



**Restructuring of the Value Chain of the European Ground Handling
Market after the EU market liberalization**

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Abstract

In this paper we are looking at the organization of ground handling services in the aviation industry. We examine the market situation in Europe and especially Germany after the implementation of the European Union Council Directive 96/97, which deregulates the market, and try to answer the following questions: is there already a competitive market for ground handling services in Europe, or are there still barriers to competition ? What is the influence of the Directive on prices, quality, etc.? Who benefited from the liberalization of the market and who lost?

Then we compare the current organizational structures and look for differences among European countries and between Europe and the United States. We analyze these differences in the scope of transaction cost economics and institution economics. Based on this theoretical background we make suggestions for the optimal value chain organization of ground handling services and predictions for the future market structure.

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1. Introduction

The Ground Handling Services(GHS) are an essential part of the final product offered by an airline to the customer. GHS services are divided into 5 main categories (according to S&HE International Air Transport Consultancy (2003a)): ramp handling, baggage handling, freight/mail handling, fuel oil handling, passenger handling and other services. Below is the graphical representation of the GH services.

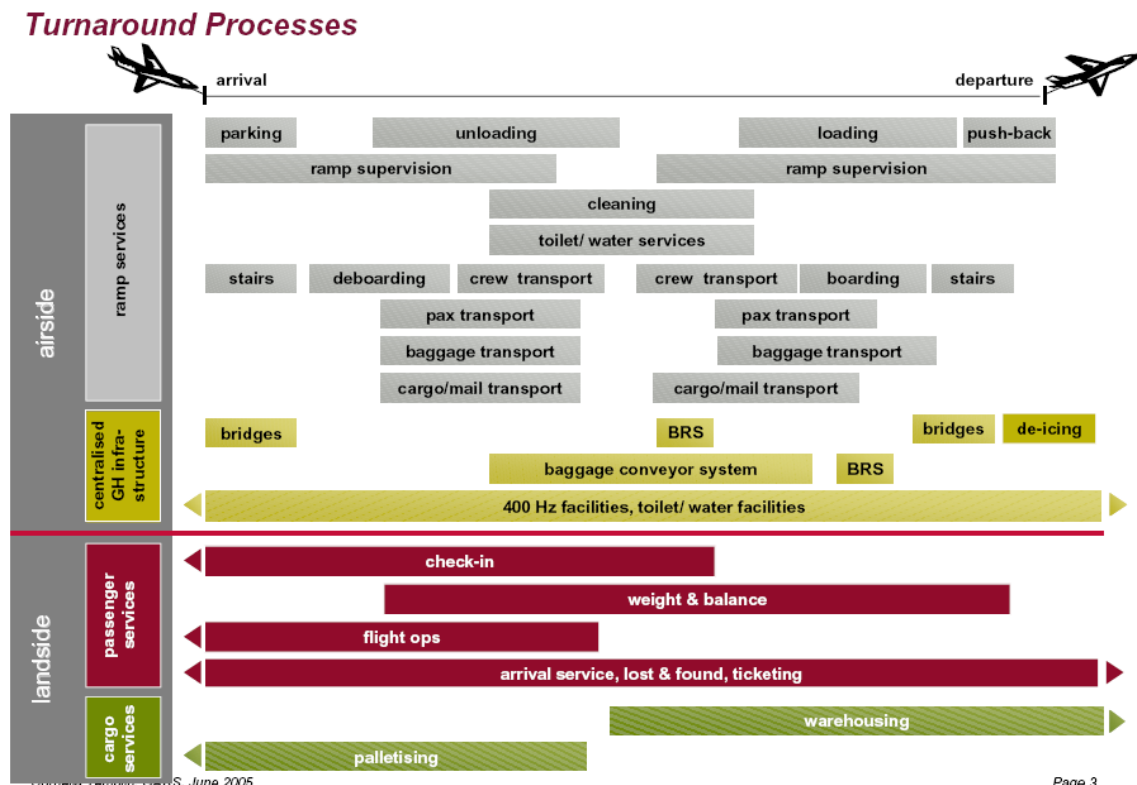


Figure 1. Overview of the Ground Handling Activities. (source: Fraport)

These 5 activities could be done by the airlines themselves (self-handling) or by a third party. The third party handlers can be airports, specialized ground handling companies, or another airline, which serves as a third party handler. The global market for GHS was estimated to have a size of about 32bn €in ... (Templin,2006).

Therefore, how effective these GH services are organized, and by whom they are performed is a significant issue for all the stakeholders in GH industry: airlines, infrastructure suppliers (airports), independent GH service suppliers (handlers), customers, and the

governmental authorities, who regulate the GHS market. In this context, the aim is to look for the most efficient market organization.

In the regulatory framework set by the governmental authorities, airlines, airports and handlers try to find the best governance structure for the vertical supply relationship among them. Certainly, both concerns are contributed by academics, by the help of theoretical and empirical work.

The vertical supply chain in ground handling starts with the airport continues with the handler and ends with the airline. Two organizational problems are experienced along this supply chain. The first organizational problem arises because the handler should make a contract with the airport, to be able to use the facilities in the airport for handling tasks. One possible solution to this problem is forward integration of the airport. The second problem arises because the airline could also make a contract with the handler. Similarly, an additional solution can be backward integration of the airline.

In this paper we are looking at the organization of ground handling services in the aviation industry in Europe and especially Germany after the implementation of the European Union Council Directive 96/97, which deregulates the market, and try to answer the following questions: is there already a competitive market for ground handling services in Europe, or are there still barriers to competition ? What is the influence of the Directive on prices, quality, etc.? Who benefited from the liberalization of the market and who lost?

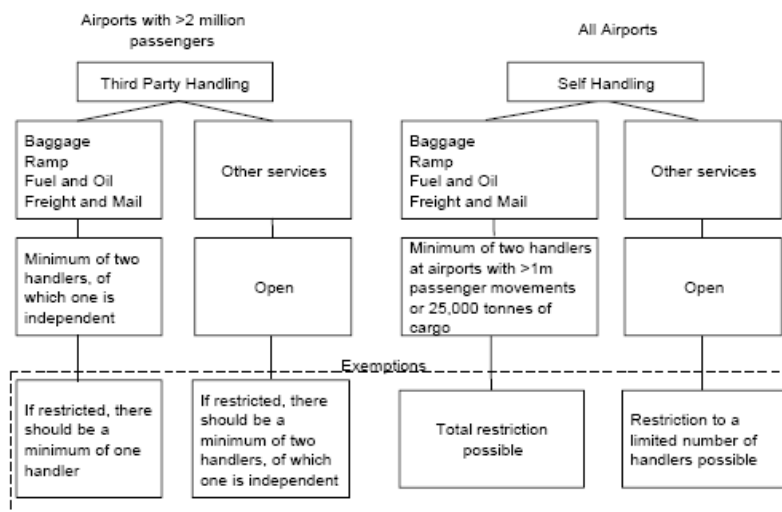
Then we compare the current organizational structures and look for differences among European countries and between Europe and the United States. We analyze these differences in the scope of transaction cost economics and institution economics. Based on this theoretical background we make suggestions for the optimal value chain organization of ground handling services and predictions for the future market structure.

2. The European Council Directive 96/67/EC

Historically, in each country in Europe there has been a national carrier, which dominated the market and worked closely with the airports. Because of this monopolistic situation, there were little to no choice for GHS providers on the market. Moreover, airports had to approve the realization of GHS.

However, after the liberalization of the airline industry, airlines were put under price pressure, which, in turn, forced them to reduce costs, including GHS costs. Through lobbying they exercised political pressure to liberalize also the GHS market, and hoped to get lower prices and better quality as result of competition. Opponents of the market opening were, as expected, the airports, which wanted to keep their monopoly and the trade unions, who feared more difficult and less lucrative working conditions for their members. Eventually, the European Council implemented Directive 96/67/EC, which enforced competition on the European GHS market, although allowing some exceptions. (see Flohr, 2007) . The main features are summarized below in Fig. 2.1 We will now look in detail at the developments at some of the major European airports below.

Figure 2.1: Freedoms and possible restrictions of Council Directive 96/97/EC



3. The Ground Handling market at 6 major European hubs¹

We now look at how the GHS market at Europe's six largest airports looks like after the market opening. These are London Heathrow (LHR), Paris Charles de Gaulle (CDG), Frankfurt (FRA), Amsterdam Schiphol (AMS), Madrid Barajas (MAD) and Rome Fiumicino (FCO). All airports are their country's largest, and serve as hubs to the respective national carrier (British Airways, Air France, Lufthansa, KLM, Iberia and Alitalia).

We observe significant differences between the Ground Handling markets at these airports with interesting variation in how the value chain is organized. Eight years after the implementation of the EU Directive (we work with figures from 2004), only two of the six airports, London Heathrow and Amsterdam Schiphol, had a completely deregulated market with much self handling by airlines in evidence.² Together with Madrid Barajas, the airport operators there and at London Heathrow and Amsterdam Schiphol no longer offer ground handling, whereas FRA, CDG and FCO still do. FRA is the only airport where there is not a single self-handling airline present, not even Lufthansa. Therefore the proportion of third party handling is largest in FRA - 100%. It is lowest in MAD - 27%

We observe significant variation in the value chain, with much selfhandling by airlines in evidence and also some airports strongly dominated by independent agents. In some countries the forward integration of the airport into GH service is however is still the norm.

London Heathrow served a total of 67.3 m passenger in 2004, which makes it Europe's largest airport. A total of eleven companies provide GHS there, seven of them being airlines, which do self and third party handling, and four of them being specialized ground handling companies. These are Aviance UK, Plane Handling, Penauille Servisair, and Menzies.

¹ *Much of this discussion is based on Templin, 2006.*

² Only on these two airports, some of the self-handling airlines do not offer also third party handling

Their market shares are as follows:

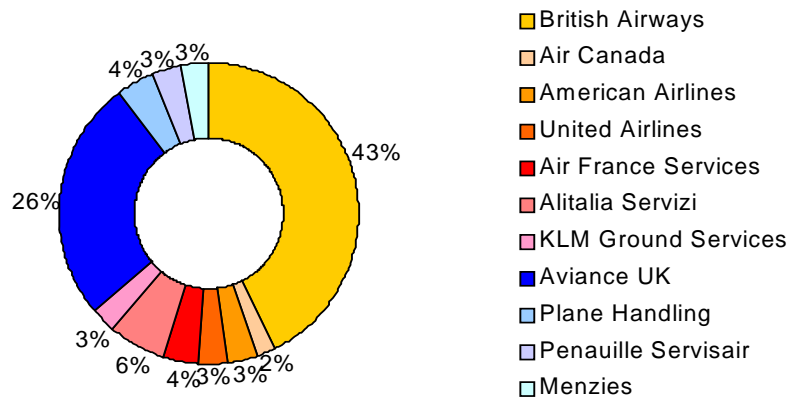


Figure 3. Market shares in LHR (see Templin, 2005b, p.14)

We see that the largest handler is British Airways, due mostly to its self-handling, while the largest independent third party handler is Aviance UK, holding 26% of the total market. However, airlines cannot really choose between all of the third party handlers, as none of them operates on all four terminals, and some do it only on one terminal.

LHR is also the most dynamic market of those discussed. Before the complete market opening, which occurred in 1999, eight airlines were providing self and third party handling. Right after that three independent handlers entered the market, and some airlines, which had previously been self-handling, decided to outsource their ground handling activities to one of those companies. The market experienced further changes in 2004, when Swissport, one of the global handlers active on LHR decided to quit the market and was replaced by Menzies.

Paris Charles de Gaulle handled 51.3 m passengers in 2004. The GHS market there is partially opened, with three new independent handler competing with the incumbents Aeroports de Paris (ADP) and Air France. The independent handlers are Penauille Servisair, Groupe Europe Handling and Swissport. Air France is the only self-handler on CDG.

The market structure is the following:

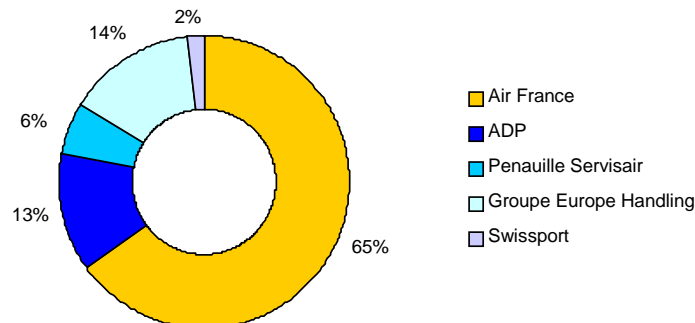


Figure 4. Market structure on CDG (*see Templin, 2005b, p.14*)

However, as in Heathrow, not all five handlers operate on all three terminals, which reduces the choice of airlines to two or three providers, depending on the terminal.

A specific feature of CDG is the use of subcontractors, who most of the time offer services to all licensed ground handlers.

Frankfurt hosted 51.1 m passengers in 2004, the third largest number in Europe. The special characteristic of Frankfurt is that, despite the large market size, not even the home carrier Lufthansa (having a market share of 63%) is self-handling. Airlines have a choice between Fraport, the former monopolist, and Acciona Airport Services, which entered the market in 2000, after a tender process. In 2004, Acciona already had a market share of 20%, although growth at the beginning was slow, partly because they were allowed to operate only on Terminal 2 until the end of 2000.

The fourth largest European airport is Amsterdam Schiphol, with 42.5 m passengers in 2004. There are four third party handlers present in Amsterdam: KLM, AviaPartner, Penauille Servisair and Menzies. Martinair has a license for third party handling, conducts, however, only self-handling.

The market is divided as follows:

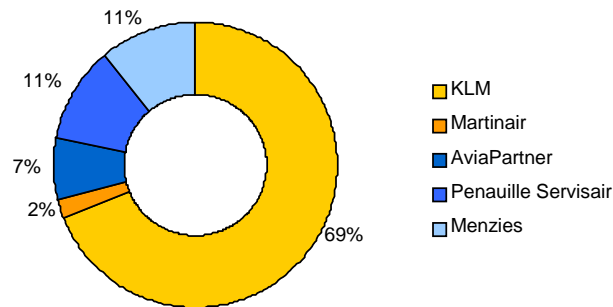


Figure5. Market structure in Amsterdam (see Templin, 2005b)

It is interesting to note, that a third party handler which entered the market in 1999, exited in 2002, without being replaced.

Madrid Barajas, with 38.7 m passengers in 2004, was one of the first airports where liberalization of the GHS market took place, as Spain started this process before the Directive was implemented. The company that received a permission to perform third party handling and become a competitor of the incumbent national carrier Iberia, was Ineuropa. There are also three airlines who do self-handling, but are not allow to offer third party handling. As in London and Amsterdam, the airport operator is not involved in the GHS business. Therefore, out of the six analyzed airports, Madrid is the one with the highest percentage of self-handling – 73%. Out of the third party handling market, Iberia holds 60% and Ineuropa 40%.

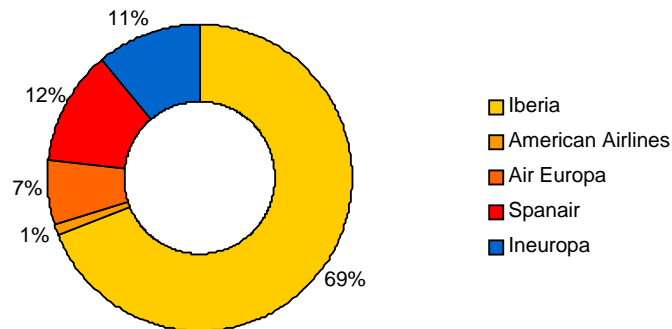


Figure 6. Market structure on MAD (see Templin, 2005b, p.14)

In Rome Fiumicino (28.1m passengers in 2004) the market is restricted to the airport operator (the former monopolist) and two airlines (Alitalia and Air One), which self-handle their flights, and provide also third party handling. There are no independent handlers and, although there is a third self-handling license, no airline has requested its service. Therefore the market looks like that:

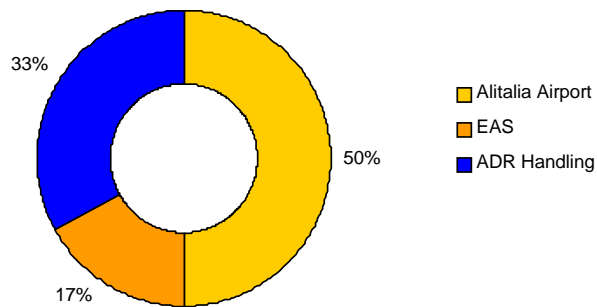


Figure 7. Market structure on FCO (see Templin, 2005b, p.14)

The market shares of Alitalia and EAS (Air One) are mostly due to self-handling while ADR (the airport operator) controls about 75% of the third party handling market.

4. Barriers to competition

As shown above, on all airports there is some competition, with the number of competitors ranging from two (Frankfurt) to eleven (London). However, there are still certain barriers to competition, even on the fully liberalized airports LHR and AMS.

At Heathrow, as at all European airports, a handler has to go through an approval process, if it wants to operate on a terminal it is not currently serving. The approval has to be granted by the airport operator, and aims at limiting the number of handlers due to capacity constraints. On the other hand, the incumbent suppliers did not have to file for a licence, as the new entrants had to do.

Capacity restrictions are also stated as the reason to keep potential new entrants out of the market also in Frankfurt (only two third party handlers, no self handlers), Paris, Madrid and Rom. This issue is even more important at smaller airports, which we are currently investigating.

This is, however, expected to change with a revision to the Directive, which is supposed to be implemented by 2008. It requires that at all airports with more than 20m passengers (all six analyzed airports fall into this category) there should be at least four third party handlers permitted, as compared to two handlers currently. Furthermore, the definition for self-handling is relaxed a bit, and handling an airline from the same alliance will also be considered as self-handling. The privileged situation of incumbents will also be changed and they will also have to file for a ground handling license. (footnote one the status of the new directive)⁵. Effects of the liberalization on price and quality, winners and losers of the market opening.

The purpose of the Directive was to achieve, through enforcing competition, lower prices and better quality of the ground handling services. To assess the effects of the policy, in 2002 the European Council hired the consultancy SH&E, which conducted a survey on a large

number of European airports. Here we summarize in brief the data on prices and quality (all data is from 2002).

Of all airports presented in the study, a price increase was reported only from the airport operators in Brussels and Manchester (prices on Manchester had fallen after the market opening there in 1992, and some independent handlers reported price decreases also after the implementation of the Directive). Some airports reported no price changes, and most reported price decreases, which were largest (up to 50%) in Lyon, Lisbon and Athens.

From the six largest airports, all reported a decrease in prices. Amsterdam, which had been a competitive market before the Directive came into force, reported decreases of only about 5 to 10 percent. In Frankfurt the airport authority reported a 5 to 15 percent decreases, whereas Acciona, the independent handler, reported just a decrease. Market participants in Madrid also reported just that there was a decrease in prices, without providing figures. The effects of the Directive seems to be strongest in Paris and Rome, where decreases of 20 to 30 percent were observed. An interesting case is London, where airport authorities declined to comment on prices, but some airlines reported 10 to 40 percent lower prices. Swissport, as an independent handler said that prices fell 25 to 30 percent and, as mentioned above, it exited the market in 2004.

As expected, prices fell most in countries where the markets were completely closed before, whereas countries with already liberalized markets did not experience significant changes, as did those that opened only gradually, as seen in the case of Frankfurt. However, many market participants argued that prices fell mostly due to the development of increased competition in the airline industry and not due to the Directive.

Considering quality, matters are not so easy to quantify. In general, quality decreases were reported from few airports, whereas most reported quality increase or no changes in quality.

It is a quite ambiguous picture that emerges from the study and it is difficult to derive strong conclusions from it, but in general we can say that quality stayed more or less the same. From the six hubs analysed, a decrease in quality is reported only from Amsterdam, with all other airports reporting no changes in quality. (see *SH&E, 2002*)

From the above statement we may conclude that the Directive achieved, at least partly, its goals – prices decreased, while quality, in general, did not change. We want, however, to know also who captured those benefits, and if somebody lost from the market changes.

It is clear that the airlines, which were the major driving force behind the market liberalization, and their customers gain from the lower prices. Unfortunately, there are no indications that this gains are passed to the passengers. This is due to the fact that ground handling costs account to only 4 to 7 percent of total flight costs (see *Smith, 2004, p.11*). Therefore, even a decrease of ground handling prices of 50%, would decrease total flight costs by 2 to 4 percent.

Improved quality, on the other hand, can easily be noticed by passengers, but, as stated above, we cannot conclude that service quality on European airports has improved as a result of the Directive.

The independent handling companies are also among the gainers from the market opening, as now they can grow by entering into new markets, therefore achieving further economies of scale.

The former monopolists have, expectedly, experienced significant losses of market share. For the airports we consider, these ranged from 11% (Madrid) to 67 % (Rome).

Considering the labor intensity of ground handling business, and that labor costs are about 80% of total costs in the industry (see *Sterzenbach / Conrady 2003, p.164*) we could expect that the price pressure has had a negative impact on employees, and this is the case. The respective countries have taken different measures to protect ground handling employees,

however they have affected only the incumbents' employees. A large part of the independent handlers' cost advantage is attributed to the fact that they pay up to 30% lower wages, and have more flexible labor force (*see Bender, 2005, p.8*).

6. Transformation of the Ground Handling Supply Chain and Theoretical Support

Before the implementation of EU Directive, various structures were observed in Europe, as stated by **Fuhr (2005)**. For example, passenger handling market was liberalized and competitive at most European airports, whereas in ramp handling market three different market structures could be observed. These were

- monopoly of backward integrated national airline,
- monopoly of forward integrated airport, and
- duopoly or oligopoly of independent ground handlers and self-handling airlines.

The EU Directive aimed at a liberalized governance structures in order to minimize the operating costs and while maintaining or increasing the quality in GH services. However, due to conflicting interests of stakeholders, the implementation of EU Directive is still criticized, because there are restrictions in third-party handling and self handling, award of handling licenses, minimum quality standards for handlers, etc. These issues are discussed at length in the document's underlying the recent revision of the Directive. (add footnote)

As a contribution to this debate , Fuhr (2005) made propositions for a more efficient vertical supply chain organization, taking Transaction Cost Economics (TCE) as a basis for his studies. Examining the main hypothesis of TCE, he developed an explanatory model specific to GH industry, and by the help of a qualitative case study in European Union, he tested these propositions.

In the following sections, first basics of TCE is discussed, hybrid governance structures are examined, then Fuhr's propositions and the conclusions he reached at the end of his case study are given and discussed.

As mentioned before, the market exchange along the supply chain may require contracts. Contracts are based on contractual law and define the conditions of exchange, in order to protect parties from opportunistic behavior, which is likely to be observed in the case of asset specificity and uncertainty after the contract is made. **(Besanko, 2000; Ménard, 2004)**. Transaction costs are “the costs of acquiring an input over and above the amount paid to the input supplier.” which include costs incurred before making the contracts (search and bargaining costs), opportunity cost of forgone transactions, costs incurred after making the contracts (enforcing costs) as well as the opportunity cost of not choosing more profitable activities, if there are any, by the end of or during the previous contract. **(Ghosh and John, 1999 ,Michael R. Baye, 2003,)** As for TCE, developed by **Williamson (1985, 991)** it concerns determining the most efficient organization of exchange markets for intermediate goods and services. For this purpose, TCE examines governance structures from self handling and vertical integration to market coordination, hybrid organizations being in between, and having common properties with both extremes. Hybrid organizations are costly specialized governance structures, such as strategic alliances, joint ventures, and Japanese subcontracting networks, etc. (Besanko, 2000). They have three different forms: Weak (with short to mid-term contracts), moderate (with long term contracts and reliable commitment) and strong form (e.g. Joint ventures or self-handling). As hybrid organizations get closer to strong form, the duration and the complexity of the contracts; as well as the vertical control exerted by the buyer on the supplier, increases.

According to Williamson, the determinants of transaction costs are

- the frequency of the contracts between two parties,
- the specificity of investments made for the supply relationship,
- -environmental or behavioral uncertainty,
- -bounded rationality, and
- -opportunistic behavior of individuals.

Therefore there are three main concerns of contactors, regarding the contracts along the supply relationships. Ménard (2004).

- a) The first is the *safeguarding* against contractual hazards, which arises because of specific investments and uncertainty. Contract terms on duration, quantity, and quality, adaptation clauses are examples of safeguards. Also reputation concern of the parties and mutual trust are other possible safeguards.
- b) The second concern of the contactors is *rent-distribution mechanism* of the contract. If the contribution of the contactors to the supply relationship or the size of the resulting rent cannot be easily measured, or if measurement is costly, the distribution of rents is an issue between the contactors. (Barzel, 1989; Ghosh and John, 1999). Three possible rent-distribution mechanisms mentioned range from the least formal to the most formal : reputation, negotiation devices (eg. Arbitrators for determining the shares of rents), and a formal authority (an entity composed of delegates, to make the decision of rent-shares.)
- c) The third concern is the *methods of enforcement*. The enforcement entities from the weakest to strongest are: trust, relational networks and formal governance.

Based on this theoretical background, Fuhr developed an explanatory model for ramp handling activities in ground handling industry. In his study, firstly the airlines and airports in GH supply relationship are categorized as follows: The airlines are divided into two categories as Low Cost Carriers (LCCs) and Hub-and-Spoke Carriers (HSCs). LCCs have simplified routes, with point-to-point transit flights instead of transfers at hubs, and have supply relationships with handlers at two kinds of airports: base and non-base airports. HSCs have reduced number of routes between a number of spoke-airports and a central hub-airport, due to transfers at the hub, and have supply relationships with handlers at hub airports, secondary airports and spoke airports. Second, the determinants of transaction costs are used as a framework to assign values to the intensity of supply relationships handlers and the above mentioned five types of airports. Based on these assignments, propositions about the relationship between the transaction determinants and governance structures are tested for HSCs with the qualitative data collected through interviews with airline purchase managers and handlers about 69 different contracts between HSCs and handlers at hub, spoke and secondary airports in EU. These steps are analyzed for HSCs below:

For the first determinant: frequency, it is suggested that HSCs' transaction frequency with handlers is high at hub airports, medium at secondary airports and low at spoke airports. Since low frequency is not sufficient for implementing complex and costly governance structures, it is proposed that strong hybrid organizations and self handling is only feasible for HSC at their hub and secondary airports. To test this proposition, the number of handling events at hub, secondary and spoke airports and share of handling events done by handlers n total handling events are measured. As proposed, the handlers have the highest share (48%) in hub airports. However the case of secondary airports remained doubtful.

For the second determinant: uncertainty, the environmental and behavioral uncertainty is considered separately. It is suggested that, environmental uncertainty between handler and the hub airport is moderate, whereas it is low between handler and secondary and spoke airports. This is interpreted as a sign of necessity of adaptation of contracts between two parties. Therefore is proposed that there is low need for contract adaptation because environmental uncertainty is low. To test this, purchase managers are asked if renegotiation of contracts were necessary due to external changes. 81% of them said no. Therefore the proposition s confirmed.

On the other hand, behavioral uncertainty is high between handler and hub airport, whereas it is medium between handler and secondary airport and low between handler and spoke airport. This is interpreted as a sign for cost of performance assessing. Therefore it is proposed that safeguarding entities are needed in secondary and hub airports for performance assessment, if behavioral uncertainty increases; since they are the airports where the human specificity is more crucial. To test this, the purchase managers are asked to evaluate the resources spent on performance assessing in a scale 1 to 7. At hub airports 80% checked values more than 4, whereas at secondary airports only 50% and at spoke airports 27% did the same.

For the third determinant: Specificity; dedicated specificity, human specificity and contractual specificity are examined. Since ramp handling equipment is costly to move, and especially at hub airports it is specific to the fleet size and structure, a hold-up risk is observed

at hub airports and high dedicated specificity is assigned to the relationship between handler and hub airports. Therefore it is proposed that there is a large hold up threat in relationships between HSCs and handler, and a medium hold up threat in relationships between secondary airports and handler. To test this, the purchase managers are asked to evaluate the capability of a competitor of the current handler to provide necessary equipment in the short run. Mostly at spoke airports competitors manage this to a great extent, according to the purchase managers. However, at secondary airports competitors manage this to some extent, and at hub airports they cannot manage it. This confirms the proposition that at hub airports there exists high asset specificity, whereas at secondary airports it is medium. Also human capital specificity is a part of the hold-up problem. Therefore purchase managers are asked to decide to what extent the operational personnel is replaceable. It is observed that at spoke airports they are replaceable to a great extent, at secondary airports to some extent and at hub airports they are not replaceable at all. To test the dedicated specificity managers are asked the level of the proportion of handling procedures, which are developed by handler specific to their airline. Similarly at hub airports 80% of the managers imply a high level of procedure specificity, whereas at secondary airports this portion is 45% and at spoke airports it is 30%. These three observations confirm the proposition that there is high specificity therefore high hold up threat at hub airports whereas this threat is at a medium level at secondary airports.

As the next step, the above mentioned three determinants of transactions are considered and propositions on the level of vertical control (i.e. the corresponding form of hybrid organization) are derived. It is proposed that weak hybrid modes should be observed between HSCs and handlers at spoke airports, moderate to strong forms should be observed between HSCs and handlers at secondary airports and strong forms should be observed at hub airports. In order to test these propositions the level of vertical control should be measured. Since it is not an observable variable, the three concerns of contractors are examined, which are safeguards, rent distribution mechanisms and enforcement methods, since these determine the level of vertical control in a supply relationship.

The measures of safeguards are chosen to be the contract duration and specification of the quality service agreement, which is a standard procedure followed between the airline and

the handler as a part of SGHA³. The contract duration at hub airports is on average 1919 days, whereas it is 940 days at secondary and 646 days at spoke airports. Similarly, at 67% of the SLAs made between airlines and handlers at hub airports were highly specified, whereas this proportion is 65% at secondary and 7% at spoke airports. Moreover other forms of safeguards, which are reputation, relational networks and trust, are also observed. It is seen that reputation and trust are more significant at spoke and secondary airports, whereas relational networks are less important.

Complicated rent distribution mechanisms are not observed among the contracts, which are the sample for data collection. It is concluded that this may be due to low environmental uncertainty.

As possible enforcement methods, arrangements such as the presence of a local manager or a quality manager at the airport, weekly or monthly operational and contractual meetings, and determination of malus payments, existence of a formal authority and other arrangements are observed. Moreover, the frequency of these arrangements in supply relationships is calculated. All of these arrangements are mostly observed in hub airports, medium in secondary airports and the least in spoke airports; indicating stricter enforcement methods at hub airports.

All the findings on safeguards and enforcement methods confirm the propositions about the vertical control, whereas the rent distributing mechanism does not contribute to the verification.

Lastly, it is proposed that limited competition in ramp handling market would give rise to governance structures with higher vertical control, based on a theoretical analysis of constraints and rights of agents in the ramp handling supply relationship. However this proposition could not find much support as expected. It is observed that especially at smaller airports ramp handling is done by publicly owned airports and it is inferred from the

³ Standard Ground Handling Agreement is a contracting standard in GH industry established by International Air Transport Association.

interviews that since public owners aim at maximizing regional welfare rather than maximizing profits, they manage to avoid the opportunistic behavior by lower prices.

When overall findings are observed among the several supply relationships between several airlines and their handlers at airports of different importance in EU, especially at hub and secondary airports the complexity and cost of transactions are relatively high; therefore high vertical control is observed. This is for the purpose of cost minimization and efficiency maximization. Therefore the handling-license award mechanism of EU Directive is strongly criticized in this paper. The EU Directive states that licenses must be awarded at most for 7 years by the airport if independent ground handlers are present, or by the governmental authorities if the airport is forward integrated. However, since the required investments and the transaction costs are remarkably high in supply relationships, the airlines and independent handlers may not prefer to be involved in suggested specialized hybrid governance forms for only 7 years. This would result in less market entry and less competition in the GH market, which is not in accordance with the cost efficiency purposes of the EU Directive. In this context, the license conditions should be revised in order to encourage market entry.

7. Conclusion:

At the beginning of our paper we gave an overview over the ground handling industries and the EU Directive 96/67/EC, which was aimed at opening the market to competition, in order to achieve lower prices and better quality.

The analysis of the ground handling market on the six largest European airports showed that the Directive had different success in the different countries, with some barriers to free competition still existing on all airports, due mostly to capacity constraints. Another entry barrier is that third party handlers receive licenses for only up to seven years. Critics to the Directive point at the significant investments required and at the high transaction costs in the industry and state, that seven years is a too short period, and that this part of the Directive has to be revised in order to encourage more handlers to enter the market.

However, new providers did enter the market, and prices did fall, not only on those six airports, but also on most European airports. It is difficult to derive such a general conclusion for the quality of the ground handling services, but we could say that on most airports it did not change. The winners of the market liberalization are the airlines and the new entrants to the market, the losers are the former monopolists and the employees.

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