

Airlines negotiate with a few dozen major freight forwarders for cargo shipments. Freight forwarders act as clearing houses for freight shippers, limiting airlines' ability to improve freight yields. Freight RM and reservation systems allow shippers to make direct bookings, and have direct relationships with airlines.

Can airlines improve freight yields & revenues?

There is less potential for airlines to improve freight revenues and yields, compared to passenger operations. They have always negotiated with freight forwarders for contracts to carry freight, instead of dealing directly with the shippers, who are sending it. This barrier gives airlines little power to improve freight rates and yields. Airlines have improved passenger loads, revenues and yields through a variety of IT products. Can freight airlines follow a similar strategy?

Freight revenue generation

The process of buying and selling freight capacity on aircraft, and the system for negotiating between airlines, forwarders and shippers has many differences with passenger services.

Passenger airlines have three or four main sales channels through which to sell their seat inventories. The reduction in sales made via travel agents, because of the larger number of seats sold via airline websites, has given airlines more control over their sales, and has reduced commissions paid. In contrast, airlines negotiating with freight forwarders to sell freight capacity have little bargaining power or opportunity to deal directly with shippers.

Another difference is the number of participants. Airlines carry millions of passengers, and tickets are sold to the majority on an individual basis. The same airlines, however, carry freight for only several hundred different shippers and deal with 10-12 major freight forwarders, which account for 80% or more of global air freight. While passengers make separate bookings and reservations each time they travel, freight forwarders, shippers and airlines often form contracts for up to a year (called 'allotments') and agree standard rates for these allotments. Usually these allotments are combined

with aggregated weight break rebates, so the more business is made during the allotment period the lower the rates. This will be reflected by paybacks calculated when the allotment ends.

The passenger sales process is more dynamic than it is for freight, and dynamic revenue management (RM) can be applied to the passenger sales process to optimise the fare offered at each sale.

Passenger airlines also publish their schedules on official publications such as OAG, and file official fares with ATPCO. Discounted fares offered on airlines' websites can be monitored with robotic crawlers, so a lot of capacity and fare data intelligence can be gathered relatively easily. It is also possible to gain reasonably accurate data on passenger numbers carried by competing airlines. There are also specialists in gaining and analysing this information, so passenger airlines can obtain a large amount of information about the total capacity on a route, and fares offered, and passenger loads carried, by competitors.

Freight capacity & demand

Scheduled freight services are published by OAG, indicating planned aircraft type, and giving an approximate idea of the available capacity. But there are several difficulties with assessing and quantifying the amount of freight capacity actually available. The first is that freight can be flown on many different multiple-stop routes when being transported between its originating and final destination airports, particularly if it is not time-sensitive. Freight forwarders and shippers can select airlines that offer the lowest rates, regardless of how many sectors there are, or the total transit time.

"It is virtually impossible to estimate how much belly capacity passenger airlines have available for freight carriage on a route, even though there is plenty of

information on passenger timetables and the aircraft types operated," explains Dr Wolfgang Meier, retired manager cargo IT systems at Lufthansa Cargo, and now teaching global business logistics at Cologne University. "The belly capacity available each day varies according to the baggage checked in by passengers, mail and differing wind directions and strengths that affect the aircraft's payload-range performance on the day.

"Airlines are only able to get an accurate idea of how much freight capacity they, their partner airlines and other airlines for which they have the rights to sell capacity provide on each particular route," continues Meier. "They can forecast the capacity available each day on a route by using their in-house cargo IT systems. Unisys LMS cargo system, for example, is used by a dozen of the major airlines, and was developed some time ago for freight bookings and reservations, using airline schedule and capacity information. It has the net freight capacity of each aircraft, which varies each day of operation because of differing passenger loads, winds and route lengths. Although schedules are known six months ahead, actual passenger loads are only available directly from the airline close to departure. It is impossible to estimate the capacity that competing freight airlines are offering, or to know what they are carrying. Apart from what is published by OAG or is available through airport systems, there is a lack of information about schedules operated by pure freight airlines. Many also have regular contracts with freight forwarders, so it is not possible to know how much remaining capacity they have left. This is exacerbated by not knowing how much directional imbalance each of these airlines experiences.

"Furthermore, unlike passengers, who come in single unit quantities (that is, each requires a single seat)," adds Meier,

Unlike passenger services, it is hard for airlines to gain information on the freight capacity of competitors, and almost impossible to acquire data on freight volumes and yields achieved by other airlines.

“freight shipments vary in size, dimensions, weight, density, and their container and pallet requirements.”

Airlines have statistics on the amount of belly and pure freighter cargo they have carried in the past. This can be used to estimate demand in the future. “These data should be divided into the different types of freight and commodities carried on each route,” explains Meier.

Sabre Airline Solutions’ AirVision Cargo is a suite of IT solutions for the freight RM and sales process. “The AirVision Cargo Revenue Manager has a forecasting capability, as well as modules for network planning and allocating freight to available capacity on the aircraft, using O&D network optimisation,” says Sandeep Parmekar, director for marketing and solutions management at AirVision Cargo, Sabre Airline Solutions. “The forecasting module examines historical freight traffic data and uses forecasting techniques to estimate future demand levels, taking into account different types of cargo.”

The solution also analyses forecast demand across an airline’s entire route network, or the joint networks of airlines within an alliance. “The capacity across the network is optimised so that decisions can be made as to what rates should be accepted if there is flexibility in the airline’s business environment,” says Parmekar. “This is because an airline can direct cargo through several different routes across its network to get to the same destination.

“This process is typically done every night, as other parameters affecting loads on the aircraft are known,” continues Parmekar. “There are so many factors on passenger flights that it impacts the cargo capacity, so estimating available freight capacity is challenging.”

An alternative to Sabre’s solutions are those of CHAMP Cargosystems. CHAMP is a joint venture between SITA and Cargolux, partnered with JDA Software to provide IT systems for optimising freight revenues, including: CHAMP’s Business Intelligence solution, which gathers information on an airline’s route network, and can be used for network planning; and Cargospot, an integrated cargo management platform, which allocates freight to the available capacity on the aircraft.



Revenue management

Deciding what rates and tariffs to charge for freight shipments is challenging. “Official freight tariffs are published in TACT, which is produced in Amsterdam, and also in OAG,” says Meier. “These official rates are published on the airway bill of freight shipments. The problem is trying to predict what rebates, bonuses and discounts airlines are actually getting from forwarders and shippers, so it is impossible to know what net rates other airlines are charging.

“It is equally hard to find out what rates are available on other forms of transport,” adds Meier. “Again, official rates can be accessed, but there is limited information. Freight forwarders also have the power to dictate rates.”

Freight forwarders have the most power to influence rates, since they negotiate with airlines for the majority of shippers. “Airlines have reservation systems, and forwarders can retrieve capacity and rate information for all the airlines on a route,” says Meier. “This puts forwarders in a stronger position, because they have greater power to negotiate directly with the shippers than airlines do. Airlines get virtually all their business through forwarders, so if airlines try to circumvent them, forwarders can place their business with other airlines.”

Allocating shipments

The different types of freight, their densities, dimensions, weights and carriage needs mean that allocating freight to capacity is more complex than allocating passengers to seats.

“Cargo bookings can be made by customers, through various channels (call

centres or portals). Our Booking & Inventory Manager is a sales tool for managing the e2e booking process. We also manage inventory as part of the solution,” says Parmekar. “This asks the buyer for several service criteria that include how soon the shipment should be delivered, if a particular route is required and what type of freight is being carried. The software analyses all possible routing options, and suggests a route.

“Once a route has been decided, the Inventory Manager module allocates the shipment to an amount of inventory available on a specific flight,” continues Parmekar. “The system checks availability of space on board, works out if it is operationally feasible to carry the shipment from origin to destination, checks the commercial viability of accepting the shipment, then reserves the space and reduces the available inventory and space on the flight accordingly.”

The process also requires some RM functionality to offer a rate to the buyer. “This can be done by our Revenue Manager solution, which has been available for eight years,” says Parmekar. “This is used when the Booking & Inventory Manager has to decide whether to accept or reject the booking on the basis of being commercially viable.

“Contracts agreed between airlines and freight forwarders have traditionally been based on relationships, past experience and some considerations of market conditions. This usually involves an average shipment size per week, but this can vary. The advantage to airlines is that it provides them with a stable flow of business, but it also leaves them vulnerable to fluctuations in fuel prices. “These eventualities can be dealt with by applying fuel surcharges in the event of



Only consolidators such as FedEx, UPS and DHL have been able to gain more control of the air freight market and their revenues by taking the role of airline, forwarder and ground transport provider; and also having direct relationships with shippers.

negotiating with airlines and arranging freight shipments themselves. Building a direct relationship with each shipper takes time, and may damage airlines' relationships with forwarders. Airlines cannot quickly forge relationships with a large enough number of shippers to secure a sustainable volume of business.

While freight forwarders do arguably add value by arranging shipments for shippers, they also take a percentage of the total tariff paid by shippers.

"It may be possible for new, start-up freight operators to negotiate directly with shippers, but there is still a lot of scrutiny and airlines need to know shippers well," says Parmekar. "It will become easier with web-page direct booking and reservation systems, like our Booking & Inventory Manager, since shippers can book shipments themselves. Some airlines aim to increase the proportion of freight they carry that comes direct from shippers. This will be similar to the effect of passenger airlines introducing their own websites for passengers to make their own reservations. A similar process in freight is some years away, however."

Revenue analysis

Improving freight rates and yields is only possible if revenues post-operations can be analysed. This starts with accurate revenue accounting data and information. "Our cargo revenue accounting solution is fully capable of rating and pro-rating the net tariff between the different airlines that flew a freight shipment," says Parmekar. "It can even pro-rate the tariff between two or more sectors that were flown within the user's own airline, which may be required if the airline wants to analyse the profitability of all its routes.

"The system also takes care of taxes, tariffs, invoicing and credit card processing," continues Parmekar. "A detailed revenue accounting process produces accurate data on the revenue generated by each route. Our Budgeting & Sales Planning solution matches this with the freight traffic data to accurately analyse revenues and yields." [AC](#)

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fuel prices rising over a level specified in the agreement," explains Meier.

CHAMP's Cargospot is another option for airlines to make reservations and quote rates through RM techniques. There are several channels that airlines can use, including a web-based system, to distribute their cargo space.

Cargospot also has a cargo rating and pricing engine for creating contract rates. These are for shipper-forwarder-airline-consignee relationships.

There are other issues, such as no-shows by freight forwarders. "Airlines invoice freight forwarders for carriage of freight after the shipment has been flown," explains Parmekar. "Freight forwarders sometimes do not show up with the usual shipment, because there are usually no financial penalties charged by airlines, which accept these no-shows from established customers, and because some freight shipments are larger than the average expected shipment.

"When the system is making a decision to accept an offer, it will offer the standard agreed rate to a freight forwarder that is sending a shipment that is agreed under the contract the airline has with the forwarder," explains Parmekar. "If there is no existing agreement with the freight forwarder, the RM system has to offer a particular rate. The Booking & Inventory Manager also generates airway bills and all other relevant documents at this stage."

Improving rates & yields

Although agreed long-term rates between forwarders and airlines will limit an airline's ability to improve yields and revenues, ad-hoc freight can account for as much as 70% of all traffic. "These

shipments are an opportunity for airlines to improve revenues. A system like our Booking & Inventory Management solution gives airlines scope to improve freight yields. It will offer the standard agreed rate to a freight forwarder that is sending a shipment under a contract that the airline has with the forwarder," explains Parmekar. "If there is no existing agreement with the air freight forwarder, an airline can gain some advantage by using a good RM system to offer what is termed a spot rate."

One problem with freight yields and rates is they vary little with distance flown, and are based on rates per unit of weight. Many cost elements remain the same or similar, regardless of the route flown, including: ground transport to and from airports; the preparation of airway bills; documentation preparation; customs, taxes and tariffs; warehousing and inventory; wrapping and packaging; and administration of contracts with airlines. "These account for a large percentage of total costs, so the aircraft operating costs only account for a third or less of the total," says Meier. "There is little variation in the total costs between short-distance shipments of different route lengths, especially if freight is carried in passenger aircraft, because only an incremental amount of fuel is required for the extra weight. The total costs do not vary between different long-distance shipments, although rising fuel prices led some airlines to introduce fuel surcharges in 2008. Other airlines soon followed."

The limited power of airlines to deal directly with shippers is partly because the forwarders have direct relationships with shippers themselves. Forwarders act as clearing houses and rate negotiators for the shippers, which want to avoid