

TOWARDS A MODEL OF AIRPORT-AIRLINE INTERACTION

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ABSTRACT

Airports and airlines are the most prominent and important exchange partners within the aviation industry. However, despite their mutual systemic linkage, their actual business relationship is still characterized rather by emotion and skepticism than by analysis and reason. Researchers have yet widely ignored to systematically analyze this complex exchange relationship and to thereby facilitate airport-airline interactions and overall air transport system efficiency.

This paper develops a conceptual framework identifying both the major elements of the airport-airline relationship and their dependencies. Our model captures environmental (e.g. complexity or stability) and actor-related influences (e.g. strategy and structure) on the exchange relationship and incorporates their impact on the relationship outcome in terms of service quality and relationship satisfaction.

Our framework provides a structured view of airport-airline interaction and has the potential to support the decision-making process of airline and airport managers. Furthermore, by providing a novel conceptualization of this complex and yet under-researched exchange relationship we provide a platform for further empirical research on the airport-airline interface.

Keywords: Inter-organizational Relationship, Interaction Model, Air Transport

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1 Introduction

The airline-airport relationship is in a process of change. This is not only due to the rising importance of non-aeronautical revenues for airports which are increasingly adjusting their customer definition from exclusively airlines to shops and the individual passenger (Francis et al., 2003). International competition among airlines increases in intensity with the proliferation of deregulation -- the EU-US Open Sky agreement has just been signed (Economist, 2007) -- and the rise of new, potent entrants, e.g. the rising carriers of the Arab Gulf region (Delfmann et al., 2005; O'Connell, 2006), airlines are seeking new competitive parameters to differentiate themselves and/or to streamline processes. The traditionally neglected interface between airline and airport is increasingly seen as a fertile well for both actors to realize both (see table 1).

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| BCG Report, 2004 | „In all cases, [airport] operators will have to work much more closely with the carriers to optimize joint interfaces and to leverage cost and revenue synergies. |
| Spinetta, CEO AirFrance & IATA, in: Jarach: Airport Marketing, 2005 | „From the customers' point of view, closer cooperation will be increasingly necessary for the simple reason that if customers don't have a good perception of the situation (...), it will obviously impact on the image of both partners.“ |
| Gerber, Vice President LH Aviation Infrastructure Management, in: JATM, 2002 | „..., thus establishing a solid basis for a strong partnership between airlines and the airport.“ |

Table 1: Prominent Voices on the Airline-Airport Relationship

Around the globe, the airline-airport relationship takes different forms. Classical and neoclassical contracts between airline (customer) and airport (supplier) have long been the norm in Europe. More integrated approaches are pursued in other parts of the world. e.g. by Asian and Arab nations where airport operator and airline are part of the same group and where part of their mission is to support each other for the sake of the countries competitiveness and economic development. Where the nature of the relationship is not mandated, it is the result of a more or less expanded history of interactions among the transaction partners and can be consciously altered. Due to their long-term orientation, neoclassical contracts, for example, need adaptation and specification which are both performed as the result of the contracting parties' joint history and serve as the basis for their future interactions. An airline's hub airport has evolved into this

position with the growth of the airline, and so have their interactions, reflecting that the dependency relation between them has become increasingly distinct. This high interdependency, however, can lead to a mutually supportive relationship or may result in tensions and pose difficulties for both actors strategic and operational development. The practical importance of the ability to shape the airline airport relationship – at least from an airline perspective – is illustrated by Lufthansa's acquisition of a minority stake in Fraport, the Frankfurt airport operating company, which, *inter alia*, is aimed to ensure higher operational and process quality through a shared understanding of each other's objectives and processes (Fuhr & Beckers, 2006).

The ability to analyze and improve the relationship between airlines and airports in a holistic manner is therefore of utmost importance for both actor groups. Whereas companies see an urgent need to restructure and improve the airline airport interactions, academics have been slow to react. Only recently has the airline airport relationship been subject to more detailed studies. Albers et al. (2005) turn to a strategically oriented analysis of the hub airline and hub airport interface. They analyze the value chains of these actors and identify areas where closer coordination and integration in form of a strategic alliance should result in strategic benefits. Auerbach & Koch (2007) build on their approach and present two successful cases of airline-airport cooperation. Fuhr & Beckers (2006) use a transaction cost theoretic approach to analyze vertical governance structures between hub airlines and hub airports on the one hand side and base airports and value based airlines on the other. They propose that in the latter case weak hybrid structures are the preferred governance mode, whereas in the former strong hybrid modes are more efficient.

With this paper we expand the list of dedicated airline-airport studies by investigating the nature and structure of their relationship. We propose a first conceptual model to describe and assess the airline-airport relationship. With reference to selected theories, this clear cut conceptualization allows us to systematically examine the model components and their interplay, and to derive theoretically founded propositions with regard to their functioning. We finally employ our model to the situation of Lufthansa and Munich airport to illustrate its diagnostic value as well as to contextualize its managerial implications.

2 A Comprehensive Relationship Model

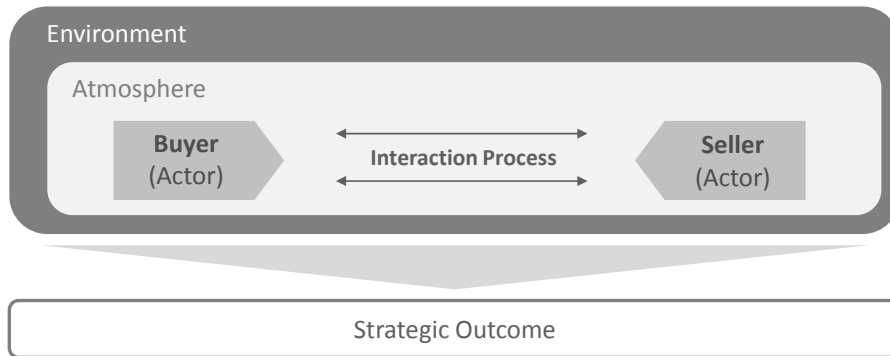
The analysis of business relationships is the domain of marketing researchers who have studied these phenomena by applying both, qualitative and quantitative methodologies (e.g. Ganesan, 1994; Jap, 1999; Sheu et al., 2006). However, most studies concentrate on a particular part of the relationship which is analyzed in detail and often linked with relationship performance or relationship quality. For example, Ganesan (1994) explores the determinants of long-term orientation in buyer-seller relationships and finds that trust and dependence play important roles regarding the long-term orientation. Jap (1999) examines the collaboration process in buyer-seller relationships and shows that collaboration which is characterized by coordination and specific investments increases profit performance and leads to competitive advantage. Sheu et al. (2006) present a collection of case studies in which five pairs of suppliers and retailers were examined in detail. The findings suggest that especially the intensity of collaboration enhances the relationship between the actors.

We build on these studies to conceptualize the airline airport situation. More specifically, the *interaction approach* introduced by the Industrial Marketing and Purchasing Group (IMP Group) provides the basis for our framework (Ford, 1980, 1990; Hakansson, 1982). The IMP interaction model is based on a broad empirical study including interviews with more than 800 buyers and sellers from 318 firms from all over Europe, and has subsequently been complemented by additional empirical studies (e.g. Medlin, 2004; Metcalf et al., 1992; Woo & Ennew, 2004). The IMP model allows for the representation of any buyer-seller relationship, and should therefore be useful for the airline-airport relationship as well. We subsequently present the components of the interaction model and adapt them to our empirical airline-airport context. In doing so, we define relevant constructs in each model element and derive research propositions on their interaction.

The interaction model (Figure 1) consists of four groups of variables that describe and influence the interaction between buyers and sellers: (1) The *interaction process* which embraces short-term exchange episodes (e.g. product/service exchange, information exchange, financial exchange, and social exchange) and long-term relationship behaviours (e.g. institutionalization and adaptation), (2) the *atmosphere* affecting/affected by the interaction, (3) the *actors* in the interaction process, and (4) the *environment* in which the interaction takes place. We propose to

extend the framework by a *performance dimension* in order to evaluate the strategic outcome of the relationship and to understand its achievement.

Figure 1: The extended interaction model



Source: Adapted from Hakansson (1982), p. 15

Market structure, environmental dynamism, and the social system together form the *environment* of a particular transaction which is taken as given for a specific situation, but have a major influence on interaction atmosphere and interaction process. There are various facets of the environment which can trigger the effects on the relationship, but in terms of management perception they are all captured by environmental uncertainty. As the *actors* are given, so are their characteristics on both a macro (organizational) and a micro (individual) level. Organizational factors include the companies' position in the market, their business strategy, the production and application technologies, and finally their size.

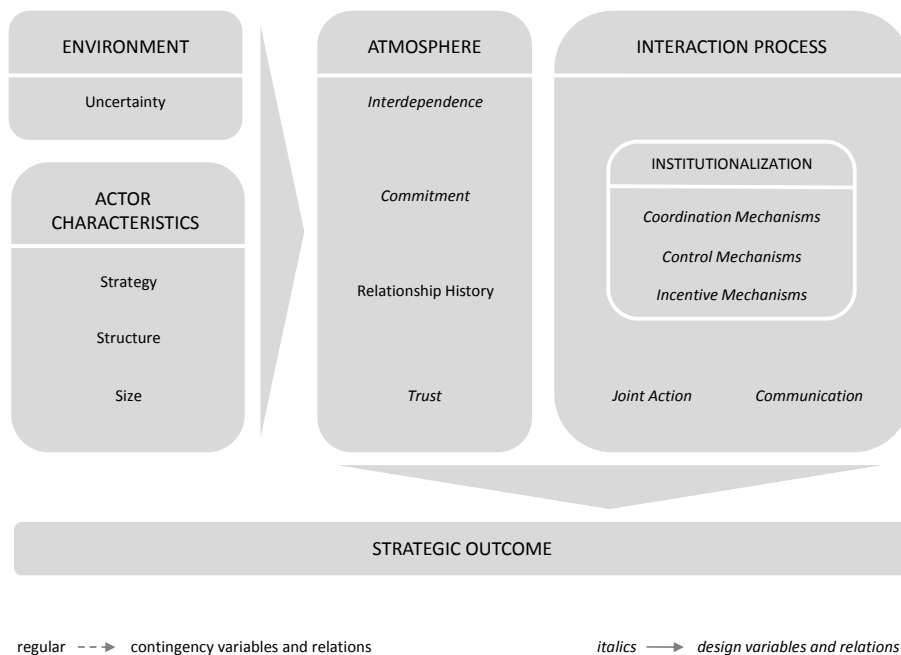
In addition to the external environment, an internal relationship environment which focuses on the inter-actor sphere is identified as crucial for and in relationship management. The IMP researchers call this micro-environment the *atmosphere*. It is mainly described in power-dependence terms, the actors' commitment to the relationship, as well as the level of trust between them. Another decisive factor is the relationship history as past experiences with the respective exchange partner can have considerable impact on the actors' behaviour. The atmosphere forms the immediate environment of the *interaction process* as the dynamic element at the core of the relationship and is differentiated into "episodes" and "longer-term aspects" (Hakansson, 1982). Episodes capture the short-term or operational aspects of a relationship (e.g. the placing or delivering of a particular order) which are represented by various forms of

exchange (product or service, information, financial and social). As soon as the strategic realm of a relationship is concerned especially the long-term aspects become relevant. These include relation-specific investments, joint action and institutionalization. The latter comprises all mechanisms which are necessary to efficiently organize each form of exchange between the partners.

3 The Components and their Interrelationships

The model we are constructing to grasp the airport-airline relation should be beneficial as both, a diagnostic tool which enables managers to first analyze the existing relationship and then to develop courses of action for improving the relationship based on the dependencies proposed in the model.

Figure 2: Extended interaction model including elements and variables



Source: Own illustration

This intention is also reflected by the propositions as we distinguish between two classes of variables and their interrelationships. The first class comprises variables which influence the

relationship, but which cannot be actively influenced by management decisions – they are thus *contingency variables*. In contrast, the second class of variables embraces those variables which can be directly influenced by management decisions. They offer considerable opportunities to shape the nature of the relationship and are hence referred to as *design variables*. We subsequently elaborate on these variables and their interplay. Figure 2 provides an overview of our relationship model.

3.1 Environment and Actor Characteristics

Highly uncertain environments hinder the formulation of complete contracts. Exchange partners which are involved in long-term relationships tend to require and rely on specific investments or other safeguards in order to protect against opportunistic behaviour. Since these investments cannot be deployed for alternative uses, their increase results in a cementation of the partnership and hence, leads to an increase in strategic interdependence between actors. Also, high environmental uncertainty leads to the existing relationships gaining in value as alternative exchange partners are either scarce or not willing to engage into long-term relationships due to the existing market uncertainties. Switching partners therefore becomes more difficult and increases the commitment to existing relationships.

Characteristics of the actors influence the relationship as well. An intensely discussed feature in the relationship and alliance literature is organizational size and its effect on inter-organizational relationships. In general, a large firm with considerable resources has a greater possibility of dominating its exchange partners than has a small firm. This, however, does not automatically apply in the airport airline relationship. On the one hand side, 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. The same holds for large airline companies which can almost dictate the conditions towards regional airports (e.g. Ryanair and Frankfurt Hahn). On the other hand, the heterogeneity of the airport's customer portfolio is an important indicator of its actual negotiating position vis-à-vis any airline. The traditional hub airport which is dominated by one airline exemplifies a situation in which the size of the airport per se is an unreliable predictor of the dependency relationship between the actors. A high level of interdependence exists between the hub airport and the hub airline, whereas the airport is less dependent on non-hub airlines.

Related to the hub versus non-hub airport feature is the effect that the actors' strategy and structure exert on the relationship. Low fare airlines are usually seen as swift organizations which do not carry the burden of decades of labour force related negotiations and the heritage of former monopolistic, state-owned companies – in contrast to the traditional flag carriers. Faster decision making, less formalization and potentially also a higher degree of flexibility are consequences that are of interest for interaction partners.

Besides their structural features, however, the partners' strategy influences the interaction as well. On either side (airports and airlines) three general business models or strategies can be distinguished. Airports are categorized in major hub airports, secondary airports and regional airports whereas airlines fall into major hub carrier, low cost airlines and regional carrier. Although the majority of relationships is usually determined by the business model (e.g. hub airport and hub carrier), the reality offers numerous examples for alternative combinations (e.g. hub carrier and secondary airport). As Barrett (2004) points out, the demands for airport services between full service carriers and low cost carriers differ considerably. Whereas full service carriers provide their customers with all kinds of extra services, the low cost customer needs to take care of himself since cost reduction is the dominating strategy variable for low cost carriers. Due to the greater extent of service offerings the number of contact points between airports and airlines tend to be much greater. This and the fact that service quality has a greater importance lead to an increased level of commitment between full service carriers and airports. Moreover, low cost carriers consider destination airports as fully exchangeable as they often employ a point-to-point network focusing only on the profitability of a particular route. In contrast, full service carriers use sophisticated hub-and-spoke networks in which each route can be unprofitable as such, but may contribute a significant portion of feeding traffic to the network. Also, the individual flights in a hub-and-spoke operation are interdependent feeder services and crew and aircraft are usually deployed according to complex rotation plans whereas low fare airlines use simpler shuttle operations. These do not rely on feeding traffic and crew and aircraft only shuttle back and forth on one route. Therefore, full service carriers have less flexibility in changing destinations which 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.

3.2 Atmosphere

The relationship atmosphere can be described along the dimensions of interdependence, relationship history, commitment, and trust.

Interdependence involves bilateral dependence or a form of reciprocity. Since the dependence is bilateral and the possibility of retaliation in case of defection by one party exists, the risk of opportunistic behaviour is limited. Adequate i.e. non-defecting behaviour supports a positive perception of the partner – it is a means to build trust and signal commitment and can, by this token, lead both exchange partners to expand their cooperative activities. Interdependence therefore reduces risk and encourages cooperation (Molm, 1994). Consequently, we suggest that interdependence is positively related to the scale and scope of cooperative activities (“joint action”).

The interdependence relation between the actors is reflected in the *institutionalization* of their relationship as well. *Institutionalization* describes the degree in which routines or certain responsibilities become a structural, quasi-permanent element of the relationship (Hakansson, 1982). The institutionalization of inter-organizational relationships is often referred to as their governance structure which we describe along their control, coordination and incentive dimensions (Albers, 2005).

Since control causes efforts and costs to the organization it will concentrate monitoring efforts on tasks and activities that are crucial to its success. 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. Such critical relationships will therefore be the subject of more intensive monitoring efforts as represented by the use of more or more complex performance indicators and measures. Since interdependence implies a mutual dependence by the actors in question, we propose that the use of more, more complex and potentially harmonized performance measures by both actors will increase as interdependence becomes more distinct.

Also, the involvement of more and especially higher hierarchical levels of both organizations can be expected if the interdependence between any two organizations increases. Due to the involvement of more hierarchical layers the initially sufficient occasional communication between individual managers of the partners will be replaced by more formal structures – i.e. the installation of project teams or even permanent teams charged with specific aspects of the relationship. The coordination mode among the organization shifts from an emphasis on mutual adjustment to different forms like standardisation or direct supervision. We therefore propose that more complex modes of coordination are employed as the degree of interdependence increases.

Incentive mechanisms are used as a complement to control and coordination mechanisms to govern inter-organizational relationships. The design of incentive mechanisms is guided by the idea to align the actors' operational decisions with their strategic rationales. They are hence motivational, or even educational instruments in inter-organizational relations.

An important category of incentive mechanisms are relationship specific investments. These are investments or changes that are tied to only one specific relationship. Their non-fungible nature means that they lose their value when the relationship is terminated. Such investments are often necessary to achieve strategic outcomes because they enhance efficiency in coordination and have several important relationship-stabilizing functions (Jap, 1999). These investments can include people, lasting assets, and procedures (Ganesan, 1994).

In the aviation context, there are various forms of specific investments on both sides. Airports may adapt their infrastructure to carriers' needs and airlines consider their airport choice when making strategic decisions. They station aircraft at their home base airport, develop their flight plan accordingly and invest in marketing activities. But adaptations can also be initiated by both actors and create a state of interdependency. Munich airport (MUC) and Lufthansa e.g., built an entire terminal together and shared costs as well as decision making authority.

Another example for an incentive mechanism is the design of specific payment and compensation schemes (e.g. transfer prices) which support coordination and control mechanisms on a voluntary and hence comparably more subtle basis. This supportive character, however, is most effective in balanced relationships, i.e. if the actors are mutually dependent. If one actor were more dependent on the other than vice versa, conditions and behaviour could be influenced

directly and more easily. The specific arrangement of airline specific user charges (or rebates on, or additional services provided for official user chargers) is an example in point: If airline and airport are interdependent, the airport can use its user charges as an incentive mechanism for the airline – i.e. design the pricing scheme in a way, that encourages compatible decisions and actions from the airline with the airport. If the relationship were unbalanced, the airline would (a) either not be receptive to such manipulation since it is in a position that allows for retaliation, i.e. by withdrawing from the airport, or (b) not be receptive to such manipulation because it lacks the importance for the airport to provide individualized charges. We therefore propose that airport user charges can only be used as incentive mechanisms in airline-airport relationships that are characterized by a high degree of interdependence.

Relationship history is another important variable in our model as partners learn about each other and the importance of other relationship variables may change significantly (Wilson, 1995) or relationship phases moderate the relationship between the variables (Jap & Ganesan, 2000). In order to distinguish between different effects of relationship history we introduce two sub-domains of history: past experience and duration. Driven by strategic considerations it took years before Lufthansa and Munich Airport decided to initiate a very complex and radical joint project which also involved major specific investments. The level of joint action is therefore based on past experiences with the exchange partner. Successful projects in the past will increase the tendency to expand joint activities and vice versa. The same holds for specific investments. With regard to the duration, Jap & Ganesan (2000) found that in the exploration phase, i.e. at the very beginning of a relationship, relational norms are not an efficient means of control as they are underdeveloped. However, in the build-up phase, i.e. later in the relationship life cycle, relational norms tend to be “particularly useful for safeguarding investments” (p. 241) as they motivate the actors to behave for the purpose of the relationship. It is also reasonable that the level of trust increases in the course of a relationship due to various trust building activities. Thus, we suggest that the relationship history of the exchange relationship moderates the relationship between trust and joint action or institutionalization, respectively, and due to past experiences also influences the level of commitment.

Commitment is without doubt among the most prominent variables in the analyses of relationships (e.g. Anderson & Weitz, 1989; Medlin et al., 2005; Rodriguez & Wilson, 2002; Wilson, 1995). It describes the desire to continue the relationship and to work for its stability.

Dwyer et al. (1987) point out that commitment is an “implicit or explicit pledge of relational continuity between exchange partners” (p. 19). The commitment concept implies that the relationship will bring future value or benefits to the partners (Morgan & Hunt, 1994; Wilson, 1995), providing a major reason why an exchange partner might be interested in its continuation. Heide & John (1990) hypothesize that “greater continuity expectations increase the level of joint action” (p. 26). First, it can be argued that temporal inequities within the relationship tend to resolve in the long run, i.e. with increasing duration of the relationship (Kelley & Thibaut, 1978). Second, it seems reasonable that the longer the expected duration of the relationship the more likely it becomes that each party will perform its activities faithfully due the enlarged “shadow of the future” (Axelrod, 1984). Thus, future interaction provides the opportunity to reward positive behavior and to punish negative behavior. Commitment should therefore be positively related to the level of joint action within a relationship.

Commitment can be demonstrated with long-term contracts between exchange partners. In most cases, both actors appreciate the advantages of lengthy contracts as they reduce 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.

Commitment also tends to be reflected in the way and extent in which the relationship is institutionalized. In general, the set up of dedicated and efficient governance structures is costly and are therefore only justified if the interactions within the relationship are frequent and recurrent (e.g. Williamson, 1991). For example, coordination mechanisms of standardization require investments of time and money to define and to document the standards, i.e. to provide the plans which efficiently coordinate future behaviour. The same applies for the definition of performance measures and control processes among the partners; and supportive incentive mechanisms are aimed at fostering the long-term success of the relationship rather than providing short term returns. We therefore propose that a high level of commitment is reflected in a higher degree of institutionalization of the relationship.

Trust is the willingness to rely on an exchange partner in whom one has confidence (Moorman et al., 1992). It involves the belief that the exchange partner will behave in the interest of the relationship and therefore significantly facilitates joint operations. Anderson & Narus (1990) state that “once trust is established, firms learn that coordinated, joint efforts will lead to

outcomes that exceed what the firm would achieve if it acted solely in its own best interests” (p. 45). Therefore, a positive relationship between trust and joint action can be stipulated. In this sense, trust is a motivation for increasing levels of joint action. This is also the case for the airport airline relationship. Especially at airports with several airlines of similar strategy and size, trust becomes a critical variable in terms of joint activities between airport and airlines. In this scenario, e.g. information exchanged information may be also very valuable for other carriers serving the same airport. Therefore, joint action involving higher levels of information sharing and greater potential for opportunistic behaviour requires a certain level of trust.

If trust is present, efforts to monitor tasks and activities within a relationship become less distinct since the exchange partners expect each other to act in their interest. Trust is therefore negatively related to control efforts in a relationship. Further, in the existence of trust, coordination mechanisms tend to be less elaborated as trust serves as “an important facilitator of dyadic coordination” (Jap, 1999, p. 466). Actors who trust each other tend to approach the relationship with a problem-solving orientation. They are more willing to share relevant information and clarify goals and problems and are hence more likely to achieve the envisioned results and benefits from their joint action. Trust is therefore positively related to joint action.

The level of trust in a relationship is also an important contingency factor for the level of institutionalization of the relationship. A high level of trust reduces the urge of the partners for continuous monitoring and performance measurement – the actors rely more on their counterparts and in their fair and supportive behaviour. The number and complexity of performance measures or the number and frequency of standard reports will therefore be reduced in a high trust environment.

3.3 Interaction Process

As indicated above, *institutionalization* can be conceived along the dimensions of coordination, control, and incentives and materialize in the respective mechanisms. Equity participation is a means of control and an incentive mechanism in inter-organizational relations. The taking of equity of one exchange partner in the other has several consequences. On the one hand side, an equity participation signals commitment to the partner. On the other hand, is ownership accompanied by control rights and can hence also be seen as a means to increase influence over the exchange partners decisions and strategy. The asymmetric distribution of control among the

actors and simultaneous signalling of commitment, however, can be achieved by mutual equity participation. For example is Lufthansa's acquisition of 9% of Fraport shares a clear commitment to Frankfurt, but also a means to influence Fraports strategic orientation. We therefore suggest that equity integration increases the level of commitment to the relationship, and that mutual equity linkage is positively related to interdependence and unidirectional financial linkage is negatively related to interdependence.

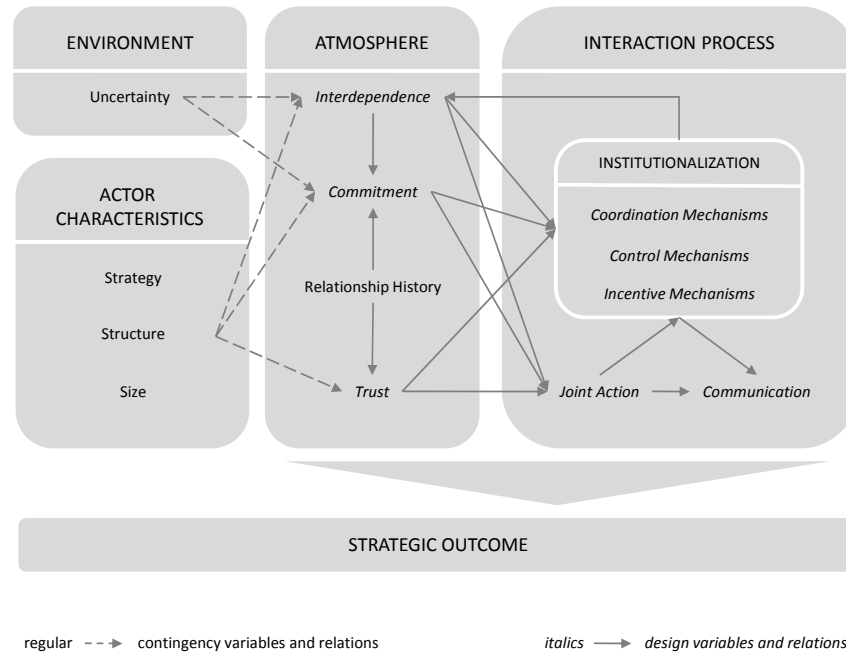
The level of cooperation or *joint action* among the partners is a further variable in the interaction process among the actors. It represents the "degree of interpenetration of organizational boundaries" (Heide & John, 1990, p. 25). Joint actions can include e.g. joint planning or forecasting, joint decision making, or joint financial projects. As the level of joint actions increases, the need for comprehensive coordination mechanisms is a logical consequence. With a rising number of joint activities or with an increasing scope of activities performed jointly, the coordination mechanisms employed in the relationship will become more sophisticated, and communication between the actors has to be expanded. For coordination, potential forums of mutual adjustment will need to be complemented by standardization or even direct supervision in order to keep direct communication on a manageable level. As the scope of the jointly performed activities increases, number and complexity of the performance measures – i.e. the control mechanisms – will become more sophisticated as well. Overall, we therefore suggest that the levels of institutionalization and communication increase as joint action among the partner increases.

3.4 Strategic Outcome

The relationship between airport and airline is a goal oriented relationship – both parties enter the relationship for their own benefit. The starting point of this paper was the finding that, beyond the mere transactional basis of the airport airlines interaction, the relationship can be used to obtain additional, strategic benefits for both parties. *Performance* is the critical overall variable in business environments (Wilson, 1995). Profit performance refers to the profits that result from the dyadic collaboration, as opposed to those profits earned by the efforts of one firm alone. It is not only a summation of the two firms' individual profits, but instead refers to the financial outcomes that result from the interdependence of effort and investments that reside within the dyad. This definition is consistent with the interest in the dyadic processes that occur

between firms (Jap, 1999). Figure 3 summarizes the stated propositions in the airport airline context.

Figure 3: Extended interaction model including construct relationships



Source: Own illustration

4 Case Study: Lufthansa at Munich Airport

Franz Josef Strauss Airport in Munich (MUC) started its operations on May 17, 1992. Today it is the second largest airport in Germany with approximately 30 million passengers per year (2006). From the very beginning Lufthansa (LH) was one of the most important airlines serving the airport. When terminal 1 was reaching its capacity limit of 20 million passengers, MUC decided to build a second terminal to handle another 25 million passengers a year. At that time, Lufthansa was faced with serious capacity restrictions at their home base Frankfurt Rhein-Main Airport (FRA). Due to this situation Lufthansa and Munich airport initiated a joint terminal expansion project. The new terminal 2 started its operations in June 2003.

From this point, the relationship of LH and MUC entered into a new era. The terminal was built by a joint venture company, 40% owned by LH and 60% by MUC. Given the investment volume

of 1.2 billion Euros, LH contributed almost 500 million Euros to the terminal project. This equity stake shows a considerable financial commitment to MUC. Also the fact that LH set up a second hub-and-spoke network around MUC was a long-term decision which displays the strategic importance of Munich airport. But not only LH showed its commitment. The airport constructed a terminal that was designed for and dedicated to LH and its Star Alliance partners, although the final terminal capacity was far beyond the actual catchment potential of the region. This implies that MUC was relying on the LH traffic to use the extended capacity efficiently. Thus, a situation of high interdependence was created. One could observe that both interdependence and commitment had a significant impact on the design of institutionalization processes within the dyad. Based on the memorandum of understanding, which specified the spirit and the intended instruments of cooperation (signed in 1998), a special project team was set up to develop and to agree on the user requirements of the new terminal building. The project group, in turn, extensively communicated with the building company which was controlled by an advisory council consisting of public owners, and senior airline and airport executives.

As described above the interaction process was characterized by elaborated coordination, control, and incentive mechanisms which were the prerequisite for joint activities in order to safeguard against opportunistic behavior of either party. Coordination was achieved by a high degree of mutual adjustment and standardization of work processes. All project groups were equally staffed and were following the goal of mutually satisfying outcomes. Elaborated conflict resolution procedures which were put in place allow for effective negotiations and to prevent major irritations. The control mechanisms had two aspects. First, the equal staffing and joint decision making had a disciplining effect on the interaction parties. Second, the monitoring responsibilities were directed to the building company and the advisory board. The building company was responsible for the controlling of constructing issues and the advisory board controlled and decided on all other issues during the investment stage. The incentive aspect was covered by a long-term agreement on airport fees which helped LH to protect against raising charges over time and provided MUC with a sound planning basis. In this relationship joint actions include planning and decision making, marketing and procurement of services. This organizational setup resulted in superior information sharing among the involved parties and led to organizational learning and finally to satisfaction and superior performance of the venture. This is mainly due to the fact that the actors followed a long-term vision when structuring the

joint expansion project. They installed routines and procedures not only for the investment stage, but also of the operation of the terminal. During this time issues like the structure and volume of charges, ongoing expenditures and smaller investments will arise. Concerning this the parties agreed on joint determination and evaluation of relevant cost positions and maintained the conflict resolution mechanisms during the investment stage of the project.

All investments into the relationship seem to pay off. After terminal 2 started its operations, MUC experienced the largest traffic expansion in history. In 2004 LH introduced six new long haul connections and in the continental traffic MUC offers 2200 weekly flights to 83 destinations – more than LH's primary hub Frankfurt (FRA).

5 Conclusions

Although the relationship between airports and airlines is among the most important interface in the aviation industry, its nature and determinants remain vague. We propose a first structured model of this interface. Our model provides an understanding of the relevant elements of this relationship and offers insights in their interaction. We hypothesize that uncertainty and the various actor characteristics have a significant impact on the relationship atmosphere (internal environment) which, in turn, affects the interaction process. Consequently, we suggest that a close and deep relationship needs well crafted institutionalization mechanisms in order leverage the strategic potential of the airport-airline relationship. One purpose of this paper is to provide an analysis tool of the relationship, and to thereby provide a foundation for practitioner decision on where and how to improve the relationship its outcome.

The proposed model is not complete, and some of its components need to be further specified. For example, it can be argued that especially in the aviation sector the variables size in terms of turnover or passenger numbers and business model show a significant correlation. Moreover, even the carriers pursuing the same business model vary significantly in size. Size may give companies basic positions from which they interact. In general, a large firm with considerable resources has a greater possibility of dominating its exchange partners than has a small firm.

Or, our conception of environmental uncertainty is rather general and encompassing. Especially in the aviation industry which is still characterized by a high level of regulation and

governmental restrictions such a one-dimensional construct may seem too narrow. On the other hand the analysis of regulatory effects is rather an object of economic research and does not belong to the field of business administration. However, it cannot be fully neglected since it leads to environmental uncertainty as the management perspective is concerned.

Furthermore, our argumentation is still purely conceptual, and provides theoretical propositions. However, it may serve as a starting point for intensive discussions on particular areas of the relationship and may help airport as well as airline managers to implement an efficient relationship management process. Additionally, it stresses several important directions for further research. First, it might be interesting to have a closer look on the strategic outcome of the relationship and its exact determinants. In complex relationship settings the sources of strategic outcomes are difficult to observe. In addition to the determinants the relevant constructs of the strategic outcomes in the particular airport-airline context need to be further distinguished, i.e. which performance measure play a key role regarding airport-airline relationships. Second, the moderating effect of different business models on the relationship variables and need further refinement. So far, we understand that low cost carriers have different demands relating airports, but it remains unclear if these include different relationships or just a different service level. Third, since we are currently presenting a theoretical model, an empirical test of the derived propositions would considerably enhance the explanatory power of the model. As we assume that the perception of the respective relationship may differ along airports and airlines, we would prefer to obtain and to analyze data from both actors in order to extract differences in airport and airline positions.

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