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Editorial

Making or breaking - Key success factors in the air cargo market

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A B S T R A C T

This introductory paper considers a number of major evolutions in the air freight market. In the first instance, it describes the heterogeneous environment in which air cargo services are performed. Subsequently, it looks at some of the most notable developments in air freight. Lastly, it deals with the market structure and with possible future strategies.

1. Introduction

Air freight and associated logistics operations are like a real-time laboratory of transport economics in action, an environment where technological and business model developments unfold not only constantly but also with increasing speed. This involves a wide range of industrial and economic tools, including frequent market entries, as well as exits through mergers, takeovers and bankruptcies. At the same time, airports and carriers are increasingly confronted with ecological and capacity restrictions, such as bans on night flights at certain airports. What is more, commercial viability of air cargo airlines is suffering albeit a substantial fall in yields, ever increasing pressure from freight forwarders and integrators and competitive pressure from ocean shipping and road haulage. Yet, despite such developments, airports and regions continue to lock horns in competition for airlines, freight flows and associated handling activities. This is because of the substantial economic impact that air cargo brings and also because while air cargo airlines have usually poor profit margins some other parts of the air cargo supply chain are indeed highly profitably or an important contribution to revenues (e.g. in combination carriers). Air freight and the logistics it involves therefore constitute a highly dynamic sector that is drawing growing attention from politicians and policymakers, as well as academics.

Some major developments at both the supply and the demand side of the market have meant that the economic significance of air freight has grown considerably in recent decades, as is reflected in changed attitudes on the part of suppliers (Zhang and Zhang, 2002). Whereas air freight used to be considered as secondary to passenger transport (and hence treated as a by-product that would have to cover an over proportionally high proportion of the shared cost such as fuel cost and could at best achieve break even only), a number of airlines are now dedicated entirely to providing full freighter services. At the same time some passenger airlines with dedicated cargo operations recently divested from their full freighter fleet due to the strong fluctuations in the air cargo market and the ample belly capacity of new long haul passenger aircraft (e.g. Merkert and Ploix, 2014). In those cases intermediaries with a full freighter fleet are now hired to provide supplemental cargo capacity if necessary.

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2. The complex and heterogeneous nature of air freight

Air freight is a heterogeneous product. This is due in part to the wide range of cargo transported and the divergent handling requirements of these divergent goods (e.g. perishables). A distinction can be made between traditional air freight carried by full freighters or in the bellies of passenger aircraft on the one hand and express cargo on the other. However, any strict division into two such submarkets would be somewhat contrived, as there is abundant interaction between the players involved in each. At some airports, integrators are among the main customers of traditional airlines and vice versa (Kupfer et al., 2010).

This degree of heterogeneity in air freight translates into a wide range of market players. Fig. 1 provides an overview of the various actors besides the airport authority or operator who are actively involved in air freight operations at airports. Airlines and airports obviously constitute the core of such operations. Airlines are attracted to air cargo because it constitutes a growth market with great potential, which ties in with those airlines' concern with profit maximisation. It offers an attractive yield, enables carriers to attain higher capacity utilisation on traditional passenger aircraft, and provides a means of achieving economies of scale and scope. Airports are similarly attracted to freight operations for reasons of diversification, profit maximisation and improved capacity utilisation. Equally crucial, however, are the owners and/or

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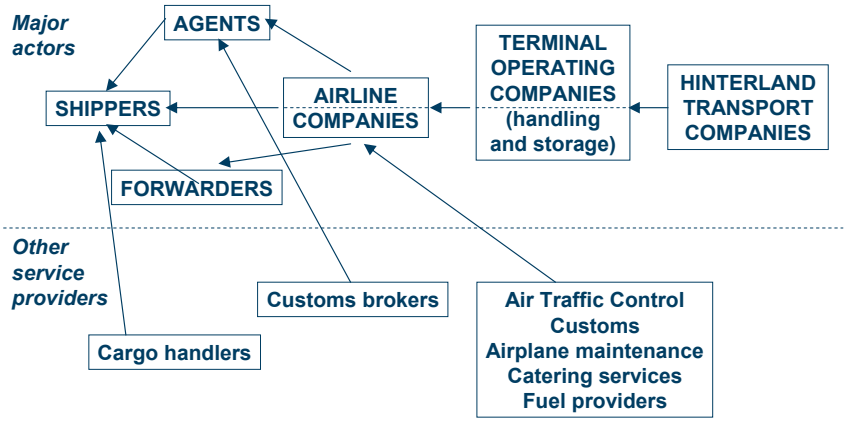

Fig. 1. Air freight actors at an airport. Source: Based on Meersman et al. (2011).

shippers of freight, be it in conjunction with forwarders or not. They are surrounded by a vast network of players each of whom deals with an integral aspect of air logistics, including agents, handling companies, customs, maintenance and fuel suppliers.

This characteristic heterogeneity also comes into play in the choice of an airline and/or airport. A first important question to arise is who leads the decision-making process, particularly in the choice between air freight or an alternative transport mode. Is it the owner of the goods, the consignor or the shipping agent/forwarder? What determines the choice for a particular airline or mode? And why does an airline choose particular airports (e.g. in multi-airport systems such as London or New York)? What shape does the total logistics chain assume, and which part of this chain may be seen to constitute air freight logistics? These are all important questions meriting further academic research.

3. Global trends in international air freight

For a growing number of network carriers, which used to focus primarily on passenger transport, air freight is no longer a by-product, but has become a crucial element in the competitive struggle with other airlines and operators in alternative transport modes. The degree of success of a given route, or even of the global network, is now co-determined by the air freight component.

The constant growth of air cargo is due to a number of developments at both the demand and the supply side of the (liberalised)[1] international air freight market, including growing global trade, technological progress and specialisation, smaller freight volumes combined with a rising average value of freight, downward pressure on air freight rates, and changing production processes (Kupfer et al., 2011). Despite its modest share in global trade in terms of tonnage and tonne-kilometres (less than 1%), air freight accounts for 35% global trade value (Shepherd et al., 2016). However, it is hard to predict whether value will continue to rise, as downward pressure on air freight rates may make it viable also to transport low-value freight by air.

Moreover, the observed growth pattern is not identical for all airlines. European airlines have performed noticeably less well than their U.S. and, even more so, their Asian and Middle-Eastern counterparts. Asian airlines saw a threefold increase over a twenty-year period. This evolution has coincided with a growth in market share of all-cargo flights as compared to combination flights, which is attributable to a variety of factors. First, on certain routes and for specific types of freight, the free cargo capacity in passenger aircraft (available at marginal cost) has become insufficient to meet rising demand for air freight. Moreover, some air transport routes (e.g. Asia – Western Europe) are characterised by a strong imbalance between inbound and outbound flows. Unlike in the bi-directional passenger transport, in freight transport an outward flight is not necessarily followed by a backhaul flight. This gives rise to combination and hence capacity issues for combi flights. Furthermore, passenger and freight flows are not necessarily matched. Finally, certain types of freight are subject to strict safety/security regulations, so that they can no longer be combined with passenger flights.

The air freight market is experiencing momentous developments that may impact strongly on future trends. First and foremost, in terms of the creation of alliances, there is a noticeable difference with the passenger market, where almost all major players now operate within global networks. This is far less the case in air freight. In fact, there is just one large global freight alliance, namely SkyTeam Cargo (formed around Air France Cargo-KLM Cargo, Alitalia Cargo, Korean Air Cargo). What appears to be working much better in the air freight sector are bilateral alliances such as the one between Lufthansa and Singapore Airlines or joint ventures such as the one between Cathay Pacific and Air China.

Another important phenomenon, certainly within Europe but also most other parts of the world including Australia, is the frequent feedering of freight towards large intercontinental hubs (Frankfurt, Schiphol, Paris CDG). Such operations are not necessarily performed by air. In fact, in Europe, they mostly involve trucking under an air waybill. As a consequence, the hinterlands of the various European freight hubs tend to largely overlap.

Some freight operators, known as full-freighter airlines, are not involved in passenger transport at all. These are usually smaller niche players, who do not need to adapt their cargo services network to the requirements of passenger transport. Hence they are able to deploy aircraft to destinations and at times that suit air freight demand. Nevertheless, such airlines are, more so than combi carriers, confronted with the (harsh) realities of geographical imbalances in freight flows. When full-freight operators are unable to respond creatively to acute shortages in air freight on certain routes – e.g. in consequence of operating triangular freight routes or diversification strategies – they are compelled, as it were, to charge lower rates or to fly empty to the airport of loading. Sometimes a sea-air concept is applied, whereby the combination on longer distances and in certain corridors of a maritime and air leg

[1] For example, the increasing number of open skies agreements allows for sixth and seventh freedom rights of full freighter operations. For example, this enables FedEx to operate a cargo hub at DXB.

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