

Ancillary revenues are growing in importance. New products and systems are coming on to the market. Some products are airline products, while other sources of ancillary revenue are provided by third parties.

# Techniques & systems for ancillary revenues

The traditional airline business model is fast changing into a hybrid product. The big changes accompanying this development are the unbundling of the full-service product and the provision of ancillary products. These ancillary products fall into two categories: airline or a la carte products; and commission-based ancillaries that are provided by third parties. Ancillary revenues are growing in importance for all airlines as a growing number of carriers unbundle and simplify their services to a greater extent. The range and number of ancillary revenue products, especially third-party ones, is also growing. The range of ancillary products available to airlines for generating additional streams of revenue is examined here.

## Airline unbundling

The traditional airline product includes standard features such as personalised check-in, seat assignment, baggage check-in, standard meal service according to cabin class, and interlining with other airlines when appropriate. In recent years these have been altered or diminished to varying degrees by some airlines. Full meals, particularly in economy class on short-haul flights, have been replaced with snacks or removed altogether as part of cost-cutting programmes.

The development of self-service kiosks and web check-in technology has also seen the disappearance of personalised check-in. The low-cost airline model was based on completely unbundling the traditional service, although until a few years ago low-cost carriers (LCCs) had to offer personalised check-in and baggage check. While technology has made self-service check-in possible, some LCCs charge for personalised check-in, and

charge extra for early boarding without seat assignment. A few LCCs, notably Ryanair, have recently starting charging for baggage check, and have even considered charging for the use of toilets.

Weakened demand and competitive pressure has led to some traditional carriers following LCCs, by further unbundling their standard product. Some are now charging for baggage check-in and asking passengers to pay extra for seats in premium positions in the cabin. Economic pressures mean that these are not enough, and airlines require a wider range of ancillary products from which to generate revenue.

## Airline ancillary products

The complete unbundling of the traditional airline product provides these airlines with several opportunities to cut costs. Unbundling will certainly mean that airlines are required to drop fares, but one important issue is whether passengers will then buy enough airline ancillary products to maintain or improve airline profit margins.

Unbundling means that airlines are able to charge extra for standard services and for several additional services, for which they have not previously charged when they had the opportunity.

These additional services include access to first- and business-class lounges for economy-class passengers. Over the past 10-15 years passengers have become more knowledgeable and now ask more frequently for window, aisle or emergency-exit row seats, or seats at the front of a block with more legroom. Some airlines have started to charge premiums for these seats, by asking passengers if they want to pay extra for these seats in the on-line booking process.

Ancillary revenues can also be generated by imposing credit-card

commissions for on-line passenger reservations, and charging passengers for extra legroom in special sections of the aircraft cabin, priority boarding in the case of unassigned seating, meals and drinks, shopping through airline catalogues, and duty-free.

Many of these can now be included in the on-line booking process on airline websites.

## New airline products

Some new airline products have recently emerged. One is designed to allow airlines to offer an a la carte meal service to passengers. Air Meals is a software provider that provides a link between a passenger making an on-line booking at an airline's website and an in-flight catering company. "The concept is that a passenger selects their own meal from a menu, rather than the airline providing a standard meal, while they are making their booking," explains Adam Bauer, president of Air Meals. "The link to the catering company ensures the meal gets delivered to the right aircraft before departure, and the passenger is given a voucher or code on their boarding pass so they can claim the correct meal.

"Airlines are using dynamic packaging to include many ancillary revenue products, such as hotel reservations and car hire," continues Bauer. "With Air Meals airlines can offer passengers the possibility of ordering from a wide range of meal choices: from sandwiches and a light drink, to complete three-course meals and fine wines. Particular interest comes from passengers on flights of four hours or more.

Economy-class passengers, for example, may want to have a better meal than the standard offering, while not having to pay to travel in business or first class. Premium-class passengers are interested

*One new concept in ancillary revenues, introduced by Air Meals, is to allow passengers to select their own food and drink from a menu, rather than airlines providing standard service in the same cabin. Particular interest has been shown from economy class passengers on flights longer than 4 hours.*

in buying fine wines and champagne.

“While airlines typically do business with a single catering company at each airport they operate from, we provide links to several or all caterers at each airport,” continues Bauer. “Our other main role is organising the logistics between the passenger making their selection and delivering the correct catering to the aircraft. Besides meals and drinks, we can also offer children’s activity kits, magazines, in-flight entertainment equipment (IFE) rental, duty free, airport parking and foreign currency exchange. While we provide the service and logistics, the passenger sees it as a seamless part of the airline booking process and airline product.

“The problem airlines face at the moment is that the size of galleys in first- and business-class cabins defines the amount of in-flight service that can be carried,” continues Bauer. “Our software makes it easier to predict what passengers want ahead of the flight, and to re-bundle airline services in several configurations, rather than a standard one in each cabin class. Several levels of service can also be offered in each cabin. This means the same approach to yield and revenue management within a cabin class can be taken to cabin service standards. There are two possible models for airlines to use. The first is where an airline buys our software and then pays separately for catering. The second is where an airline pays for our software and IT capability and we take care of the logistics. Some airlines want to keep their traditional meal service and allow passengers to order extras. This is particularly popular with long-haul operations. Other airlines want to unbundle their service, and then allow passengers to order meals if they want, which is more popular with short-haul. One US major carrier estimates it can generate an additional \$150 million in revenues, although the cost of catering has to be deducted from this. The advantages are that airlines can generate ancillary revenues by diversifying their on-board service, and passengers get what they want. Airlines also benefit from reducing meal wastage through better planning.”

Another new airline product promises to seat passengers in an area of the cabin with others that have similar personal profiles to themselves, in terms of



nationality, spoken languages, age, gender and other categories. “SATISFLY is a software that takes peoples’ personal profiles from networking websites such as Facebook and LinkedIn, and with their permission uses the information during the aircraft seating allocation process when the passenger makes a reservation on-line,” explains Sergio Mello, chief executive officer at SATISFLY. Like Air Meals, the product is provided to the airline by a third party, but is a seamless part of the reservation service as far as the passenger is concerned.

“The software then assigns the passenger a seat with a compatible neighbour. The other benefit is that airlines collect a lot of customer relationship management (CRM) data in the process, which is far more up to date and comprehensive than the data collected by traditional airline CRM systems,” continues Mello. “The expectations are that an airline will be able to charge as much for this service as it can for a full meal,” continues Mello. “Hawaiian Airlines and some LCCs will be the first to begin using SATISFLY, in the first quarter of 2010.”

A third product that allows airlines to expand their on-board services is offered by Guestlogix. “We provide a mobile virtual store through handheld devices. This allows airlines to offer a wide range of merchandising, and to generate commissions from sales,” explains Brett Proud, executive vice president of global sales and client support at Guestlogix. “The system provides passengers with a mobile virtual store, and deals are arranged with suppliers to provide a wide range of products and services, including concert and theatre tickets, retail items, hotel reservations and anything else that

an airline chooses to put on. We can provide a whole range of products for each of an airline’s destinations. Passengers may want to make reservations for hotels or restaurants for example, and we can provide airlines with the content. Passenger demand is higher when flying to an away destination compared to returning home. We can reach about one billion of the three billion passengers flying each year through our platform, and have contracts with 40 of the biggest carriers.

“The commercial agreements are three- to five-year contracts. We provide the handheld devices and software, and carry out the credit card transactions, payment processing and related administration. Airlines pay us through an all-in transaction fee, rather than buying hardware or software. Airlines generate revenue by receiving a share of the revenue from each transaction,” continues Proud.

“The system does not require internet connectivity in the air, since the content can be loaded onto the handheld devices prior to departure,” continues Proud. “If there is internet connectivity in the aircraft then larger transactions can be made, and credit card fraud can be reduced due to live transactions.”

### Third-party products

The range of non-airline or third-party ancillary products is also growing. Starting with reservations for hotels, hire cars and travel insurance, these are offered through airline websites, and are part of the passenger booking process.

The range of products is now growing with connectivity between the aircraft and the ground, and in the form of



*In-flight connectivity is becoming more important as passengers are showing growing interest in using mobile phones and PDAs, and having access to the internet.*

(Satcom). There are three levels of Satcom capability. The first is Iridium which is cheap to provide, but only has a narrow bandwidth and so only allows a small volume of data to be transmitted.

The second is Inmarsat, which is a standard capability already fitted on many long-haul aircraft, especially those used for extended-range twin-engine operations (Etops). It can be retrofitted onto aircraft, although airlines have to consider the cost of the equipment and the effect of the extra weight on fuel burn. Inmarsat allows a higher volume of data, and so greater capability inside the aircraft than Iridium.

The third category of Satcom is Ku-band. This provides the largest bandwidth and therefore the highest capability in the aircraft. It requires heavy equipment, however, and also has to be retrofitted to the aircraft. Row44 and Panasonic are providers of Ku-band. Southwest has selected Row 44, and uses it together with Aircell's Gogo internet system. Lufthansa and Alaska Airlines have selected Panasonic.

There are two types of communication inside the aircraft. One is cellular signals or a GSM network, and this is only matched together with Satcom. Aircell is the only air-to-ground system, and is used exclusively in the US. It only provides WiFi signals because cellular voice transmissions are illegal over US airspace and, although cellular SMS and BlackBerry devices are legal over US airspace, it is simpler to provide WiFi signals instead.

Cellular or GSM signals in the aircraft make it possible to use mobile phones and PDAs that accept cellular signals, and laptop computers that have GPRS cards, and send and receive SMS messages. It is also possible to access the internet if the aircraft is equipped with Inmarsat. Cellular signals can only be transmitted in the aircraft if permission is granted by the country the aircraft is flying over.

The second type of internal aircraft communication is WiFi signals. WiFi signals allow a wider range of hardware and technologies to be used. These include WiFi-enabled mobile phones and PDAs, iPhones, text messaging, portable IFE equipment, and access to the internet, which makes possible telephone calls using Skype, and e-mails. If combined with either Inmarsat or Ku-band Satcom, then the internet access has a broad

cellular or internet signals in the aircraft cabin. The additional services that airlines are now able to offer include the use of telephones, PDAs, live TV, and the internet, which makes a whole range of additional products possible.

Non-airline ancillary products therefore fall into two categories: those that do not require aircraft connectivity; and those that do. Most of these are not possible without connectivity, but some products are available in simpler form without connectivity.

Products that do not require connectivity are services that are offered on airline websites, and sold during the passenger booking process. Hotel and car hire reservations can be made on airline websites via click-through links, which are activated by adverts on an airline's website from the relevant hotel chain, product provider or specialist reservation website. These simple connections are less desirable, since they interrupt a passenger's booking activity, and only have limited success.

Passengers clearly prefer to combine the purchase of these items with ticket reservations in one transaction, and airlines generate high commissions because a higher percentage of passengers buy ancillary services. The technology to integrate airline reservations with third-party products has only become available in the past few years.

Bundling the airline reservation together with ancillary products during the booking process on an airline's website is known as dynamic packaging. One airline that is using dynamic packaging is Air Canada, which has unbundled its services, and now offers a range of ancillary products that passengers can select while making a

ticket booking and reservation.

Dynamic packaging requires both software capability and content. AirSavings is a provider of dynamic packaging content and software for airlines that do not have their own internal development capabilities.

"Examples of airlines using our software and content are Atlas Blue and SkyEurope," says Raphael Bejar, chief executive officer at AirSavings. "The software allows airlines to sell commission-based ancillary products, such as hotel reservations, car hire and travel insurance. We will be adding two new services in the future, but cannot say what they are at the moment."

Dynamic packaging capability is also provided by providers of reservation software and systems, such as Amadeus, SITA and Sabre.

## Aircraft connectivity

Aircraft connectivity concerns two issues on communication outside and inside the aircraft. There is a range of connectivity levels, and the higher the level the greater the in-flight capability.

There are two main types of outside communication. One is air-to-ground communication between the aircraft and ground transmitters, so this is only possible over land. Aircell has an exclusive licence to offer air-to-ground communications over the USA. Aircell provides WiFi signals in the aircraft cabin, when flying over the US. This has a bandwidth of 3MHz, and allows the use of the internet in the aircraft cabin. Aircell has seven US customers for its Gogo in-flight internet system.

The second type of outside communication is air-to-satellite

*In-flight internet provides airlines with the ability to charge passengers flat fees for WiFi access; or make broader use and supply in-flight shopping, audio and visual entertainment which is charged for.*

enough bandwidth and high enough data volume transmission to allow in-flight shopping via the internet and the use of portable in-flight entertainment (IFE) equipment with a wide range of activities. These include live games, video, audio and TV.

Panasonic is a major hardware provider that offers both IFE and communications equipment to airlines. "We started 30 years ago as a provider of IFE. This started with projectors and audio equipment, and later evolved to seatback systems with fixed schedules for screening movies, and then later to video on-demand systems," explains David Bruner, vice president of global communications services at Panasonic Avionics Corporation. "We moved into communications in 2006, and developed a global network for Ku-band Satcom transmissions. We use a series of satellites to provide worldwide coverage, which we lease from satellite owners, and arrange communication between the satellite and the ground. We find that Ku-band is overall cheaper because there are no capacity limits. The latest Inmarsat is about five times the cost of Ku-band. Ku-band requires one antenna and one avionics box on the aircraft, which can be installed on aircraft while they are being built, but now all aircraft are retrofitted."

Panasonic's range of external and internal communications allows it to support any type of device inside the aircraft, including: 2-G, 3-G and 4-G phones; PDAs; e-mail; the internet; laptop computers; and all other devices that use cellular and WiFi signals. "It also includes all types of hardware an airline may want to use," explains Bruner. "These will be IFE systems. These used to have content loaded, but now with internet connection it can have live content, as well as custom programming."

The ability to use different devices in an aircraft depends on the signal provided in the cabin. Narrowbodies or aircraft used for short-haul operations tend to only have cellular signals because they are not equipped with Satcom equipment, while a large number of widebodies can now offer cellular and WiFi signals because they have Satcom hardware. In the case of most aircraft, Inmarsat equipment is already fitted. Ku-band equipment can be used to get a wider bandwidth, but it requires an extra antenna that adds weight and drag.



### In-flight telephones

There are now several suppliers of in-flight phone services, all of which work by creating a roaming service in the cabin, effectively making the inside of the aircraft like a virtual country. The passenger pays the in-flight phone supplier in the same way they pay for all other calls. The phone supplier has a commercial agreement with the airline.

One leading in-flight phone supplier is OnAir, which can use any type of air-to-ground communication technology. "In the US we only have WiFi signals, while outside the US we can have either cellular or WiFi," says Benoit Debains, chief executive officer at OnAir. "We are the only company to provide cellular signals across the Atlantic Ocean and Canada, and the system automatically shuts off when the aircraft enters US airspace. British Airways (BA) uses our equipment for 90% of the journey between London City (LCY) and New York JFK on its all-business class A318s. This means it is possible to use cellular phones for 90% of the flight, and Blackberries for all of the flight.

"Our system will use cellular or WiFi signals, and so far 60 narrowbody aircraft operated by BA, Royal Jordanian, Ryanair and TAP are equipped," says Debains. "Aircraft operated by Qatar Airways, Oman Air, Air Asia, TAM and Egyptair will also be fitted over the coming months. BA and TAP may add the system to their widebody fleets."

Aeromobile is a second major provider, and provides a cellular network in the aircraft. "We do this because only a cellular system is available with all types of satcom," says Kelaine Olvera, marketing director at Aeromobile. "We

have 57 of Emirates' widebodies equipped with the system, and eventually all its A330s, A340s and 777-300s will have it. Malaysian has one aircraft trialling the system. We also have orders from Qantas, and from Virgin Australia and Lufthansa, which have both ordered our system for their entire fleets.

"We are partnered with Panasonic, which has a full suite of products. It sells the cellular and IFE servers to the airlines, both of which can be used to run the Aeromobile phone server," continues Olvera. "Lufthansa has a deal with Panasonic whereby the airline will have both cellular and WiFi signals in the aircraft. This means it is possible to have all types of in-flight systems and devices."

In terms of on-board devices, Panasonic offers: its eXConnect service that provides in-flight broadband connectivity using Kuband; its eXPhone in-flight mobile phone service as a partnership with Aeromobile; a range of IFE systems; and live TV.

"The broadband service allows use of the internet, corporate intranets, PDAs, WiFi-enabled devices, e-mails and messages, and on-line shopping and gaming. The internet is also useful for flight operations issues, such as making technical reports," explains Bruner. "eXPhone is where we provide the hardware for in-flight phones and Aeromobile offers the cellular connectivity. We offer hardware for IFE, usually as seatback equipment. We also offer a WiFi portal, where the passenger is automatically re-directed to an airline's homepage when they switch on their laptop. This allows airlines to have portals for merchandising, which means they can provide shopping, or give passengers the ability to make hotel or



*One product that is made possible by the internet is the ability for airlines to purchase & order goods and services at the destination they are flying to. This can include restaurant and hotel reservations, for which airlines receive commissions.*

depend in the internet. In the case of most devices this requires the aircraft to be equipped with Ku-band technology and have WiFi signals in the aircraft. These include in-flight internet, which then allows shopping, gaming, live TV, as well as audio and video in real-time. Airlines can charge passengers for different lengths of access to WiFi, in the same way that hotels charge residents for access to WiFi in a hotel room, but they are concerned, however, that following years of providing IFE services for free, passengers will be unwilling to pay for WiFi access. Airlines will still have to incur the cost of making the service available to remain competitive, but may not be able to charge for it.

### Airline activity

One airline that has confidence in its ability to charge for WiFi access is US low-cost carrier AirTran. Its entire fleet of 134 717s and 737s is WiFi-enabled, using Aircell's Gogo service. The airline currently charges \$12.95 per session. Once above 10,000 feet altitude, the equipment allows passengers to access the internet with laptops; as well as using smart phones and blackberries.

Another feature that AirTran has launched for all its fleet is seatback advertising. The airline will put two-and-a-half inch by nine-inch adverts in its seatbacks to generate ancillary revenue.

In the meantime American Airlines is offering free WiFi access to passengers as a promotion. WiFi access is possible with Aircell's Gogo in-flight internet service, but only on 15 767-200s and 150 MD-80s. In conjunction with this, American is launching a WiFi widget. This allows passengers to identify WiFi-equipped flights 24 hours before departure. The WiFi widget can be found on American's website, and is used by passengers entering their flight number.

Air Canada has begun trials to offer in-flight internet service on a few routes to the US, and the airline is also using Gogo. The airline is charging \$9.95 for connection with laptops, and \$7.95 for connection with a personal electronic device. Air Canada says it intends to extend the system to other routes in North America. **AC**

theatre reservations. Our live TV service is called eXTV, and offers 8-10 global news channels, and makes it possible for a passenger to watch any channel anywhere in the world. The channels mainly provide news, business and sports information. We also control the advertising on these TV channels by inserting an advert of the airline's choice in place of the advert transmitted by the TV channel, thereby generating revenue for the airline.

"Lufthansa is the first airline to actually offer phone, in-flight internet and customised seatback IFE," continues Bruner.

### Revenue potential

To make in-flight phones possible, the phone provider first needs to have agreements with a large number of countries to offer cellular or WiFi signals in the aircraft while flying over their airspace, as well as agreements with several of the major mobile phone providers in each of the same countries. So for a passenger to make a call at any time on a flight between London and Singapore, the provider would first need permission from every country the aircraft is likely to fly over. Even then, the passenger can only make the call if the in-flight phone provider also has an agreement with the passenger's mobile phone provider. For example, in order for most British passengers to make calls, the in-flight phone company would need to have agreements with UK mobile phone providers, including Vodafone, Orange, O2 and T-Mobile.

"We have GSM agreements with more than 70 countries and at least 250 mobile phone providers," says Debains.

"We do not yet have agreements with the US, China or India, but we are in discussion with them."

Aeromobile has GSM agreements with 92 countries, and 141 GSM agreements. "As an example of our coverage, more than 95% of Emirates' routes have regulatory approval, and our coverage will expand, since we are due to sign more agreements," says Olvera.

A finite number of calls can be made simultaneously on in-flight mobile phone systems, and this varies with the aircraft-to-ground communication system. "The system Emirates uses allows six calls to be made simultaneously, and is limited by the onboard system and the type of satellite link," explains Olvera. "With swiftbroadband this could increase to 14 simultaneous calls. Average call length tends to be shorter than on the ground, and there are also lots of SMS messages."

OnAir's system currently allows 12 simultaneous calls, and the average call length is about two minutes. OnAir's experience is that there is generally more interest on long-haul flights. "We have seen that on BA's A318 LCY-JFK business-only service about 50% of passengers use the service at some time during the flight. This compares to 15-20% on the airline's short-haul flights," says Debains.

The in-flight phone provider charges the passenger's GSM provider. The revenue is shared between the in-flight phone provider and the airline. The airline covers the cost of installing and maintaining the equipment, while the in-flight phone provider covers the cost of communications outside the aircraft.

Beyond in-flight phones, other possible channels for generating revenue from other in-flight ancillary sources

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