

E-commerce has now developed to the point where airlines are able to determine the revenue generated by each flight within a few hours. This can then be used to identify threats on a route or network so that changes can be made to operations.

E-commerce & internet-based revenue optimisation

The airline industry is more aggressive than others in developing e-commerce opportunities to change existing business processes. Airlines have enthusiastically embraced the internet as a sales method that can reduce reliance on travel agency-based sales.

Some network carriers have moved up to 50% of their reservations to on-line sales, while low-cost carriers have moved up to 95%. Airlines have used the internet to approach customers directly and are constantly seeking ways to harness the internet's flexibility. Airlines are investing significant volumes of research into using the internet to enhance revenue opportunities.

Airlines have now moved beyond the typical e-commerce transactions, and are looking at other ways of using the internet to increase revenue and reduce cost. Revenue generation opportunities tend to be limited to booking transactions. Airlines are now using the internet to yield vital information about consumer habits in an effort to gain incremental revenue.

As part of this development, airlines are increasingly using the internet to act as the interface to their data sources. Interrogation of large data sets can yield revenue opportunities for airlines. The move towards 24-hour data access has resulted in significant efficiency boosts for those airlines that are following this path.

The availability of information has allowed many airlines to develop a competitive edge that other carriers struggle to emulate. Air France, for example, has developed a live reporting system that allows management to see the

revenue generated by any flight within moments of its departure. Other airlines are unable to replicate this detail.

Carriers like Air France are therefore able to identify opportunities or threats, including issues such as weak demand and revenues, bad choice of departure times, inappropriate aircraft size and poor profitability. The airline can therefore respond to them earlier. All of this is driven by e-commerce initiatives, coupled with a desire for greater awareness about the airline's revenue streams and finances.

Information management

The management and interpretation of information have become increasingly important to airlines, with more resources and effort being dedicated to locating revenue opportunities. Many airlines are pushing large volumes of their data systems onto websites due to the flexibility this offers. Analysts and management are able to access information when it is required, rather than within working hours.

"Many companies, not just airlines, are realising the benefit of having flexible information channels," says Eric Levenue, SAP project manager. "Our previous work for airlines in Europe demonstrated the potential that exists. We developed reporting and information management structures that enabled the airline to identify its revenue levels, costs and profitability on a per flight basis. We took their revenue reporting delay from three weeks to two hours. The airline was then able to tell within two hours of a flight's departure what the profitability

level of that flight was. The next step was to place this information on line so that management could access it. A fundamental mistake that airlines make is not sharing information with enough departments, which promotes an isolationist culture. The benefit of any information management system is the reach that it provides: the data can be accessed and reviewed by many departments."

The management of information, combined with increased accessibility, enables an airline to be more efficient but limitations do exist. "A fundamental mistake that is made is the provision of increased access of data to staff, without increasing the data pathways to cope with the increased traffic," says David Brown, Head of IT at Newburn Consulting. "Many companies open up access to data warehouses to staff, which can clog their network. Many people complain about slow servers and other delays when working on a network. This is a direct result of an over-taxed network that was inappropriately designed or enlarged. The IT department often under-estimates its bandwidth requirements for data transactions. Data transfers are bandwidth hungry, since they are passing and checking significant data volumes between the user and the server. Before a company improves its information management it needs to ask two fundamental questions: 1) is this information vital to the business operation? and 2) who needs to see it? Airlines need to prioritise the information they want to access, but this is not always done. Identifying the information that will provide revenue to the airline and



Air France has developed a live reporting system that allows it to see the revenue generated by any flight within minutes of departure. This information allows it to identify threats, such as weak demand, inappropriate aircraft size and bad choice of departure times so that changes can be made. This ability is driven by e-commerce initiatives.

provide the return on investment for web/reporting development is therefore the first step.”

An airline, therefore, needs to determine what is critical before any e-commerce based revenue enhancement initiatives are developed. “While each airline has different priorities, most of the critical areas are similar,” says Lucio Graziani, IT manager of Volare Airlines. “Airlines need to have accurate passenger and revenue forecasting, fast reporting of revenue levels, and accurate profitability levels – all at a flight level. Airlines need to know how much revenue they have earned on a daily basis. The old process of waiting up to 20 days after month end to see how much revenue was earned on a flight is no longer acceptable. In that environment management would be unaware of a flight’s financial performance for up to 50 days. Airlines need fast reporting systems and they should be focusing on systems and vendors that can deliver this.”

Airlines already have sophisticated systems within revenue management that can forecast demand. Tying in accurate revenue reporting and profitability at flight level, however, can be difficult. Mercator, the Dubai-based IT firm, has embarked on a similar project for several airline clients to provide a greater level of revenue control than currently exists.

Revenue control

Most of the issues surrounding revenue reporting are based on the reporting lag that occurs.

“The internet is certainly driving

people to want real-time revenue reports,” says A.T. Srinivasan, general manager systems development for the Mercator Group. “Mercator’s RAPID system is able to report at the end of each day if an airline requires it to. Nobody is currently using this functionality, but the important issue is that it can be offered. Older systems are unable to meet the same levels of flexibility. Flexibility should be the primary driver in any business decision: is the system adaptable? can it be placed on the internet? can people run queries from the internet? These are the type of questions that should be asked. The development and popularity of e-commerce suites mean airlines have far greater options to manage their business than before. Combining RAPID with a profitability module would enable an airline to answer a simple question that few airlines can actually answer: how much money did I make today? This will not always be the case, and the drive will definitely be towards real-time revenue reporting. Couple this with the flexibility and reach of the internet and you have a very powerful opportunity for airlines.”

Airlines globally are searching for ways to manage their reporting structures in a drive to improve their efficiency. “We migrated all our reporting to an on-line format over a year ago,” says Graziani. “The efficiency increase was significant. We also developed user-friendly reports that encapsulated the vital business components which were updated on a daily basis. The greatest benefit was in our response times to issues. Staff would be looking at data during different

periods and would identify trends quickly, allowing us to respond swiftly. We were able to react to our major competitor faster and be more flexible and proactive to market conditions. The use of nearly real-time data delivered via the internet certainly boosted our productivity levels considerably.”

One of the most important considerations for any dynamic revenue system is ensuring the data inputs are accurate, since this is vital to the management process. “Getting good data inputs is key to accuracy,” says Bob Rittenberry, director of finance products for Sabre Airline Solutions. “Data are added to the system as soon as it is updated. CRS and GDS ticket data can be updated within hours of a transaction being completed. We can pick up GDS ticketing and bookings within 48 hours, so by the time the passenger boards their flight the processing of their journey has been completed. Most airlines still close their revenue reporting between three and six days after month end, but there is demand for a shorter period. The actual time is driven by the airline’s operational approach and level of comfort with data integrity which drive the accuracy of reporting. With correct data, revenue can be reported whenever the airline requires it.”

Airlines are now linking revenue reporting to profitability systems to give an overall picture of its operations. SAP, the German software manufacturer is the leader in this area. Clients range from Air France, South African Airways and Lufthansa and all use SAP’s system to gain improved reporting levels. “The



Lufthansa is one carrier that uses SAP's system of linking revenue reporting with route profit ability. This enables airlines to closely monitor operations, and so maximise revenue.

systems that SAP offers enable an airline a far better view of operations than was ever possible previously," says Levenue. "The airline industry is moving in this direction, but evolution has been slow. The initial developments around e-commerce centred on selling tickets to passengers. Airlines are realising that huge opportunities exist within back-office functions that were previously a slow and laborious affair. The move of these functions to the internet is the next step in e-commerce. They enable an airline to manage its operations closely, while also enabling it to maximise revenue opportunities. This is an attractive position that more will be adopting in the near-term. The interest levels, especially among European carriers, in new e-commerce options that address these areas are increasing. Airlines are looking for efficiency gains in most areas, and this is one of them."

Revenue maximisation

Controlling and measuring the generated revenue is important for any airline, as are ways of maximising it. Airlines continually seek new ways to improve their revenue streams and reduce revenue loss. "Many people focus on revenue increments, but revenue loss can be equally damaging," says Alberto Fahjelman, commercial director for Varig Airlines. "We recognised that capturing and improving revenue through accepted revenue management (RM) practices was fruitless if the revenue was lost again through poor sales channels and unplanned reservation cancellations. To reduce this potential threat we moved our shuttle services between Rio and Sao Paulo to e-commerce channels as much as

possible. We are still a long way from optimal, but the combination of internet check-in, seat allocation and ticket printing keeps the passengers away from competitors. While we have not embraced a highly sophisticated approach to e-commerce initiatives, we are using the internet to maximise revenue by offering hassle-free services, which are popular. Many industries can get caught in the trap of seeking complex solutions to fix any problem. We are using simple solutions to give us a competitive edge. The law of diminishing returns limits the future investment we will make in e-commerce, but we will certainly be moving towards dynamic revenue reporting. One major development that evolved from the internet is the constant availability of data, and we will be examining ways of using this to improve our overall revenue returns."

The development of revenue maximisation processes is a relatively new field, and one that is still being explored. "Revenue management is all about getting people on the plane for as much as they are willing to pay," says Tim Claydon, senior vice president of sales and development for jetBlue. "Revenue maximisation, however, is a totally different approach. It combines the principles of RM as well as finance. Basically, we constantly analyse how we can do better with the revenues that we get. We examine if we can get people to book earlier, giving us longer use of their money. We are always looking to improve our revenue generation areas, as well as our financial management areas. The internet is invaluable in this regard. We share information about revenue via the internet, increasing everybody's awareness of revenue performance.

Internet accessibility has really improved our business processes and everything we do is premised on the intention to move all our systems and data to internet-based access wherever possible. This gives us 24-hour access to our data."

Market intelligence

The linking of revenue and profitability systems enables an airline to adapt to the environment in which it is operating. Airlines also need to see what is happening in the future, however. To achieve this, market information data (MIDT) are being increasingly sourced via the internet, not from airline mainframe computers. *Aircraft Commerce* has reviewed the benefits of MIDT (see, *The use of market data intelligence in passenger marketing, Aircraft Commerce, December 2002/January 2003, page 14*).

MIDT allows an airline to view the bookings that are made with competitors, and to see the total volume of bookings in a market. This allows a sales force to target passengers, especially high revenue ones, and move them away from a competing airline. The use of market intelligence data, like MIDT, is predominantly internet-based. The data can be updated hourly so the internet is the obvious location for such a dynamic data source.

Ned Gizinsky, vice president of sales at Shepherd Systems explains: "The tools we offer are about giving value to the airline, irrespective of the volume of data it purchases. Data itself has no value; you need to be able to see the relationships and opportunities that are occurring in order to make good business decisions. A good system is one where the sales force

E-commerce is allowing airlines to maximise revenue. This is not just an issue of improving revenue management, but how to make the best use of revenue generated. This is by combining the principles of revenue management with finance.



is directed towards its goals, whether they are increased sales, shifting market-share, or targeting premium passengers by the decision support tool they use. It does not do the thinking for you, but it shows you where the greatest opportunity is in a market, and directs your focus to the area of greatest value. This has the double benefit of increasing productivity and directing the sales focus to the best market opportunities. Effective use of MIDT is one of the best revenue enhancement decisions an airline can make. Monthly data are valuable for both sales and planning purposes, and the majority of our customers will stay at that level. However, where carriers are in an aggressive market, or one that is very fluid and mobile, the additional benefit that weekly or daily processing can provide is critical. Timely information in this type of market contributes significantly to airline revenue, and is a wise investment. Airlines that operate in this market type and do not use frequent processing, are in serious danger of being out-manoeuvred by their competitors. That is why we developed an alert system that is linked to a mobile phone or hand-held device, since time is critical.”

The airline industry is moving toward constant access of information and the use of that information to enhance its revenue and sales performance. Constant data access presents its own problems, mostly surrounding the ability of the server to cope with increased, and continual, demand. Concerns about data security have largely disappeared due to the development of ever more secure servers that are protected by encryption devices and secure socket layers (SSL).

The challenges facing airlines is in designing a server that can meet the constant levels of demand.

24 Hour data

The move to e-commerce-based solutions for airlines is driven by the attractiveness of flexible internet access. Maintenance requirements are also lower and the airline can benefit from significant cost savings as a result. Many vendors are placing data sources online wherever possible, selling the airline on the benefits of flexibility and multiple access. For example, several vendors are offering data websites that combine schedule information with market intelligence information like MIDT. This removes the need for airlines to manage their own data warehouses and maintain relational databases, which require ongoing investment and management time.

“Data sources need to be managed to ensure that data are not stored and maintained in several different systems, as this replicates cost,” says Brown. “This can be solved by storing data in a single depository. Airlines already do this to some extent, but more work needs to be done. Individual data sources that are not integrated increase the potential for conflicting data. The role of data is vital, and improving the storage and retrieval processes can improve efficiency because data are not stored in multiple locations with each one accruing maintenance costs. Where practical we advise airlines to move to an online data storage system. Servers can be built to cater for redundancy, while allowing more users to access the data. The more people that

have access to data and are able to make informed decisions, the healthier the business becomes. One area often overlooked is the demand placed on the internet and server infrastructure. If you embark on a strategy to increase access then you have to be able to cater for that. The servers and switching systems need to be able to handle this load. The airline risks losing revenue if there is a crash, since the entire network stops and shuts down internet bookings. These issues need to be considered and confronted up-front as part of the project requirement. They cannot be as easily addressed after the fact. The data volume that a network can generate often surprises people. Consequently, if they are not prepared for this volume their servers can have a real problem meeting demand.”

Summary

Many new opportunities are developing for airlines in the sphere of e-commerce. Traditional e-commerce processes of internet bookings have generally been exhausted, with all distribution channels tapped. Airlines are therefore examining ways that e-commerce can enhance their existing business processes. As airlines continue to adapt to the new operating environment, more carriers are moving to internal processes as the next area to rationalise and improve. An improved grasp of revenue and profitability is the first step in this development. Airlines have been historically aggressive in the application of technology to solve business problems. The development of new IT solutions will therefore probably be swift. **AC**