear causalities → suitable for simple problems		Implicit in Hunziker/Krapf 1942
Open Systems: basic configuration	Causalities as structural model which is open to other systems	Ulrich 1968	Kaspar 1975
Open Systems with interactions	Consideration of interactions, feedback, intensity, etc., to manage complicated problems (e.g. paper computer) → complicated problems	• gen. Vester 1986 • in Gomez/ Probst 1996	Krippendorf 1986
Self referring systems	Consideration of system transformation → complex problems	• gen. a.o. Luhmann 1984 • in Rüegg-Stürm 1999	Bieger/Von Rohr 2000

Source: Bieger 2002

The following model shows the connection between air transport and tourism. Air transport providers bring travellers to their destinations.

Figure 4: System Model of air transport and tourism



Source: Own presentation

For this (compare figure 4) explorative systems model we will argue on the second level of system analyses and try to develop an interactive systems model.

The attractiveness of destinations always stem from their natural resources like beauty of nature, attractiveness of culture, etc. combined with infrastructure like hotel/accommodation infrastructure together with the atmosphere created by especially the interaction of guest with their fellow guests and with locals. The three elements are interlinked. Natural resources can be an excellent basic for the development of infrastructure like beaches for beach resorts. Infrastructure as well as natural resources or local culture via artefacts are an important basis for atmosphere and attractions. The comprehensive attractiveness of a destination draws tourism demand.

Tourism demand can be divided into the pure quantity of demand, the quality of demand in terms of visitor structure and the structure of visits in terms of length, goal of visits etc. There are also important interlinks. The structure of visitors, for example, heavily influences the atmosphere of a certain place.

The structure of visits influences the structure of infrastructure. The pure quantity of visitors affects for example the natural resources by overcrowding effects etc. The structure of visits, the structure and quality of visitors as well as the quantity of visitors are linking elements to air transport. The number of flights in terms of frequencies as well as the type of aircraft affect the quantity of visitors through pure capacity effects. The type of aircraft used and the availability of seats influences the prices and by this the structure of visitors. The network structure of the airline and especially the position of the destination airport within these networks determines the markets accessible and also the price structure and thereby the structure of visitors and the structure of visits. Last but not least, the markets accessible through the network at certain price levels determines the quantity of tourists and also the structure of visitors and visits.

The accessible markets or the position in air traffic networks, the frequencies and also the type of aircrafts used for these services are a result of the interrelation of airports and especially airport infrastructure and strategy on one hand and airlines and especially their business model on the other hand. Destinations that are in reach of an airport with excellent infrastructure meaning runway of more than 3,000 meters length, departure and arrival services, etc. tend to attract bigger airplanes with lower frequencies. The strategic interest of airline alliances to compete for feeder traffic in boundary areas between main markets of alliances leads to services to even small airports with regional airplanes.

Whether an airport is served by low cost carriers or even developed to a hub largely depends on its infrastructure and its home market. The air transport subsystem is also heavily influenced by the regulative environment as well as technical developments. For example, the development of regional airplanes allowed for a new network structure that also included smaller airports. Also the economic strategic environment in form of network alliances play an important role.

There are some other interesting interlinks between air transport and destination system. For example, an airport too close to a destination with too much noise and air traffic can reduce the attractiveness of a destination through the ecological and social sphere. In this model interlinks between tourism and air transport can be shown very easily. A development of a new attraction based on infrastructure like a Theme park leads to additional short visits to a destination and by this quantity and structure of visits is affected. Airlines might react by increasing the frequencies or changing the type of aircrafts. A development like this might also attract new types of airlines like low cost carriers, which in turn adds even more visitors. On the other hand the inclusion of an airport into a big alliance system like this was, for example, the case with Bozano a few years ago, affects the quality of visitors.

In general an improvement of an attraction in a destination, for example, can draw developments of the local airport. This could help to attract airlines and even convince one airline to use this airport as their regional hub which would improve the services, the capacities and also the frequencies which would improve the quantity and quality of visitors. This could provide the destination enough revenues to further develop its attractions. Virtuous circles can develop. Vicious circles could be developed if a destination is in a declining stage and the competitiveness of their attractions are losing. It could be the case that network carriers are replaced by low cost carriers which would lead to an increased number of less wealthy visitors. At the end, the destination would be faced with more negative externalities and at the same time less revenues which would reduce the potential for further investments into their attractiveness.

4. Business models as a key factor

The destination subsystem is very much driven by the configuration of the attractiveness. The attractiveness is based on the atmosphere, the quality of accommodation and services or the attractiveness based on natural resources or social environment. This is where the protectable market positions or the so called strategic success factors of the destinations lie (Pümpin 1986) or where the main revenues are gained. There are destinations which rely heavily on their basic resources. Especially places with a natural beauty like the Iguazu Waterfalls or certain cities. In this destinations the accommodation industry and other tourism services based on the uniqueness of these resources. Very often and in most cases there is a huge variety of tourism service offers and markets work. The revenues are wide-spread through all

tourism services. A second type of destinations relies more on the quality of the services itself because their main and basic performance can be considered more as a commodity. An example could be Beach resorts or Ski resorts. This type of resorts usually get most of the revenues through accommodation and entertainment or activity facilities.

There are two different subtypes of these destinations. More centrally managed destinations where a company through central governance is able to control and coordinate the whole service chain. In this type of destination it is also possible to offer integrated service chains. This allows for integrated revenue systems with hotels at low price levels and on the other hand to make the profit on activities like skier transport. Decentrally managed destinations consist of independent small companies. A third type of destinations could be destinations with even a higher level of comodification. In destinations of that type, a lot of second homes dominate, the ownership structures is very decentralized. Therefore this type of destination can be considered as very individualistic and hardly organized.

There also exists a differentiation between the centralized forms of destinations of this type with no active management of the second home capacities and more centrally managed types where also the second homes in many cases are professionally managed and rented out (Bieger et al 2005 and 2005a). Typically, North American resort destinations can be considered as centrally organized. There are some which rely mainly on traditional hotel business and others on private second homes. This differentiation of different form of destinations can also be considered as a differentiation according to business models.

A business model is a simplified plan on how companies create their value added in networks (Bieger, T. et al. 2002). There exist different types of structuration approaches for business models (Amit, R., Zott, C. 2001) The two extreme types of destinations can be differentiated according to a eight-dimension classification scheme (Bieger, T. 2002).

Table 2: Different business models of destinations

	American Ski Resorts at the example of Intravest	Traditional destinations
Customer Groups	High-income, wealthy babyboomer	Wide target group
Benefit	Sport resort with focus on Golf, Ski and nature experience	Wide definition of the benefit of nature experience, recovery, sport and culture
Communication	Clear establishment of the single local brand like for example Whistler, the brand of single mountains like for example Blackcomb for ambitious snowboarder and skier	Decentralised, fragmented marketing
Revenue model	Consequent internalisation of indirect return; up to 50% of consolidated group return from sales of property.	Classic, particular allocation of partial benefits (hotel prices, mountain railway prices)
Model of Growth	Creation of customer-	Decentred regular

	relation-programs; purchase new destinations and mountains	customer programs of individually companies
Core Competence	Design of resorts, promotion of innovative forms of property (time share)	Partially local culture
Useful Networking Partner	Tour Operators, Travel Agencies; Airlines as feeder	Strong dependence on internal and external network partners
Model of Coordination	Internal network through hierarchy/ownership (all essential suppliers of hotels, cable cars and ski schools are in possession of a company); external network on the basis of clear negotiated contracts	Internal network through market or partially implicit contracts, external network through market or partially explicit contracts

Source: Bieger 2002

The different types of business models of destinations rely on different structures of visitor streams. Decentralized destinations dominated by second homes, for example, lead to in general strong visitor streams that are regularly spread throughout the week due to the trend to short time holidays. Centrally managed hotel dominated destinations on the other hand very often still rely on week-to-week organised tourism. Big intermediaries like tour-operators have a heavy influence on the tourism structure. Attraction based and dominated destinations also rely on strong quantified visitor streams but also flexibility throughout the week. Since very often this destinations also have an important role as business locations, there is the need for a mixed business and leisure traffic.

Also the subsystem air transport can be structured according to business models of the airlines. In general, airline business models can be divided into network carriers (also sub dividable into main or core carriers of alliances and regional or sub regional carriers), charters, and low cost as well as newly developed special segment carriers like specialised airlines just for business customers.

Table 3: Business Models of Airlines and their impact on tourism flows

Business model	Network / hub airlines	Regional airlines	Low cost carriers	Charter airlines
Success factors	- extensive market coverage/ market share and growth (due to network effects) - alliances - ability to adopt good and homogeneous processes and quality	- serving niches - flexible cooperation with alliances - cost efficiency - domination of regional markets	- simple processes - cost efficiency - strong traffic flows	- tour operation relation/ integration - cost effectiveness - integrated capacity management

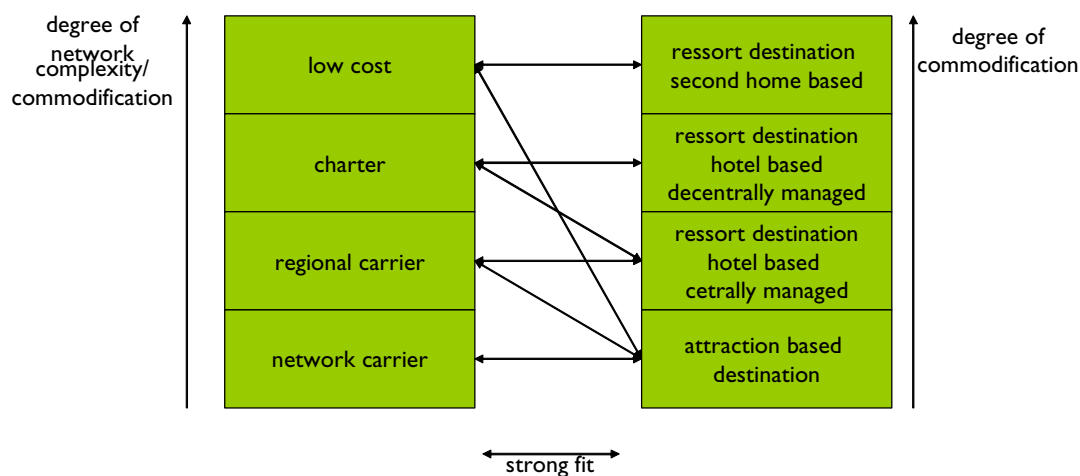
Driving factors at the moment	- search for markets and market share	- search for niches	- driven by search for routes with self generating, strong traffic flows	- driven by tour operators interest in markets and integration of the value chain
Weight of tourism	- tourism flows as a side product to get market share and size	- regional tourism flow (in the upscale segment) as important part of the business	- tourism just part of general traffic flows, no special attendance	- tourism flows (mass tourism) as main and often only product
Perspective of business model	- consolidation, division of markets leads to a reduction of services to peripheral destinations - concentration on best paying segments - better fit of capacities to well paying segments (smaller planes, more frequency)	- concentration of business to niches - closer cooperation with alliances	- own structures of airports, routes and markets	- concentration to strong touristic destinations
Perspective for tourism	→ side product for small groups of tourists	→ close cooperation with regional incoming operators and marketing organisations	→ maybe in the very long run blocked space for marketing through tour operators	→ individually marketed seats

Source: Bieger, T., Döring, T., Laesser, C. (2002)

Different types of airline business models also create different structures of air traffic and by this different types of visitor streams to the destinations. Network carriers usually lead to strong number of average paying customer with a mix of business and leisure travellers in their hubs. They rely on a strong inbound or outbound home market with respective capacities. Regional carriers very often serve more remote midsize or smaller destinations. With their smaller airplanes they provide reduced quantitative capacity, but because of the relatively high prices and the advantages of air access, segments with strong respectable buying power are brought to the destinations. Charter airlines more and more operate on medium and long haul routes. They lead to quantitative strong, but due to the fixed rotations relatively inflexible traffic streams. The emergence of new quality classes on charter planes attract new segments on this type of planes. Low cost carriers bring intensive, highly flexible, quite mixed traffic streams.

Comparing business models of destinations and airlines, it seems quite feasible that not all business models, due to the traffic floats generated or visitor streams needed, fit to each other. Table 3 provides an overview over the most likeable relationships. Obviously destinations with important natural attractions like big towns or strong natural resources are traditionally served by network carriers which find an interesting base for their mixed traffic streams. On the other hand destinations with huge number of the decentrally managed second homes and thereby a need of flexible traffic connection provide a good market basis for low cost carriers as the example of Nice or northern Italian towns shows. Traditional hotel destinations provide a good basis for charter, and especially in the well paying segment, for network carriers, especially regional airlines.

Figure 5: Analytical Framework: Matching business models of airlines and destinations



Source: Own presentation

5. Perspectives for policy makers, airlines and destinations

The development of air transport and tourism rely heavily on each other. In a systematic interrelation virtuous as well as vicious cycles can work. Important seems to be the fit between business models of airlines and the deserved respective destinations. Therefore airlines and destinations have to take this interrelations into account and analyse carefully each others business models. Airlines should also take into account that the interrelations and aim at a long term win-win partnership. This could include investing in a destination in form of marketing or secure mid term profitability through payments by the destination as a kind of service fee for the airline to operate flights to that destination.

Destinations on the other hand should carefully select their air access strategy. They either should invest in improving the airport if they are interested in, for example, bigger planes or want to attract low cost carriers through special services like low handling fees.

Government should be aware of the interrelation between air transport and tourism. Integrated traffic-tourism policies therefore should be developed. These policies should reflect strategic economic goals.

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