It’s time for all-out innovation. And it’s time for proven leadership. Mission-critical areas require time-tested solutions. Longer than any other company, we’ve pushed technology forward to deliver vital systems airlines need to stay ahead, to make the impossible practical.

Working closely with carriers, we’ve developed a portfolio of flexible, integrated solutions that can optimize operations of all airlines — any size, any business model, anywhere in the world.

Learn how together we can put proven leadership to work for you. Call us at 682 605 1000. Or visit www.sabreairlinesolutions.com.
CFOs and CIOs agree. Software solutions must make a positive financial impact. Fine-tuning operations and maximizing revenue streams can add millions to your bottom line — actual, tangible returns that can be taken to the bank.

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Learn how we can work together to help you realize bankable results. Call us at 682 605 1000. Or visit www.sabreairlinesolutions.com.

smart. proven. bankable.
Reigning in the Fleet
Lufthansa realizes monthly financial benefits up to €5 million by utilizing close-in re-fleeting techniques and combined technology.

Power of Converging Data
By combining several data sources, airlines can better evaluate performance and make more profitable marketing decisions.

Revenue Realization: Protecting Revenue
A comprehensive revenue realization plan can help recover revenues that otherwise would be lost due to malpractices or inefficiencies.

Unleashing Revenue Management
Realize substantial financial benefits by integrating revenue management with other operational areas.

On Schedule to Maintain Revenue
Advanced planning and scheduling technology enables quick response to competitive actions.

Customer Connection
A strategic customer relationship management plan helps obtain and retain customers.

A Package Deal
Cathay Pacific Airways’ cargo business produces optimal revenues.

Under one Roof
A new airline operations center and emergency procedures enable China Eastern Airlines to promptly respond to costly disruptions.

Strictly Business
Lufthansa and Swiss offer business-class-only flights between Europe and the United States.

Luck of the Irish?
Ryanair takes advantage of ancillary sales, such as in-flight purchases, to grow revenues beyond ticket sales.

In the Black
AirTran Airways Chairman and CEO Joe Leonard discusses how his airline has become one of the most successful carriers in the industry.

Revenue Integrity: A Growing Necessity
A low-risk, high-reward integrity strategy can yield revenue improvements and cost reductions with minimal investment.

A Fare Reaction
Airlines can effectively predict and react to competitors’ fare actions by executing a meticulous fares management strategy.

Like many airline executives today, you probably wonder how you can afford to focus on anything other than costs. As with any executive in any industry, you are challenged to keep your teams excited and motivated so they serve your customers and create a deeper bond with them, while still maintaining a cost structure that enables you to compete more effectively. But there’s another side of the coin — revenue. Despite the continued focus on costs, revenue is gaining a renewed amount of executive agenda time. Many revenue conversations are driven by innovative thinking, which will likely result in some carriers creating new revenue advantages versus their competitors.
Some carriers such as Air Canada are “unbundling” their product, enabling customers to choose and pay for services they value most. Extra charges for economy-class entertainment and cocktails are not new to the industry, and airlines have recently begun charging for food. But customers have not yet really understood that they are paying for a more “flexible ticket” or for a pre-assigned seat. These ideas are being tested aggressively, and it seems that customers like the concept once they understand it.

Europe’s Lufthansa German Airlines and some carriers in the Middle East and Asia are betting on good, old-fashion premium service to drive revenue. Lufthansa’s premium-class service, particularly the first-class terminal at Germany’s Frankfurt Airport, will be difficult for competitors to match. The service is designed from curbside check in to deplaning, with terrific in-flight service in between. These carriers have decided that the days of big revenue premiums for high-end service are not over.

New pricing structures are being introduced in the United States. America West Airlines led with a simplified business model. Other major carriers such as Delta Air Lines and American Airlines have introduced similar pricing plans in large portions of their networks. These carriers seem to be capturing a greater share of the market and stimulating more demand in their large hub cities where they have retrenched capacity. While it is too early to tell the impact these new structures will have, airlines seem encouraged by the results.

There are a few other trends that may seem a bit puzzling — it appears some carriers have relaxed their revenue management disciplines. Fare rules such as “sum of locals” are routinely broken on many carriers’ own Web sites and in the more traditional distribution channels. Revenue is left on the table in many of these instances. Another trend that seems counter to revenue focus is some airlines’ willingness to participate in Meta search models that seem destined to reduce the airline product to a commodity. There are two sides to both of these issues, but I think they have potential to drive revenue down over time.

We are proud of our heritage as a company that played a pioneering role in developing technology that has enabled the science of pricing and revenue management. Today, through our \textit{Sabre® AirMax® Revenue Management Suite} and through the expertise shared with airlines around the world by our consulting team, we continue to focus on helping airlines optimize their revenue performance. New ideas and pricing approaches, new products and services, and, yes, some solid revenue management principles all need to be in the mix for a carrier to gain revenue advantage.

So, while there continues to be substantial executive time spent on the tough issues that are required to improve airline performance, make sure some agenda time is dedicated to the revenue side of the house. There is opportunity for improvement and, of course, we would love to help!
**Asia/Pacific**

**Malaysia Airlines** selected the Sabre® Movement Manager, a key system within the Sabre® AirOps™ Suite, to assist with the airline’s integrated operations initiative. Movement Manager, an automated flight display and movement control system to be deployed across a client-server architecture using a relational database, is designed to help streamline flight management, increase aircraft utilization and minimize operational disruption.

“Integration of schedule planning, ground operations, maintenance, flight dispatch, flight operations, crew and passenger services, flight tracking, and service recovery is a growing trend in this industry right now, and we are leading the field with our iOPS strategy,” said Encik Tajuden Abu Bakar, senior general manager of technical and ground operations for Malaysia Airlines. “Movement Manager is one of the technological solutions for this mission-critical area as it is built on open-systems, non-proprietary architecture. The reason we stress the open-systems approach is because it has much greater rewards over proprietary technology infrastructures, and it is less expensive; easier for our staff to use, implement and maintain; saves costs; and can easily integrate with existing or new technologies.”

**Hainan Airlines** selected four main systems within the Sabre® AirFlite™ Planning and Scheduling Suite to automate its flight scheduling and route evaluation processes. The suite, which can help increase operating profits by up to 9 percent, combines core flight scheduling functions such as scheduling, profitability forecasting and analysis, fleet assignment, and slot management through a seamless integration with shared interfaces and database information.

“Hainan Airlines is a dynamic, growing airline, and we pride ourselves on our ability to move quickly and take opportunities as they arise,” said Yang Jianhong, chief marketing officer for Hainan Airlines. “Given our future growth plans, we found we were at a point where we needed to automate our decision-making processes, and the AirFlite suite has addressed this need. We can now change our schedule times and network and fleet assignments quickly and accurately using these tools. We can also make better decisions about medium- and long-term issues such as fleet mix and new markets to serve.”

**Air New Zealand** became the first airline in the world to utilize the Sabre® Reaccommodation Manager, a key solution within the Sabre® AirOps™ Suite, to help simplify and automate the process of rebooking passengers who have been affected by flight cancellations or delays. The optimization-based process will assign the airline’s premium customers with the best alternate itineraries to help minimize disruptions.

“We strive to offer world-class customer service and are constantly looking at ways to ensure our passengers receive the very best experience every time they book and fly with us,” said Rod Butchers, manager of operations delivery for Air New Zealand. “By adding Reaccommodation Manager to our existing portfolio of Sabre Airline Solutions technologies, we aim to deliver a superior level of service by reducing the problems associated with flight disruptions.

“This product is a sophisticated system designed to work closely with our integrated operations center, helping to improve our day-to-day flight management,” Butchers said. “For example, passenger rebooking can be taken into consideration when we decide if a flight needs to be cancelled, delayed or diverted to alternate destinations.”

**Thai Airways,** through its relationship with Thailand-based information technology contractor Songkhla Finishing Co., selected the Sabre® Streamline™ Resource Management Suite to gain operational staff efficiencies and optimal use of its airport ground staff through more effective demand planning, shifting, employee administration and cross-utilization decisions.

“The Streamline suite was selected as the clear market leader with the
functionality to enable Thai Airways to improve its staff planning, rostering, administration and utilization processes,” said Phengphian Laogumnnerd, manager of Songkhla Finishing Co. “Songkhla was tasked with the challenge of providing Thai Airways with an end-to-end resource management system that could address the needs of a large, complex airline. I’m confident the Streamline suite will deliver superior benefits to Thai Airways.

“Working with Sabre Airline Solutions gives us access to the very best information technology systems on the market,” Laogumnnerd said. “We are looking forward to seeing tangible results at Thai Airways, such as improving the customer service experience through precisely planned and optimized staffing levels.”

Malaysia Airlines chose the origin and destination mode of the Sabre® AirMax® Revenue Manager to control its inventory. With Revenue Manager, the airline will be able to use schedule, reservations and ticketing data to forecast demand by service class and determine the optimal inventory controls at the network level.

“Moving to the O&D revenue management controls represents a major step for our airline, and we believe it will give us a significant advantage,” said Sharifah Salwa, assistant general manager of network revenue management for Malaysia Airlines. “By using Revenue Manager to move to O&D control, we can ensure that every seat on our aircraft generates the maximum amount of revenue across our entire network.”

Valuair successfully implemented the SabreSonic™ Passenger Solutions to further develop and enhance its relationship with the travel trade. The modular architecture and flexible pricing of the SabreSonic solutions enables Valuair to use a variety of distribution channels to offer the most advanced travel experience at an affordable price that works well with its business model.

“Our cutover to the SabreSonic solutions is a significant development as this will help the travel trade to not only have greater accessibility to our fares but also enhance our capabilities for electronic ticketing, Internet booking and expanded global distribution system connectivity,” said Valuair Chairman Lim Chin Beng during an inauguration ceremony.

Europe/Middle East/Africa

bmibaby selected the Sabre® AirMax® Low Fares Manager for its advanced restriction-free pricing capabilities. Low Fares Manager will enable bmibaby to continue effectively managing its revenues by accepting or rejecting passenger bookings based on overall revenue contributions. The system will also estimate customer buying behavior by time period, enabling the carrier to adjust inventories and prices in response to demand to maximize revenue.

“Restriction-free pricing is one of the draws of bmibaby,” said Donna Clarkstone, head of business development for bmibaby. “However, traditional revenue management techniques do not work in the restriction-free pricing market. bmibaby required a unique solution designed for the low-cost market that ensured we met our costs and generated profit. The Low Fares Manager offers the first revenue management technology that offers this solution and is a solid platform for our restriction-free pricing model.”

Sabre Airline Solutions launched a new component of the SabreSonic™ Passenger Solutions. A technological breakthrough, SabreSonic™ Revenue Integrity automates the revenue integrity process, offering airlines flexible, easy-to-use technology for protecting existing revenue streams in a cost-effective way. The new technology is not only available for airlines utilizing the SabreSonic solutions, it is also offered to non-hosted carriers as a standalone offering to be used with their in-house or third-party reservations systems.

As part of the new product launch, Sabre Airline Solutions acquired London, England-based Lanyon, LTD., a leading provider of business process management software to the airline and travel industries. Integration of Lanyon’s DigitalQueue
Revenue Integrity Management software with the SabreSonic solutions provides a complementary and complete offering in revenue integrity.

“Protecting revenues in today’s environment has become increasingly difficult, and it is imperative that airlines have tools to help them address any areas that are leaking revenue without greatly increasing labor costs,” said Gianni Marostica, president of the Airline Passenger Solutions business within Sabre Airline Solutions. “Our new revenue integrity capabilities will enable airlines to create and monitor automated processes as a replacement for repetitive, costly legacy processes.”

North America

JetBlue will utilize the Sabre® Streamline™ GateManager™ and the the Sabre® Streamline™ GatePlan™ systems — two key components of the Sabre® Streamline™ Resource Management Suite — to help reduce operational costs, improve on-time performance and better utilize gate assets. The advanced technology will also help the airline assign more feasible, efficient gate assignments to existing schedules, which means jetBlue will be able to reduce waiting time on the taxiway, lessening potential fuel burn and maintaining high on-time performance and customer service.

“The Streamline suite represents the one tool in the marketplace that will enable us to continue to provide quality customer service while maintaining efficient use of our limited gate space at John F. Kennedy International Airport,” said Nigel Adams, vice president of customer service for jetBlue. “The system will augment our deep commitment to customer service. By promoting on-time delivery and efficient use of our resources, the technology will help us reach our goal of better service at a lower fare.”

AirTran Airways selected two components of the Sabre® Streamline™ Resource Management Suite to achieve faster staffing solutions for more dynamic airport operations. The airline will leverage the Sabre® Streamline™ StaffPlan™ and Sabre® Streamline™ StaffAdmin™ systems for robust planning, rostering and administrating its employees. The new technology will help the airline reduce operational costs, improve on-time performance and better utilize employee resources.

“The typical approach airlines take when implementing resource management systems is to cut costs,” said Jack Smith, senior vice president of customer service for AirTran Airways. “At AirTran Airways, we are just as concerned about customer service and on-time performance as we are with cost containment, especially as we grow the airline. We already maintain a cost-leadership position, and the Streamline suite will enable us to continue to keep that position while we expand and enter more competitive markets.

“A growing airline cannot simply stand still when it comes to technology,” Smith added. “Sabre Airline Solutions has the breadth and depth of smart solutions to meet our changing operational needs and the personnel to ensure success. When we searched the marketplace, we looked not only for providers with the right technology but for those that were able to be a partner today and in the future.”

American Airlines employed SabreSonic® Ticket, a new, open-systems technology that provides an easy and efficient way to manage interline electronic ticketing. The component will provide the carrier with a quick and cost-effective solution, enabling interline e-ticketing with alliance partners and other airlines. The Ticket component addresses the trend for carriers to use e-ticketing as both a cost advantage and an additional customer-centric offering and complies with the recent mandate by the International Air Transport Association to achieve 100 percent e-ticketing by the end of 2007.

“Interline electronic ticketing is another step American has taken to enhance the traveling experience by making passenger transfers from American to other airlines more convenient,” said Uzair Nathani, managing director of revenue and planning technology for American Airlines. “American Airlines continues to make
investments in customer-facing technology to enhance the travel experience as well as look for all opportunities to lower costs and work more efficiently. The Ticket component enables us to provide our customers, in a faster and more cost-effective fashion, the enhanced convenience and flexibility they want.

**Hawaiian Airlines** renewed its agreement to utilize the *SabreSonic™ Passenger Solutions*, open-systems technology the airline has used since 1994 to power its reservations, ticketing and check-in functions. In addition, the carrier selected two customer care features, which represent the industry’s first true operational customer care program, to promote a customer-centric environment.

“The open-systems technology of Sabre Airline Solutions has been a key component of our success in establishing Hawaiian Airlines as the industry leader with customer service,” said Gordon Locke, former senior vice president of marketing and sales at Hawaiian Airlines. “The flexibility and adaptability of the SabreSonic solutions will enhance our customer service even more by providing clean, easy-to-use data before and after each sale.”

**Sabre Airline Solutions** acquired Stockholm, Sweden-based RM Rocade to help meet the needs of international small, medium and low-cost carriers with an easy-to-use, fully functional flight operations product suite at a compelling price and value point.

“We have made it possible for small, medium and low-cost carriers to operate in new ways through the use of accessible technology,” said Tom Klein, group president for Sabre Airline Solutions. “We have made sure smaller airlines no longer have to make do with sub-par technology or manual processes in today’s environment. Our flight operations and crew portfolio offers the low cost and quick implementation they require.”

**Around the World**

**Air Jamaica, Frontier Airlines, Mesa Air Group, Spirit Airlines, Skyservice Airlines and Atlantic Southeast Airlines** have implemented the *Sabre® AirCrews® Pairing Optimizer* via Linux, a freeware operating system that can run on a desktop, to reduce crew-related costs. The *Pairing Optimizer* enables airlines to generate optimal legal pairings that achieve desired business goals, helping reduce the number of crew-related flight cancellations and delays as well as decrease crew-related costs by up to 10 percent.

“Since we’ve implemented the *Pairing Optimizer*, we’ve seen tremendous improvement in our ability to manage our crew resources,” said George Webster, director of systems operations control for Frontier Airlines. “Using the system, we are able to optimize our crew schedule while complying with all federal regulations and labor rules.”

**Gulf Air and Sabre Travel Network** entered a joint venture bringing together the world’s leading global distribution system and the vast local expertise of Gulf Air to further extend world-class products and services into the Middle East region. The agreement includes a five-year contract with Sabre Airline Solutions for the *SabreSonic™ Passenger Solutions* for passenger management as well as additional operational software and consulting services from Sabre Airline Solutions. The new Bahrain-based establishment, Sabre Travel Network Middle East, expands on the 15-year relationship between the two companies.

“The immense challenges facing the airline industry today require a concerted collaborative effort with specialist partners in both the public and private sectors,” said James Hogan, president and chief executive of Gulf Air. “Sabre Holding’s innovative business and technology solutions make it a partner of choice in meeting our requirements and addressing the constant challenges of the competitive market. At the same time, Gulf Air’s regional network and strong historic and geographic ties in the region will enable us to further leverage the services we offer.”

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Sabre AirMax Essentials Reporter

description
Sabre® AirMax® Essentials Reporter is a revenue management tool that enables airline analysts to generate basic inventory performance metrics as well as monitor and update inventory controls directly in the reservations system. It provides the capability to report on several revenue management aspects including booking curves and other pre-departure flight activity, post-departure flight activity and exception triggers. In addition to data collection, storage and reporting, it provides the capability to directly manage inventory in the reservations system. The system consists of a nightly data collection process, a database, a nightly booking curve construction process, an exception identification process, a set of standard reports, ability to create on-demand ad hoc reports and a process to directly manage inventory in the reservations system.

benefits
Essentials Reporter offers significant benefits to airlines, including:
- Provides a low-cost tool for collecting and storing the appropriate schedule, inventory and post-departure data essential for effective revenue management as well as produces significant savings in system and support-related costs by providing Internet access;
- Improves airline revenue performance by enabling revenue management analysts to make informed decisions using intelligent data analysis;
- Offers extensive reporting using a standard set of reports as well as the ability to create custom reports presenting information in a clear, concise format for analysis, decision verification and future decision making;
- Performs basic revenue management functions without the need for expensive, highly data-driven and involved systems for managing inventory;
- Provides an excellent data source for any future revenue management decision-support system needs.

features
- Data collection and storage — Captures and stores schedule, inventory and post-departure data from the reservations system on a nightly basis (The database serves as a centralized repository of inventory and post-departure revenue management-related data, enabling analysts to generate operational and management reports on an as-needed basis.),
- Proactive exception management — Includes an exception reporting module that alerts analysts of any abnormal booking activity requiring analysis by comparing behavior patterns of flights in the future with booking patterns in the past and generating reports where the discrepancy between historical and future activity exceeds a certain analyst-defined threshold,
- Extensive reporting — Enables analysts to evaluate information before making decisions by providing a set of standard reports as well as the ability to create custom reports, including:
  - Standard reports — Provides a number of standard reports detailing relevant statistics that pertain to revenue management. Both pre- and post-departure standard reports are included.
  - Custom reporting — Incorporates a flexible and intuitive report-creation tool that enables analysts to create reports on demand. Database layout is designed to enable report output generation with optimal processing times.
- Real-time inventory management — Enables analysts to update inventory controls in the reservations system directly using real-time connectivity with the reservations system. This provides analysts the ability to monitor and control flights using a single integrated graphical user interface.
The Sabre Rocade Airline Operations Suite

description

The Sabre® Rocade® Airline Operations Suite offers a tightly integrated group of products with comprehensive solutions for operations control, crew management and flight scheduling for medium-sized airlines in Europe, the Middle East, Africa, Latin America and Asia/Pacific.

benefits

The suite, created by airline industry and mathematical experts, is engineered to provide airlines with a single integrated solution, including a solitary database to ensure real-time information is available to all operational staff. Airlines have used the Rocade suite to achieve cost reductions of up to 13 percent in cabin crew planning and 60 percent improvement in the productivity of staff planning. Carriers have also experienced aircraft utilization improvements of up to 10 percent and crew utilization improvements of up to 20 percent.

features

- The Sabre® Rocade® Commercial Planning System improves productivity and revenue potential in construction and maintenance of airline schedules for long- and short-term planning. The solution creates time tables, schedules aircraft and optimizes tail rotation, enabling airlines to meet market demands and competition with improved schedules and faster response to market changes.
- The Sabre® Rocade® Operations Control System supports the daily operation of fleet tracking, movement control and decision support. The solution minimizes delays and provides alerts for disruptions caused by weather, ground conditions and other situations by tracking aircraft movements in real time.
- The Sabre® Rocade® Crew Management System generates optimal crew pairings, automatically generates rosters and tracks daily crew operations.

Release 8.1 of the Sabre AirCrews Crew Management Suite

description

The latest version of the Release 8.1 of the Sabre® AirCrews® Crew Management Suite provides an end-to-end crew management solution from long-term planning through day-of-operations crew tracking and recovery. Its various enhancements, ranging from optimization technique improvements to functionality additions such as team rostering and trip trades, help airlines gain the greatest efficiencies in every aspect of their crew operations.

benefits

Utilizing the AirCrews suite improves crew utilization, increases user productivity, enhances customer and crew satisfaction, decreases flight delays, and cuts crew-related costs.

enhanced features

- Trip trades — The latest AirCrews suite includes highly sought after functionality from the market that enables crewmembers to add and drop trips online in real time. Crewmembers will also be able to submit trade requests online through the crew Internet access tool, Sabre® AirCrews® Crew Connection.
- Team rostering — Many airlines have begun scheduling their crewmembers as teams, thus enhancing customer service and crew cohesiveness. Functionality was added to handle team assignments in Sabre® AirCrews® Schedule Optimizer.
- Pairing optimizer enhancements — New techniques enhance the performance of the Sabre® AirCrews® Pairing Optimizer, resulting in quicker run times and higher quality solutions.
- Rule additions — Several new rules have been added to comply with mandates issued by industry regulators including the Civil Aviation Authority, the Joint Aviation Authorities, the Federal Aviation Administration and the Civil Aviation Safety Authority.
On Schedule to Maintain Revenue

By using technology to assist with network planning, an airline can better understand its customers’ preferences and competitors’ responses leading to a more lucrative network.

companies that are more technologically savvy tend to perform significantly better, especially in harsh economic conditions. Technology can help companies become more efficient in their operations, more dynamic and responsive in their decision making, and more agile in their execution, all of which ultimately leads to better financial performance. For example, Wal-Mart took bar code technology to new levels by using information stored in the bar code to optimize the efficiency of its entire supply chain. The bar code enabled Wal-Mart to track sales of every single item by month, week, day or even hour and shift the pricing power to the retailer. As a result, Wal-Mart can stock its shelves with the right products at the right time and at the right price.

Another example closer to the airline industry is FedEx, which was founded in 1973 and delivered 186 overnight packages to 25 cities. Fred Smith, founder and chief executive officer of FedEx, grew the company to a US$25 billion business by 2004. To maintain its efficiency and the fundamentals of its core business, FedEx expanded the use of bar code technology and wireless scanners and is currently operating the largest civilian radio network in the world. In 1987, before the age of the Internet, FedEx allowed its customers to monitor their shipments using a private network. FedEx developed its own software that enables dispatchers to track its planes and vehicles in real time. It also developed software that enabled customers to anticipate how many parcels they will receive the next day — something that can be extremely valuable for customers with time-sensitive goods such as medical samples.

The success of these companies is not attributed to technology only. However, it is evident that technology played a key role in their success.

Technology obviously impacts the airline industry in similar ways. The potential of technology stems from its ability to impact both revenues and costs and, therefore, the bottom line. Technology infrastructure carries costs, but the returns commonly outweigh them. Although technology spans all business areas in an airline — strategic planning, fleet acquisition, schedule development, pricing and revenue management, maintenance and engineering, crew scheduling, training, customer service, passenger check in, and flight operations — technology applications in network planning and scheduling hold particular promise for revenue maintenance.

Planning the Fleet

During a typical fleet planning exercise using an integrated suite of airline planning and scheduling software, a specific order must be followed to achieve optimal results. First, the forecast system must be calibrated and the base schedule must be overbuilt and forecast. The schedule optimization system is then ready to drop unprofitable flying and optimize aircraft assignment. Several iterations between the forecasting system and the optimization system can be undertaken until the desired aircraft count is achieved.
Network planning and scheduling in an airline spans a long horizon. It starts with developing a strategic plan that can be three to five years out or even longer. The strategic plan defines the type of network the airline desires, the markets and customers it intends to serve, the nature of its fleet, and its strategic partnerships. A strategic plan includes several aspects, such as:

- Type of network — Hub and spoke, point-to-point or a combination,
- Targeted markets and passengers — Business or leisure,
- Fleet mix — Wide bodies, narrow bodies, regional jets and turbo props,
- Partnerships with other carriers — Codeshares, frequent flyer relationships and alliance membership,
- Relationships with suppliers,
- Distribution strategy.

In general, strategic plans are set at the executive level with input from middle management and, therefore, tend to define the overall shape of the airline. Strategic errors are extremely costly and recovery may be difficult.

Build, Operate, Transfer: A Quick Way to Realize New Technology Benefits

By Karen Dielman | Ascend Contributor

When airlines implement new technology, they do it with the desire to quickly realize business benefits. This is especially true when the technology’s key benefits target top-line revenue. Examples of areas technology tools can help improve a carrier’s revenue include pricing, network planning, scheduling, revenue management, and sales and distribution.

Although airline executives expect to experience benefits soon after the technology is implemented, they quickly learn that their current staff and business processes may hinder the ability to effectively use the new tool to significantly improve their revenue position. Additionally, analysts do not generally have the immediate experience and knowledge needed to quickly master or take advantage of the new technology.

In fact, basic requirements that should be addressed when implementing a new technology system are often overlooked, keeping the carrier from realizing the technology’s full benefits from the beginning.

Although there are many issues airlines should address when implementing new technology, at the very least, they should focus on several key factors, including:

- Technology impact on all current business processes and procedures,
- Ability to develop and implement new business processes and procedures to support the new technology,
- Skilled resources available to manage new technology within and across departments,
- Knowledge and training needed to effectively use the new technology.

All carriers, regardless of size, need to address these areas when implementing new technology if they want to receive a quick return on their investment. Without a thorough review of the current business and a clear business transformation plan, the majority of carriers will not receive the return on their technology investment as rapidly or as fully — missing clear revenue opportunities.

“… strategic plans are set at the executive level with input from middle management and, therefore, tend to define the overall shape of the airline.”

Information is a key to making sound strategic decisions and avoiding costly errors.

The strategic plan provides guidelines for the service plan, which is established six to 18 months from day of departure. It is during this part of the planning cycle that the schedule starts to take shape, and flight timings, frequencies, aircraft assignments and aircraft flow are determined. As time gets closer to the day of operation, the service plan gets refined and the schedule becomes more operational. Schedules are now checked for feasibility such as ground time violations, imbalances, curfews and maintenance constraints.

At this point, schedules are also communicated with other departments such as crew and maintenance for planning purposes. Finally, the schedule is published and short-term changes may be applied based on booking levels or other short-term events.

Once the schedule is flown, collected data is fed back into the planning cycle and used for developing and enhancing future plans.

Obviously, an airline’s schedule planning effort is massive and lends itself to technology applications. Without software tools, the process would be manual, highly labor intensive and prone to costly human errors. Software tools continue to be enhanced to automate a large part of the schedule planning and development process and shift the focus from the manual labor of creating and validating a schedule to the analytical effort of understanding passenger preferences, competitive responsiveness, fleet rationalization and overall network optimization. Several scientific disciplines drive these tools, primarily operations research and statistics. Without software tools, analysts can try a handful of scenarios and pick the best among those without having any idea how close they are to the optimal network. By automating the manual part of the planning effort, analysts can now test hundreds of different scenarios and, in many cases, achieve the optimal network solution. Not only do these tools provide the analyst...
with the attainable capability of achieving optimality, they open new horizons for the planners’ imagination and provide the dynamism to respond to changes in the marketplace in a quick and efficient manner.

So, what are these software tools, and what do they do? There are three pillars of network planning and scheduling:

1. A schedule development system that provides an environment for schedule creation, validation and distribution.

2. A forecasting system that forecasts demand, traffic, revenue, cost and profitability of a proposed carrier’s schedule. The system is based on a passenger preference model that rates all viable itineraries according to their appeal to different passengers.

3. An optimization system that uses the demand forecast from the forecasting system and optimizes fleet assignment based on network revenue and cost within the provided constraints — such as aircraft ranges, minimum required ground times, maintenance requirements and airport curfews. This process matches capacity to demand by minimizing spilled revenue and simultaneously minimizing empty capacity. Some of the more advanced optimization systems have the capability of dropping money-losing flights to achieve optimal network profitability. Other features of some of these systems include the capability to analyze the impact of ground-time shaving and flight retiming. These systems are highly automated and often produce complex solutions that are almost impossible to develop manually.

Other specialized tools exist for analyzing schedule dependability, optimizing aircraft routings, assigning through flight numbers, and managing codeshare relationships and slots at slot-restricted airports.

A central data repository sits at the center between all three systems and provides them with the data they need to produce meaningful results. Examples of the different data items include:

- Schedules for all carriers around the world,
- Origin and destination market sizes,
- Passenger preferences for different itinerary attributes,
- Market average fares,
- Advanced and flown bookings data from reservations systems,
- Actual passengers boarded,
- Revenue accounting data,
- Block-time database,
- Aircraft minimum ground times,
- Revenue accounting data,
- Aircraft minimum ground times,
- Block-time database,
- Aircraft minimum ground times,

Because most airlines can’t address all of these issues with in-house resources, many are beginning to rely on the “build, operate and transfer” — or BOT — model when implementing technology. This model, developed by Sabre Airlines Solutions Consulting, ensures that carriers begin realizing product benefits immediately after product implementations and that their staff is proficient in using the tools quickly. In some cases, carriers have experienced positive results before the technology is in place — a direct result of the business assessment and quick-hit improvements identified early in the engagement.

The BOT model consists of a three-phase approach, including:

Build:
- Conduct current-state assessment,
- Present a gap analysis and recommendations based on thorough analysis,
- Build technology models,
- Develop the function or department to support new technology,
- Implement best practices for key departments,
- Develop key performance indicators,
- Begin training and knowledge transfer,
- Implement new technology.

Operate:
- Assign dedicated experts to operate the department,
- Implement key performance indicators,
- Build business cases, delivering product value using real data,
- Develop live scenarios, allowing for better and faster decision making,
- Continue training and knowledge transfer.

Transfer:
- Complete training and knowledge transfer,
- Mentor staff members in their new role,
- Measure performance and adjust resources and activities as needed.

By having product and industry experts working side by side with the technology end users and managers, carriers get their business practices in line and users up to speed quicker than if they implemented the new technology with only in-house resources.

The BOT model ensures that an airline is prepared for the new technology through improved business processes, policies and procedures. Furthermore, the staff is fully trained and equipped to use the tools effectively because of the extensive training, knowledge transfer and mentoring program available. It has been found that this model offers a faster return on investment and identifies revenue opportunities that are often overlooked.

Karen Dielman is a marketing manager for Sabre Airline Solutions. She can be contacted at karen.dielman@sabre.com.
not getting its fair market share. MIDT data and market sizes can be used to identify potential new markets that a carrier can enter. MIDT has other valuable applications in sales and distribution, especially in studying agency activity and analyzing agency commissions in order to promote sales.

One of the fundamentals of such an integrated system is to be O&D based. For such tools to be effective, the emphasis should be on overall network performance rather than individual route performance. This is one of the key elements that distinguish a process based on software tools from a manual process. In a manual process, it would be extremely tedious to assess network performance for every proposed solution. However, network performance is the ultimate decisive factor in software tools, which have virtually unlimited applications in the entire network planning process starting from strategic planning through short-term planning.

Fleet Planning

Planning and scheduling software tools have many applications in fleet planning whether long term, intermediate or short term. Long-term fleet planning includes decisions on fleet acquisition and fleet retirement. With the integrated use of a forecasting system and a schedule optimization system, an airline can decide between several different fleet acquisitions.

The process starts by overbuilding the carrier’s schedule based on its network structure and type of markets it intends to serve. The overbuilding process involves introducing services to new markets and increasing frequency to existing markets to account for growth. Some forecasting systems have add-on modules that can suggest new services based on total market demand and existing level of service. New flights should provide a reasonable aircraft flow pattern and obey minimum ground rules and any other constraints the carrier wishes to impose such as curfews.

The next step is to forecast the demand for the overbuilt schedule flights using the forecasting system. The demand forecast is used by the schedule optimization system to reduce the schedule to the pre-determined aircraft count limit and determine the optimal fleet assignment. The schedule optimization system selects the fleet mix that optimizes the network revenue and cost from the different fleet alternatives. The optimized schedule is then fed again into the forecasting system to assess final expected performance, which typically requires several iterations between the forecasting system and the schedule optimization system. Better results can be achieved if the reduction step size is small in each iteration. Once the final fleet mix is achieved, transition schedules can be developed to phase in the new fleet and phase out the old fleet.

“With the integrated use of a forecasting system and a schedule optimization system, an airline can decide between several different fleet acquisitions.”

Fleet optimization does not have to be associated with fleet acquisitions or retirement. Optimizing fleet assignment should be undertaken on the intermediate schedules 18 to six months out. As the planning horizon decreases, the schedule becomes more defined and the mode of running the schedule optimization system changes from reduction, dropping under-performing flights, to switching fleet assignments. The level of constraints also increases as the planning horizon shortens, since schedule feasibility and operability become more important.

In the short term (45 to 30 days before departure), fleet optimization can respond to "With the integrated use of a forecasting system and a schedule optimization system, an airline can decide between several different fleet acquisitions.”

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In the short term (45 to 30 days before departure), fleet optimization can respond to
observed booking levels in the revenue management system by switching common flight deck aircraft (see related article on page 22). At this point in the schedule life cycle, schedule changes can be unwieldy and only minimal cost changes are tolerable. Common flight-deck aircraft are crew compatible and can be switched without disrupting crew patterns. In this case, the demand forecast would come from the revenue management system. This process enables the carrier to respond quickly to variations in passenger demand, special events or competitive actions. Short-term schedule re-fleeting is gaining popularity as airlines are realizing that they can generate 0.5 percent to 3 percent additional annual revenue by adopting this approach on a rigorous basis.

Following the best practices in fleet optimization across the entire planning horizon can lead to 4 percent to 5 percent improvement in profitability.

Alliance and Codeshare Analysis
Another example of applying network planning and scheduling software tools is in alliance and codeshare analysis. Codesharing expands a carrier’s reach and feeds more traffic to its flights at a reduced cost. Common trunk routes can enjoy more complete time-of-day or day-of-week coverage. Many partner relationships can improve revenues as the relationship brings about coordination of fares, sales and distribution as well as create more pricing power. Software tools can help a carrier decide which alliance to join, which codeshare partners to have and how to set up codeshare deals with these partners. There are many factors that should be considered when choosing an alliance or codeshare partner. In addition to network synergies, other factors include cultural compatibility, regulatory issues, implementation difficulty and level of interest among partners. Software tools enable partners to coordinate their schedules to maximize synergies and traffic feed. The schedule development system provides easy means to view partners’ schedules, identify candidate codeshare flights and suggest potential retiming of existing flights to maximize network synergies. Several schedule scenarios can be developed and evaluated using the forecasting system. The schedule optimization system optimizes fleet assignments based on the additional demand generated by new codeshares. Software tools can also help in evaluating different codeshare agreements. Many codeshare scenarios can be modeled in the forecasting system to assess the impact on the partners’ revenues.

Hub Optimization
One of the newly popular actions adopted by network carriers in the last few years is hub de-peaking, also known as rolling hub. Hub de-peaking spreads out aircraft arrivals and departures at an airport such that aircraft movements are distributed more evenly throughout the day, resulting in more efficient and more dependable schedules and allows for increased aircraft utilization and more efficient use of the airline’s assets. Connecting passengers have to wait a few more minutes for their connecting flights, but enjoy less waiting time on the tarmac during congestion hours. Hub de-peaking

A traditional hub operation includes a wide variation in the number of departures compared to that of a de-peaked hub model. In a rolling hub, flight departures are spread more evenly throughout the day.
has adjusted the traditional hub-and-spoke model, which was based on funneling flights into a hub at peak business travel times. The traditional hub-and-spoke model came under a lot of pressure as business-fare travel dwindled significantly since the end of 2000, and low-cost carriers managed to surpass the major network carriers with their more efficient operations and better utilization of assets.

American Airlines was one of the first carriers to implement hub de-peaking, moving to a maximum of 34 departures out of the Dallas/Fort Worth International Airport in a 30-minute period in its June 2004 schedule compared to 70 in June 2000. American estimated US$100 million of savings per year as a result of de-peaking its hubs at D/FW and Chicago O’Hare International Airport. American owes its successful efforts to de-peak its hubs to the use of its operations research analysis and network planning technology.

Creating a rolling hub without network planning and scheduling tools is an extremely difficult exercise. The schedule creation process is enormous as the schedule structure changes completely. Many iterations have to be tried between the forecasting system and the schedule optimization system to make sure that desirable levels of service are in place in the markets the carrier’s network covers. Rolling hub exercises can be accompanied by fleet simplification and turn-time reduction. The ground-shaving capability of some of the advanced schedule optimization systems and the automatic retime capability greatly help develop a schedule in which planes are flying as much as possible, thereby increasing revenue.

Competitive schedule changes such as changing frequency, retiming flights, entering new markets, pulling out of existing markets and average fare changes can be evaluated quickly in the forecasting system for their impact on the host carrier’s market share, traffic and revenue. Once the impact of these changes has been assessed, the tools can be used to evaluate different response plans and choose the best response to eliminate any adverse effect on the host carrier.

The schedule is the core product that an airline offers. Basic business principles dictate that companies that offer the best product win. Network planning and scheduling software tools should be an integral part of the overall network planning process at an airline. The advanced analytical capabilities that these tools offer enable airlines to devise the best schedule. Airlines should have the organizational structure to unleash the maximum potential of these tools. Since these tools help build the optimal network, an organization built around individual routes or groups of routes would not be as effective. A more effective organization would be one that is structured around the network planning time horizon.

Network planning and scheduling software tools have a wide range of applications. These tools can help a carrier remain competitive by staying ahead of the competition and by responding quickly to competitive actions. They automate many of the manual tasks and free analysts for more rigorous analysis and decision making. With their network-wide focus, they analyze financial impact on the entire airline network and enable decisions to be based on total network performance rather than performance of individual routes.

Technology alone will not bring success to an airline; however, it can certainly contribute significantly toward achieving that goal.

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Through a strategic customer relationship management program, airlines can stretch well beyond the bounds of a frequent flyer program to obtain and retain customers.
A CRM strategy typically focuses on generating greater revenues by attracting new customers and, in particular, retaining satisfied customers since it is widely recognized that satisfied customers will generate more revenue over a longer period of time.

Through an effective CRM program, airlines can generate additional revenue in several ways, including:
- Re-attracting defected customers,
- Increasing the share of a customer’s travel wallet,
- Identifying and acquiring new customers.

In each of these areas, collecting and analyzing relevant customer data is required to ensure efforts are focused toward the most valuable customers.

A number of functions within the airline — sales and marketing, revenue management, pricing, and customer experience management — support the CRM lifecycle and contribute differently to the revenue generated by these major areas.

Taking a closer look at these functions enables airlines to identify how each area supports revenue generation from new, existing, or lost or endangered customers.

**Marketing and Sales**

Contrary to popular belief, relationship building and customer loyalty doesn’t rely solely on the principle of accumulating frequent flyers miles. In fact, experience has demonstrated that an airline needs to broaden the scope of its loyalty program to include its entire business to ensure that differentiation is based on factors that attract new customers and help retain current ones, such as:

- Special offers,
- Additional services for VIPs (based on customer segmentation),
- Direct marketing (personalized and customized),
- Targeted campaigns,
- Expanded channel choice.

One key competitive advantage is that customer relationship management gives marketing and sales the opportunity to be proactive and take advantage of more revenue opportunities such as up-selling services and promoting future trips based on customer behavior. Once the customer’s needs and behaviors are identified, initiatives can be developed to meet them.

For example, a frugal traveler visits an airline’s Web site regularly to view special offers to specific destination favorites. Through an effective CRM program, an airline can track the customer’s visits to the site and compare it to previously gathered information about the traveler that was obtained through its frequent flyer program. The combined data can be used to build a targeted e-mail marketing campaign offering specials to the traveler’s favorite destinations at specific times of the year determined by the traveler’s behaviors. This enables the traveler to take advantage of the opportunity to quickly book online and save money while at the same time remaining loyal to the airline, resulting in increased sales and revenue.

Brazil-based TAM is well ahead of the curve with its CRM program. It relies on customer data and analysis to understand the profile of its most valued customers traveling on particular flights, which has become a viable revenue stream for the airline. Through the program, TAM partners with a variety of industry providers and uses customer data and analysis to identify specific customers, such as executives of an information technology company, who are booked on its flights. It can then advise its partners when and where to promote their IT products.

Many airlines have also improved their frequent flyer programs to include industry partners such as hotel companies, car rental agencies and tour operators to enhance the overall travel experience for their loyal customers. In the United States, for example, the revenue coming from miles generated by credit card expenditures is considerable. In some cases, more than half of a customer’s miles are gained through credit card partners because they must purchase the miles, another significant revenue stream for the airline.

**Pricing and Revenue Management**

Another important aspect of CRM, pricing and revenue management, involves the science of maximizing profits through market-demand forecasting and the mathematical optimization and adjustment of pricing and inventory. While pricing and revenue management is not a new concept for airlines,
Putting Its Customers First

Brazil-based TAM Brazilian Airlines is one of the fastest growing and successful airlines in Latin America. With a strong emphasis on its customers, the carrier has the reputation of a user-friendly airline, and it is known for its value for service and understanding the roots of customer relationship management.

Ubiratan Da Motta, director of commercial logistics for TAM and the person responsible for the airline’s loyalty program, the Fidelidade Program, discusses his views about CRM — how it has been implemented at the carrier and how it steadily helps improve TAM’s bottom line.

**Question:** TAM has a clear understanding about CRM and has been utilizing it for a while. When did it all start?
**Answer:** It started in 1976 when our company was created.

**Q:** How has CRM at your airline evolved since it began?
**A:** CRM is not software or a solution. It is something you believe in and practice. Our company has been doing that in several ways.

**Q:** Where are you today with your CRM initiatives?
**A:** We are working to provide our customers excellent service levels at all points of contact. Recently, we launched our e-TAM portal, which guarantees that our customers will also have this service level with any travel agents they work through. The “e” for us in the e-TAM brand does not mean electronic . . . it means enchantment.

**Q:** What has been your biggest challenge in implementing CRM?
**A:** The biggest challenge is for our customers to realize that we are different from our competitors, but not because they don’t treat their customers as well as we do. We have to show our customers that our target is to deliver what is best for them based on what they really want from us and not based on what they do not get from our competitors.

**Q:** How does CRM fit into your airline’s overall strategy?
**A:** Our frequent flyer program and all the different types of services we provide our customers fit into our overall strategy in terms of the investments we make, how we handle our passengers, our aircraft configuration and network. Our strategy revolves around customer needs based on results from customer surveys.

**Q:** How does CRM allow an airline to increase revenue?
**A:** When people think about CRM, they typically only tie it to frequent flyer programs. I see CRM as a business unit, and its function is to increase revenue by providing good service at the various customer touch points such as call centers, travel agencies, city ticket offices and check-in locations.

There are two key aspects of CRM. The first is customer service, and it’s a top goal of ours to “enchant” our customers via excellent service at all touch points. The second aspect is the analytical part. Once you understand the customer, you have more opportunities for achieving tangible results such as partnering with other companies to gain additional target marketing opportunities. For example, we use customer data to perform direct marketing actions onboard. We know the types of passengers seated each day on a particular flight, so we partner with specific companies that are interested in advertising particular products in our in-flight magazine, at the airport and even when they are flying because we know who will be aboard our aircraft in advance!

As I said, CRM, in addition to increasing your customer base, enables you to find new revenue opportunities.

**Q:** How have you measured the success of your CRM initiatives?
**A:** When customers are treated well, they will continue to fly on your airline. We believe in it. We know that it has helped increase...
When you think about this type of investment, you must consider the whole process of the airline. We have not made investments only in hardware and software, we have made investments in the culture of the organization, in our people and also in service providers. The return comes with market share and the loyalty increases. We see that the number of frequent flyers in our program increases as our market share increases. This means that we are not only getting passengers, we are getting customers.

Q: CRM in revenue management is still a debated topic. What are your views on it?
A: Revenue management is where the debate starts. The concept of revenue management is changing. Today, many airlines focus on simplifying the fare structure, but we believe that linking revenue management with the customer is the way to go. It gives us the ability to perform “one-on-one” pricing. The idea is to offer passengers a price based on their behavior. For example, a passenger flying regularly, at a regular fare, without restrictions, would continue to fly that route independently of the fare offered. If that same passenger is identified as flying a route he or she has never flown before, then we know there is a change of behavior, and the passenger may be flying that route on a leisure trip rather than for business, so we would want to offer a discounted fare.

Q: Your focus has been on excelling in customer service. What are your views on the role of complaint management in managing the customer life cycle?
A: It enables you to recover some potentially lost customers. For example, we monitor the number of lost phone calls — either because they are abandoned or due to broken lines. Because we know which number tried to contact us, we then check the name of the customer by matching it with our customer data base, and we take the initiative to call them back before they have a chance to call another airline. Customers love it! This enables us to recover 80 percent of our lost calls, which represents 4 percent of our total calls.

Q: What about using CRM for up-selling purposes in sales and marketing?
A: The key to successful CRM is not the database, it is to understand customer behavior. Some airlines think that if a frequent flyer has been inactive for a year, that passenger should not be able to redeem earned miles. There are different types of customers and some of them fly only once a year. If you understand the behavior is to fly once a year, you may want to target the passenger appropriately so he or she may, based on promotions or special offers, choose to fly twice a year. You cannot forget any type of passenger, because even those who choose to fly infrequently may make a difference to your revenues. I would love to keep the 3 percent of customers who don’t travel a lot. Of course, you target them appropriately and invest adequately.

Q: If an airline is still wondering whether or not it should look at CRM, what would you tell them?
A: CRM is something that should have happened already because an airline always needs to put the customer first. CRM is basically a term that people try to use in all industries. In the airline business, there is a point where studying and interacting with your customer makes a big difference. Some airline executives think that this is from the past, especially some low-cost airlines that believe investing in customer relationship belongs to legacy airlines. Many times, satisfying your customer does not require any cost at all. Some airlines don’t understand what a customer is and that real customers may not come back only because of price. They think they are only human beings seated in an aircraft. We are certainly different than that! This is in TAM’s DNA!
The use of pricing based on only the individual can be controversial.

The implementation of CRM in cross selling requires decisions that interact in a complex fashion — not only should it be made on the basis of information about customer preferences and information acquired during previous transactions, it should also be taken in response to every customer’s purchase and not based on predetermined static rules.

The current inventory must be incorporated into the cross-selling decision process to avoid selling a seat at a low price when it can be sold later at a higher price.

TAM seeks to move toward one-on-one pricing (prices based on an individual profile), according to Ubiratan Da Motta, director of commercial logistics for TAM Brazilian Airlines. “We believe that linking revenue management with the customer is the way to go,” he said. “It gives us the ability to perform one-on-one pricing. The idea is to offer a passenger a price based on behavior. For example, a passenger flying regularly at a regular fare without restrictions would continue to fly that route independently of the fare offered. If that same passenger flies a route he or she has never flown before, then we know there is a change of behavior, and the traveler may be flying that route to visit some friends rather than for business; therefore, we would want to offer a discounted fare this time.”

**Customer Service Management**

For the customer, the travel experience is what counts; therefore, high levels of customer service are essential. The actual customer experience can help an airline differentiate itself and deliver on its brand promise, reinforce customer purchase behavior, create the “wow” effect when surprising customers with exceptional services, and represent a strong customer relationship.

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### Impact of CRM

<table>
<thead>
<tr>
<th>Customer Status</th>
<th>Departments</th>
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<tbody>
<tr>
<td>New customers</td>
<td>Marketing/revenue manager</td>
</tr>
<tr>
<td></td>
<td>Collect information on new valuable customers. Targeted campaign. Win new customers via electronic distribution techniques.</td>
</tr>
<tr>
<td></td>
<td>Sales</td>
</tr>
<tr>
<td></td>
<td>Upsell during the sale. Personalization of the interaction. Dynamic cross-sell during the selling process.</td>
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<tr>
<td></td>
<td>Service</td>
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<tr>
<td></td>
<td>“Wow” effect and create interest to fly again.</td>
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<tr>
<td></td>
<td>Complaint</td>
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<tr>
<td></td>
<td>Follow-up broken relationships.</td>
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<tr>
<td></td>
<td>Loyalty</td>
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<tr>
<td></td>
<td>Rewards for existing customers. Revenue stream from partners.</td>
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<tr>
<th>Existing customers</th>
<th>Marketing/revenue manager</th>
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<tbody>
<tr>
<td></td>
<td>Individualized messages. Personalized offers.</td>
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<tr>
<td></td>
<td>Sales</td>
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<tr>
<td></td>
<td>Give particular attention to the customers along the entire travel chain during the next flights.</td>
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<tr>
<td></td>
<td>Service</td>
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<td></td>
<td>Personalized service.</td>
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<td>Complaint</td>
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<tr>
<td></td>
<td>Important function often forgotten, to understand why customers are defecting.</td>
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<th>Marketing/revenue manager</th>
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<tr>
<td></td>
<td>Direct marketing action with goal-oriented contact.</td>
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<tr>
<td></td>
<td>Sales</td>
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<tr>
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<td>Preemptive service recovery actions.</td>
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<td>Service</td>
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<td>Complaint</td>
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<td></td>
<td>Recovery of potentially lost customers.</td>
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<td></td>
<td>Loyalty</td>
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<td></td>
<td>Loyalty building component via the accreditation of frequent flyer miles.</td>
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<th>Marketing/revenue manager</th>
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<tr>
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<td>Sales</td>
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<td>Enables airlines to increase wallet share, optimization of sales due to intelligent revenue management tools and practices.</td>
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By enhancing customer relationship management, various departments of an airline can help increase revenue by acquiring new targeted customers; maintaining existing customers, particularly those who are most profitable; ensuring that endangered customers who may go to competition receive particular attention; and winning back lost customers.
Because airlines can link customer data and transactional data when IT integration at the touch points has occurred, a complete view of customers is now available. This data can be used to deliver individualized services to the traveler as well as proactive recovery procedures during incidents to help retain customers.

Once an integrated view of the customer is established, numerous services can be achieved with CRM. Airline staff can view customer data in real time, for example, allowing for records to be updated quickly and without delay. This, however, requires an airline to collect and analyze sufficient data about its customers to identify the most valuable ones.

Complaint management, also part of customer service management, deals with reestablishing customer satisfaction to minimize the detrimental effect on the airline and potentially recover lost customers. Complaint management is still viewed as a cost center rather than an active instrument of CRM. This is often the result of each function being considered in isolation. But a complaint from a traveler is the sign of a broken relationship and can have a profound impact on customer retention. Complaints should be seen as important feedback and an opportunity to improve service and recover lost customers.

By focusing on customer service throughout the entire travel cycle, TAM, for example, has recovered 80 percent of its lost calls, which represents about 4 percent of its total. By getting identifying calls that are either abandoned or lost due to broken lines, TAM’s call center has the ability to promptly call customers back before they even have a chance to call another airline.

“Customers love it!” said Da Motta.

For Da Motta, TAM’s CRM initiative is like a business unit that is expected to increase revenue by providing excellent customer service at the various touch points.

“We know it has helped us to increase our market share and the number of frequent flyers,” he said.

In addition, extensive research shows quite clearly that what really counts for customers is the travel experience and that better services may prompt the traveler to change. Customer service provides a strong influence during the purchasing phase. A survey from Jupiter revealed that 79 percent of customers who were dissatisfied when ordering their tickets online were unlikely to repeat the experience.

Today, airline customers have higher expectations. During a recent Jupiter survey, 62 percent said they expect the airline to inform them of flight delays. Effective CRM enhances a traveler’s buying and traveling experience, which helps airlines retain customers and increase revenues.

Due to the crucial need to control costs, some airlines have taken the focus off of revenue enhancement. At a time where the economy is slowing down and low-cost carriers are gaining market share, it is critical for an airline to retain its existing customers and leverage what can be considered flag carrier assets — enhanced product offering and customer service — in a bid to effectively compete.

Nadja Killisly is a partner with Sabre Airline Solutions Consulting. She can be contacted at nadja.killisly@sabre.com.
Reigning in the Fleet

By using close-in re-fleeting techniques, Lufthansa German Airlines has been able to realize monthly benefits of up to €5 million.

By Murray Smyth | Ascend Contributor

Like many airlines around the world, Lufthansa German Airlines tries to leverage all opportunities to increase profitability. During the last couple of years, the carrier has taken advantage of dynamic planning and scheduling technology to gain efficiencies in its fleeting initiatives and significantly boost revenues. This new approach is known by various names, but it is most commonly referred to as close-in re-fleeting. CIRF and similar processes are used by several large airlines, but it has been implemented with distinct operational precision by Lufthansa. CIRF, which holds great potential for many different types of airlines, represents a new way of maximizing profitability through both revenue improvements and cost reductions.

Challenging Times

In recent years, the airline industry has been reeling from the effects of wildly variable passenger demand. Markets that were traditionally consistent performers have seen declining demand while new markets have experienced rapidly increasing demand. In addition, the increase in low-cost carrier capacity in Europe has changed traffic patterns and put added pressure on profits. These fluctuations in passenger demand have shaken the traditional planning practices of many airlines.

Most traditional planning processes begin with an examination of historical results to project future demand. Once the future demand is predicted, capacity is assigned in a manner that enables the airline to obtain maximum profitability from its aircraft resources within the parameters of its desired market share in particular markets. Aircraft are assigned to specific routes the airline predicts will deliver the highest demand at the highest yield and at the lowest unit costs. This assignment typically occurs one year in advance of the actual execution of the schedule and no less than one season in advance of schedule execution. This has been the approach of airlines for many years, but it has been challenged in the past few years because of the unpredictability of demand in certain markets.

With the constant rise and fall of demand, the traditional process of scheduling

Seven Days Out

An airline’s ability to use optimizing technology to re-fleet its schedule as close in as seven days prior to departure has a considerable positive impact on profits.

By Hari Subramanian and Kevin Stupfel | Ascend Contributors

Achieving strong financial results continues to be a challenge in the airline industry. One promising area for boosting revenues being explored is allocating resources based on demand variability by day of week. To maximize profitability, many airlines utilize state-of-the-art technology to increase their optimization capabilities by “re-fleeting” their schedules closer to the day of departure.

Until recently, the most successful airlines strived to maintain a stable schedule for the two months prior to operations. Stability in the schedule allowed for optimal crew and maintenance rotations. Stable schedules also provided predictable itineraries and levels of service for passengers, and thus a product that was easier to sell. In the last two years, however, conditions have changed. First, labor contracts are now more flexible. Second, price now drives flight choice with consumers adjusting to changing schedules. These market-driven factors combined with new technology have opened the door to enable more dynamic allocation of capacity.

Today, airlines can re-fleet a schedule anytime between two months to seven days before the day of departure. Close-in re-fleeting can boost profitability by accounting for demand changes that the most advanced forecasting algorithms cannot predict.
capacity one year in advance has shown to be less productive than it was prior to 2001. New markets have opened rapidly as capacity has been aggressively applied by LCCs, and traditional markets have observed different demand patterns that make forecasting more difficult. Facing a dramatically changed environment, airlines now seek new ways to improve profitability by assigning capacity optimally closer to the day of flight.

Working with Sabre Airline Solutions, Lufthansa has pioneered the use of Sabre® AirFlite™ Fleet Manager to reassign its fleet closer to the day of departure to better match capacity with demand, producing dramatic revenue improvements.

The Cure
Since Lufthansa found that its demand forecasting one year in advance of the flight was not particularly reliable due to the fluctuations in the marketplace, it decided to wait to optimize fleet assignment until it had a reliable prediction of market demand. Most successful airlines have a revenue management system capable of making accurate short-term forecasts of demand within 60 days from departure. Lufthansa utilizes its revenue management product in conjunction with its fleet management tool to optimize fleet assignments. Lufthansa uses a slightly modified process to accomplish the task.

For example, a big convention could be creating unprecedented demand for a market. By allowing the optimization system to use forecasts based on actual bookings, fleet assignments can be changed proactively and capacity allocated where demand is strong on this dated basis. In this case, the optimization will realize that the specific market’s demand is higher than originally forecast and reallocate the capacity accordingly.

Making capacity decisions close to the day of departure is very simple in concept. Any scheduler can identify the best and worst performing flights on a micro level. But solving the scheduling puzzle required to accommodate these changes is time consuming, and it is difficult to quantify the cost of the related schedule changes. Considering the network effect of the changes is virtually impossible without the help of technology. Using an optimization tool not only provides airlines with a quantifiable result, but also can suggest improvements that are less obvious but have dramatic improvement on profitability. Best of all, the analysis can be completed in a short timeframe, allowing these changes to be communicated to the operation, marketed and opened for sale in a timely manner.

The key to a successful optimization is a good demand forecast, accurate costs and the ability to represent an airline’s
After completing a schedule optimization in Schedule Manager, analysts can review upgrades and downgrades in the Gantt chart and make appropriate adjustments. Through the Gantt chart, each flight can be customized to display the information the scheduler wants to review.

Through CIRF, Lufthansa has realized a monthly gain of €2 million to €5 million.

Optimal Fleet Assignment

Supply operating schedule from internal systems

Schedule is the one published for operation

Input forecast of flight demand from revenue management system

Revenue management system data is extracted from the airline’s current revenue management system

Optimize fleet assignment using Fleet Manager

The schedule is fixed in Fleet Manager, but the aircraft assignments are allowed to vary until the optimal assignment of aircraft is determined

Output optimal fleet assignment

Does not change the schedule, but instead optimally assigns the aircraft to the existing schedule

Using Fleet Manager for CIRF, the demand forecast is provided by an airline’s revenue management system and used in Fleet Manager, which then processes and outputs an optimal schedule. The processes only differ in their source of the demand forecast.

operational constraints in the model. Any schedule optimization within two months of departure is worthless unless the changes can be operated by the airline. The technology must be robust enough to enable the scheduler to craft solutions that maximize profitability given the scheduling realities.

Since the accuracy of the forecast is critical for this optimization, an airline’s revenue management system is the only viable source of passenger demand in this timeframe. For airlines running an origin and destination revenue management system, such as the Sabre® AirMax® Revenue Manager, the ability to optimize capacity based on the O&D passenger itineraries is essential to maximize the impact of the changes. Tight integration between planning and revenue management systems will make this process easier to execute and efficient to include in the day-to-day business process. The ability to display revenue management booking data in a schedule editor, such as the Sabre® AirFlite™ Schedule Manager, will provide a quick way to validate schedule changes. The optimization must trade off profit improvements and the airline’s operational constraints to suggest the best set of changes that can be implemented. This is guaranteed if the model employs a global optimization technique.
To ensure the changes can be absorbed into the operations, schedulers must have a high degree of control through the business constraints supported by the optimization tool. One important factor is the ability to limit capacity to crew compatible fleets. The optimization must look for capacity changes within fleets that are crew compatible while ensuring the total number of aircraft and other feasibility parameters are met. Many times, the optimization will make capacity changes with small incremental value to the airline. In these cases, the intangible cost will not justify the value of the change. The ability to control the optimization to seek only top changes is essential. This can be measured in the total value to the airline or by choosing to make the 10 most profitable changes.

Airlines successfully implementing close-to-departure re-fleeting procedures are most successful if they perform the optimization on a frequent basis, i.e. weekly. To perform frequency optimization on a rolling six-week window, a system must be able to optimize fully dated schedules taking into account the aircraft positions at the beginning and end of the analysis period. This provides minimized disruption to the operation.

All of the techniques of close-to-departure re-fleeting have been successfully implemented by airlines of various size using the Sabre® AirFlite™ Fleet Manager. With a rigorous close-in re-fleeting process, airlines can generally expect net gains of up to 3 percent of their revenue base. A tool set such as the Sabre® AirFlite™ Planning and Scheduling Suite can quickly optimize the schedule and display the results graphically for review and publication.

Kevin Stupfel and Hari Subramanian are product managers for the planning and scheduling group at Sabre Airline Solutions. They can be contacted at kevin.stupfel@sabre.com and hariharan.subramanian@sabre.com.

“By utilizing Fleet Manager for close-in re-fleeting, Lufthansa has realized substantial revenue gains while driving costs downward.”

Instead of using the fleet assignment model one year in advance, Lufthansa uses it much closer to departure when the demand forecast is more accurate. About seven weeks prior to departure, Lufthansa optimizes the fleet assignment to its operating schedule using the demand forecast from its revenue management system feeding into Fleet Manager.

Because the process is closer to departure, the forecast is more accurate. Given that most demand, however, materializes for flights in the weeks leading up to departure, the assignment of optimal capacity at seven weeks prior to departure has many advantages:

- Crew assignments are not negatively impacted because assignment of aircraft to the schedule is performed before crew assignments are made.
- Operational impact is minimized because maintenance constraints are already input into the schedule.
- Plenty of time exists to sell extra seats on high-demand flights that receive larger pieces of equipment.
- Time remains for cancellations to remove any potential denied boarding situations due to smaller pieces of equipment being assigned to a flight.

This means Lufthansa assigns its largest aircraft to flights that can still sell the extra seats and assigns its smaller equipment to flights with lower demand. Because Fleet Manager optimizes for profitability instead of just revenues, the output results provide the fleet assignments where revenues are maximized and costs are minimized. The process is vigorous and operates well in this fashion even though Fleet Manager was not originally designed to operate this close to departure.

The Results

By utilizing Fleet Manager for close-in re-fleeting, Lufthansa has realized substantial revenue gains while driving costs downward.

According to a 2003 article in TOURIS-TIK report, the fleet optimization solution has contributed — including cost reductions — a monthly improvement of €2 million (US$2.6 million) to €5 million (US$6.5 million). The results speak for themselves; Lufthansa is able to improve its profits dramatically each and every month by using close-in re-fleeting.

The Outlook

Other airlines can benefit from using the same process as Lufthansa. When the CIRF process is used in conjunction with an optimal schedule, the results can be even more dramatic for airlines.

Murray Smyth is vice president of the Europe, Middle East and Africa region for Sabre Airline Solutions. He can be contacted at murray.smyth@sabre.com.
Multiple data sources such as MIDT, QSI and TCN can give airlines the insight they need to make more profitable marketing decisions.

By Thomas Samuel and Randal Beasley | Ascend Contributors
Various data elements can be used together to provide powerful indicators of an airline’s market potential and create a marketing and agency incentive plan to realize the potential revenue.

Market information data tapes, quality of service index, and ticket control number data provide a richer outlook into an airline’s various markets, enabling it to better evaluate performance and make necessary adjustments to increase revenue.

MIDT, a valuable source of information on agency-level booking activity in a market, enables airlines to monitor booking activity in a market or at an agency, measure long-term booking trends, and analyze the impact of marketing or pricing activity on advance bookings.

QSI, one of several mathematical models used to compute fair share — what an airline’s market share should be in a market with various markets, enabling it to better evaluate performance and make necessary adjustments to increase revenue.

Once relevant causes have been identified, an airline can seek to decrease the share gap by appropriate fare changes, increasing marketing expenditure or expanding its sales.

<table>
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<tr>
<th>Market</th>
<th>Total bookings</th>
<th>Bookings</th>
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**TOP:** Analyzing MIDT data in conjunction with QSI data can help airlines identify under-performing markets. For example, MIDT and QSI data reveal that fictitious international airline Palermo International Airways (ZZ), based in Palermo (PMO), Italy, has a number of under-performing markets represented by a negative share gap.

**MIDDLE:** By analyzing a combination of MIDT and QSI data, airlines can rank and value under-performing markets based on booking potential and tag them for more detailed analysis.

**BOTTOM:** Analyzing MIDT data in conjunction with QSI data can help airlines identify under-performing markets. For example, MIDT and QSI data reveal that fictitious international airline Palermo International Airways (ZZ), based in Palermo (PMO), Italy, has a number of under-performing markets represented by a negative share gap.
Market share shifts should be reviewed continuously to ensure the success of such corrective measures. Currently, many airlines do not use QSI data in conjunction with MIDT to investigate and measure market performance. The most common approach is to rely on historical performance trends to create sales targets. However, historical market share can be unreliable, for example, in cases where an airline has always underperformed in a market.

The use of QSI has quite a few advantages including objectivity and the ability to measure target market performance in markets that are in flux. Historical market share becomes useless when a new airline enters a market or even if some significant schedule changes take place in a market. Sales forces cannot afford to allow sufficient buildup of historical data before creating and executing a marketing plan.

Ticket control number data provides daily ticketing information that enables an airline to see actual agency-level ticketing and revenue data specific to the subscribing airline. TCN data can be converted to passenger itineraries (similar to processed MIDT) and used to further refine the market analysis. There are two main benefits of integrating TCN data in a target market analysis:

- TCN data shows how many passengers were actually ticketed (versus how many were booked in MIDT),
- TCN data shows the fare component of such ticketed passengers.

Adding average origin and destination fare values from TCN data delivers an even better assessment of market potential based on actual ticketed fares in individual markets.

By adding the fare information into the analysis, airlines can clearly identify the potential incremental revenue that is available in each of the target markets. Airlines can then create a marketing plan that focuses key resources (personnel and marketing expenses) on markets with the highest potential for return.

Since TCN data contains agency-level information, regional sales managers can extend this market level combined data analysis to the agency level to understand agency-level revenue potential and create effective sales targets and incentive plans by agency.

In a recent benchmark on a large European airline, extremely conservative scale-down factors were used to account for items such as QSI error, ticketing ratios and average fares. The systematic approach identified markets with more than US$600,000 of potential incremental monthly revenue for the airline.

Combining various data sources, such as MIDT, QSI and TCN, enables airlines to target incremental revenue in a structured manner. It also facilitates the creation of a systematic and objective monitoring process to validate the success of any marketing plan.

Thomas Samuel is product manager of market data and analysis and Randal Beasley is product marketing manager for Sabre Airline Solutions. They can be contacted at thomas.samuel@sabre.com and randal.beasley@sabre.com.

### Under-Performing Markets

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<tr>
<th>Market</th>
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<th>Average ZZ O&amp;D fare (from TCN)</th>
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Using average O&D fare information from TCN data helps better assess market potential based on actual ticketed fares and can aid in the creation of a targeted marketing plan.
Today, the phrase “make every coin count” may be a bit cliché, but it’s become the truth for many airlines. It is often the case, though, that this catchphrase is more targeted toward the “cost coins” rather than the “revenue coins.”

For many airlines, the focus in recent years has been on cost cutting rather than revenue production. This is probably one of the reasons revenue realization procedures are sometimes not a top priority on the agenda of a turnaround project, even though the potential for the implementation of best practices in this area could represent a considerable step toward a healthier financial performance for an airline.

Revenue realization presents a challenge for many airlines. A typical revenue realization problem arises, for example, when an airline’s seat inventory controls indicate that a certain level of flown revenue should be earned by the airline during a specific month, but when the revenue accounts for the month have been processed, however, the airline finds that the actual amount of flown revenue earned was less than expected.

The difference between the expected flown revenues and the actually achieved flown revenues represents a “retained revenue opportunity,” which provides an opportunity for the airline to recover or realize revenues that otherwise would be lost due to malpractices or inefficiencies that concern both the airline and external parties.

Lost opportunities to retain revenue can actually produce cash-flow problems for an airline since it is an unexpected revenue shortfall and always affects profit and loss results. Any airline with lost retained revenue opportunities anticipates a particular cash in-flow from the expected revenues and, therefore, plans for certain cash out-flow. Then, however, the airline finds there is insufficient cash from sales to cover the expected cash out-flows. This can produce serious cash-flow difficulties for airlines that do not fully realize revenue opportunities.

The issues with revenue realization almost always revolve around errant practices from the time of booking until the time of revenue accounting (see related article on page 35). A large number of parties take part in the process, and any one might potentially contribute to revenue erosion either intentionally or unintentionally.

There are many potential reasons revenue realization issues exist at airlines, including intentional mismanagement of work rules that produce recoverable retained revenue opportunities. Some reasons, however, also represent unrecoverable revenue opportunities due to unintentional mistakes in the process. All of these issues can be prevented by implementing corrective actions that cure the sickness and not merely the symptoms.

Potential reasons for revenue realization issues include:
- Incorrect fare-class alignment that produces an inaccurate original revenue forecast and impacts retained revenues by allowing too much discount availability within an airline’s seat inventory (unintentional and unrecoverable).

Identifying Revenue Realization Abuses

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To find out in which processes have been abused, different data sets have to be analyzed. By comparing marketing information data tapes or other similar types of data with ticket control number data or billing and settlement plan data, potential abuses from booking to ticketing will be discovered.
Incorrect revenue accounting practices that produce situations where the correct amount of revenue is not being realized (unintentional and recoverable).

Booking abuse by indirect distribution outlets such as travel agencies, tour operators and consolidators — recoverability in these situations generally depends on the contractual obligations of the third party (intentional and recoverable).

Booking abuse by an airline’s direct distribution outlets such as Web site, call center, airline ticket offices and city ticket offices (intentional and/or unintentional and unrecoverable).

Other airline fare-class misalignment that occurs when codeshare agreements are not properly implemented in computerized systems (unintentional and unrecoverable).

Ticketing abuse by indirect distribution outlets — recoverability in these situations generally depends on the contractual obligations of the third party (intentional and recoverable).

Ticketing abuse by an airline’s direct distribution outlets (intentional and/or unintentional and unrecoverable).

Service delivery issues related to how electronic or physical tickets are lifted at an airport (generally, unintentional but recoverable).

Size of the Problem
The severity of the problem is influenced by various factors, including:

Type of tickets — Manuel tickets are most prone to fare- and booking-class abuses. Significant use of masks in ticketing provides the second largest category of tickets where abuses occur, while electronic tickets represent the least.

Regional influence — Mature markets typically show lower abuse compared to emerging markets.

Airline proactiveness — Airlines that are proactive in the marketplace have lower abuse.

On average, the annual revenue lost due to abuse runs in the range of 1.5 percent to 2 percent of the total revenue for an airline.

The Actions
There is an Italian expression that says, “When the cat is missing, the mice love dancing.” For airlines, this means that any party in the revenue realization chain needs to be aware that the airline intends to establish an active, healthy relationship based on a fair business playing field. From this point of view, the actions airlines need to design and implement in this area need to convey the message, both internally and externally, that no business relationship can be based on abuses or malpractices by either party. This is sometimes easier said than done particularly in environments where, historically, some malpractices are tolerated or perceived as the way to do business. However, this is more likely due to the fear of changing processes established over many years rather than actual barriers to transformation. Since “good fences make good neighbors,” airlines should establish actions to change detrimental current practices.

Actions that form a revenue realization initiative can be grouped into two sets:

Remedial actions for recovering lost revenue — Actions aimed at recovering the revenue lost “post mortem” by, for example, issuing agent debit memos for identified abuses.

Preventive actions for all retained revenue opportunity-related issues — Actions aimed at making different parties aware of the damages that some malpractices cause the airline and making them aware that the airline is putting in place monitoring and tracking systems. The detrimental activities by these data sources contains the key to revenue realization.

The four key processes that form the revenue realization chain rely on a number of parties such as city ticket offices, Web sites, travel agencies and consolidators. By implementing a thorough realization plan, airlines can exploit opportunities to preserve their just revenue.
A typical revenue realization initiative involves several steps, including:

**Investigation:**
- Interrogating data sources to build a picture of where the process is breaking down and where “leakage” occurs,
- Identifying the party or parties that cause the “leakage,”
- Collecting data for at least 18 months and determining all abuses on tickets and bookings. Outsourcing may be an option if an airline is resource constrained and incapable of auditing its tickets and bookings.

**Collection related to historical abuse:**
- Issuing agency debit memos — International Air Transport Association resolutions enable a carrier to go through the IATA billing and settlement plan and issue agent debit memos for any abuse from an agency within 30 months of issuance of travel documents or within 18 months of the date of commencement of travel.

**Corrective action:**
- Travel agency — The sales team should clearly explain the airline’s zero-tolerance abuse policy. One-time communication may not be enough to send the right message to the marketplace. Airlines should put in place processes for ongoing management and corrective actions. Issuance of ADMs will stop agencies from committing abuse and also reduce mistakes.
- Airline offices — Detailed procedures and corrective actions are required to curb abuses at the airline’s own outlets as well as initial and mandatory training to all staff responsible for booking and ticketing. Abuse reports should be disseminated to each outlet. Procedures must be established for managers to handle issues at the outlet level.
- All parties — Everyone involved in ticketing and booking should be informed of the change in policies and procedures.

**The Final Steps**

Airlines should go back in history to determine abuse and collect lost revenue. This sets the right tone in the marketplace, especially if the airline has not been working on reducing the issues. Abuses should be monitored on a monthly basis, and ADMs should be issued to agencies and corrective actions taken at an airline’s own outlets. Many times, sales may give unauthorized permission to agencies to overlook certain rules to gain market share. Proper procedures should be in place for allowing any waivers, and they should be communicated to headquarters.

When implementing this program for the first time, airlines should be prepared for large amounts of data processing and administrative work since there will be a backlog to clear. Airlines may send large numbers of ADMs for historical months, and this would mean an upside in revenue but may also put some of the agencies out of business. Airlines need to work with agencies and put together payment plans, especially when processing multiple months of history for the first time.

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Unleashing Revenue Management

Although the practice of revenue management has been around for several years, there are still opportunities to further refine the process.

By Luc Lachoix  |  Ascend Contributor

Since its development in the 1980s, revenue management has helped airlines maximize yields by optimizing the revenue generated by each seat they offer for sale. Although most airlines realize the financial benefits of the practice, many have not yet taken full advantage of revenue management by implementing business processes that help integrate it with other operational areas.

Because revenue management lies at the core of an airline’s ability to make money, it must interact with several key departments across the operation to be as effective as possible. Most commercial and operational areas affect, or are affected by, revenue management decisions and policies. Failing to fully integrate with other departments could lead to different degrees of involvement with or influence on revenue management, which could adversely impact its ability to successfully perform its duty and may even prevent an airline from reaching its anticipated returns.

Interactions with Revenue Management

The revenue management department is at the confluence of multiple key areas that depend on it for access to critical information or data such as inventory. Similarly, revenue management requires information from many departments to make correct decisions. Several areas must interact closely with revenue management, including:

- Pricing, which identifies the price levels to be offered and, therefore, represents the foundation of revenue management. Competitive pricing information must be communicated to revenue management along with analysis concerning class utilization and fare-structure performance. Revenue management should report back on performance and requirements. Both areas should develop and implement price levels that are competitive and support commercial objectives.
- Network planning and management, which should interact with revenue management to identify traffic flows and network performance. By providing insight on demand fluctuation and monitoring market changes, revenue management can help network planning more accurately perform its role. Network planning makes assumptions regarding demand, which can be confirmed or refuted by revenue management data. Capacity requirements or constraints should be shared between the two groups to optimize the schedule.
- Distribution, which allows coverage of the target market as well as market segmentation. For example, by working in conjunction with revenue management, distribution may support strategies of price differentiation or the ability to stimulate incremental traffic with lower fares without jeopardizing higher revenue from other passengers.

Operational Interaction

Revenue management is part of a complex system of critical corporate functions that interacts with many commercial and operational areas within an airline.
Sales, which should work with revenue management to ensure it reaches the client base, including individual passengers, corporations or special markets. Sales also should provide revenue management with valuable market and competitive information obtained through its unique position among the airline’s distribution partners such as tour operators and travel agencies, and sales must carefully coordinate its objectives and strategies with revenue management. Failing to do so and to understand each others’ goals leads to great difficulties in ensuring revenue optimization.

Airport staff and operations, which are at the forefront of oversold flights. While they must handle the outcome of inaccurate decisions such as dealing with passengers who are denied boarding, they also significantly contribute to data integrity by ensuring that operational/flight close-out statistics are perfectly accurate and provide qualitative information to revenue management when interpreting demand fluctuations. Accurate and relevant operations data is essential to proper demand and show-up rate forecasting by revenue management. Airports and operations play an important role by complying with proper procedures and notifying revenue management of irregular operations that may skew data. Communication is therefore very important and is more effective when formal processes are in place to facilitate it.

Alliance management, which must also coordinate its activities with revenue management so the two groups can understand each others’ areas of intervention to achieve maximum benefits. Alliances represent the opportunity for more than one airline to derive commercial and operational synergy from their partnership by allowing partners to sell seats on each others’ flights. Because revenue management oversees its airline’s inventory, the revenue management strategy should reflect the overall alliance strategy.

Information technology, which provides sophisticated systems used by revenue management in its daily tasks. Sound revenue management practices should involve the integration of all systems and the adaptation of business processes.

Revenue accounting, which processes all revenue and passenger information by accounting for all lifted ticket coupons. The revenue accounting relationship with revenue management provides data necessary to analyze key performance indicators. By providing detailed information about the sales of each ticket, revenue accounting also enables compliance monitoring and revenue integrity. Additionally, fare rules and conditions are used to prevent revenue dilution and segment markets. Revenue integrity and compliance are therefore a significant contributor to revenue.

Marketing, which identifies opportunities to reach all or certain potential customers. Revenue management can assist marketing in identifying target market opportunities because of its close monitoring of demand, future bookings and flight performance. For example, if a promotion involves seat inventories, revenue management will ensure access to specific inventory.

### Revenue Management Aspects

Three main aspects of high-performance revenue management includes knowledgeable people, advanced technology and sound business processes.

### The Role of Revenue Management

Revenue management relies on historical performance to forecast demand at various price levels. It then allocates future seat inventories to optimize expected revenue. When successful, a key accomplishment is the ability to sell a unique product (the seats of a single flight or different flights in a single market) to customers who may be willing to pay different prices for it. Even with today’s trend toward simplified pricing and lower number of fare buckets, the relationship between demand and price still exists.

Traditional airline pricing has generally relied on fare rules and conditions to segment markets. A tradeoff was established between price and ticket flexibility, and the cheaper the ticket, the most restrictive it would generally be with conditions such as refundability, ability to make changes, length of stay or advance purchase. The trend of simplified pricing structures that are easier to understand for consumers decrease the ranges between lowest and highest fares. Discounted one-way fares are often available, and discount prices no longer mean extremely restrictive conditions. Traditional fare rules help control revenue dilution by forcing fare up sell when certain criteria are not met. Relaxing terms and conditions on most fares results in significant pressure on the revenue management team since inventory levers are the only way to ensure that the price charged reflects the demand at all points during the booking life of a flight. Strong interface with pricing is necessary as well as systematic processes to ensure that revenue opportunities are captured.

Revenue management analysts must continuously manage several risks, including:

- Selling a seat at a price below the airline’s optimum rate (revenue dilution),
- Setting the price higher than what passengers are willing to pay, resulting in empty seats (low-revenue spill),
- Overestimating or underestimating the demand in the low- or high-price ranges, leading to high revenue dilution and low-revenue spill.

Additionally, revenue management compiles and analyzes the show-up rate to accurately oversell flights. Seats that would have otherwise remained empty as a result of passengers not showing up for their confirmed flights may then be sold, improving the total revenue.

The role of revenue management is a continuous process of price setting for future flights. The optimal selling price constantly changes as reservations are made, demand materializes and the market conditions evolve. Revenue management effectively implements these price decisions by opening or closing inventory at various values. Revenue management must therefore continually assess the inventory and price positions of all future flights to ensure optimal total revenue.

Revenue management decisions are often made by sophisticated decision-support systems. Analysts must ensure those systems use accurate data or otherwise face the risk of implementing sub-optimal inventory. Additionally, the systems must be monitored and sometimes influenced to reflect recent market evolution that is not yet reflected in the historical data and to ensure that they accurately and appropriately account for all relevant elements.
Implications for Revenue Management

The complicated nature of revenue management is two fold. On one hand, it reflects the high level of complexity residing within the very nature of the discipline. On the other hand, it illustrates that a lack of coordinated approach between revenue management and most other areas within an airline will most likely contribute to fully or partly derailing the effort, which will yield sub-optimal results.

Sound revenue management practices represent a fascinating challenge because of the multitude of factors involved. High performance revenue management organizations, however, rely on two key elements:

- Comprehensive business processes that determine revenue management decisions,
- Systematic performance measures.

A common observation when assessing the performance of a revenue management department is that while certain activities may be performed very skillfully, others are often overlooked. Day-to-day inventory management, for example, may be performed adequately while strategy formulation and measuring against it may be neglected, leading to potentially repeating unidentified errors of the past. Clearly defined business processes should ensure that the full life cycle of revenue management is addressed and that all roles and responsibilities are explicitly established along with expected timelines. The heavy workload many times results in skipping certain elements such as measuring performance that are of significant importance. Business processes should therefore cover all activities, roles and responsibilities of the revenue management cycle, including:

- Formulating the revenue management strategy — Business processes should indicate when the inventory strategy should be formulated and reviewed, what elements should be included, what data should be calculated, how its success will be measured, who should participate, and which other departments should provide information.
- Forecasting the demand — Business processes should describe the activities required to ensure the integrity of the data entered into the revenue management systems as well as the actions that must be taken to ensure that the high-quality forecast is generated and that it is validated throughout time.
- Implementing inventory management levers — These levers depend on the revenue management system that an airline uses and represents different ways seat allocations are made to reflect the demand.
- Monitoring ongoing results — Business processes should specify timelines for ongoing results monitoring as well as the data to be monitored. The goal is to identify gaps between demand forecasting and materializing results to determine revenue opportunities early enough to capitalize on them.
- Measuring post-departure results — Calculation of the revenue management key performance indicators such as spill, stifle, spoilage and denied boarding represent a very systematic and rigorous activity, and the business process should focus on taking actions based on these results.

Performance Measures

Revenue management is a quantitative discipline that, because it relies on statistical models and logic as well as commercial experience, can be measured. Different indicators help identify fluctuation of market demand (disconnect between forecast and results) but also fully reflect the ability to optimize the levers available, which enable effective measurement of revenue management.

Revenue management performance measures must reflect the ability to forecast high and low revenue demand and to adjust inventory to demand fluctuations. These measures are based on class allocations, availability, demand and final passenger counts in each class at various points during the booking life of flights. They are generally known as high-yield spill and low-yield spill, or stifling, and they are the basis of revenue management actions that help achieve maximum revenue. Other measures such as denied boarding and spoilage should gauge the ability to predict show-up rates. Additional measures may include more elaborate models that reflect the success in taking advantage of revenue opportunities.

Measuring performance on an ad hoc basis allows some assessment of the level of success. Systematic measures, however, provide the unique opportunity to incorporate the most recent observations into the decision process. From a more passive role, performance measures become an active contribution to the improvement of performance. Revenue management departments generally provide the airline’s measure of commercial performance, such as revenue, load factor and revenue per available seat mile/kilometer. Those measures, however, reflect the collec-

"Sound revenue management practices represent a fascinating challenge because of the multitude of factors involved."
tive performance of the airline but do not isolate revenue management activities. In addition to the more general commercial performance, calculation of spill, stifle and spoilage reflects revenue management’s ability to perform within its scope, forecasting demand and managing inventory to generate maximum total revenue. Timely and systematic use of these measures yields significantly better results than reviewing them on an ad hoc basis because booking trends can be identified as they occur and actions taken while the opportunities still exist.

Failing to measure performance is comparable to driving a vehicle while being blindfolded. The direction is uncertain, and the consequences very costly.

To provide the most benefits, performance measures should be part of the business processes. Measures then become part of the decision process but also of quality control. They also help identify training and development opportunities.

Making it Work
Because of its importance, airlines devote tremendous amounts of resources, both human and technological, to revenue management, which is at the core of an airline’s commercial function. It ties together areas throughout the organization in a single discipline that relies on a scientific approach and on the quality of information.

The large investments required to operate a state-of-the-art revenue management department should justify taking exceptional steps to ensure its success. Ensuring that all required activities and tasks are performed and that all related areas within the airline support this corporate initiative should be a priority.

Designing, implementing and monitoring compliance for comprehensive business processes addressing all aspects of revenue management and all roles of the organization is the first requirement for a successful return. Performance measures imbedded in these business processes are the next required elements that will significantly increase likelihood of success.

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Stop the Leak

By more closely coordinating their departments, airlines can recover substantial amounts of revenue lost each year to leakage.

By Lauren Lovelady | Ascend Staff

The events of recent years have dictated that airlines worldwide focus on cutting costs to survive. Perhaps now is the time to give more attention to another factor equally important to an airline’s success — preserving revenue.

The importance of actually flying a schedule that generates expected revenues cannot be overstated. But what if this doesn’t happen? Instead of automatically looking for ways to cut costs, airlines should look for ways to guard against revenue leakage — the inadvertent loss of revenue — in all areas of their operation.

Imagine a schedule moving through an airline’s various departments as oil flowing through a pipeline. If there is even a small leak between each segment of the pipeline, at the end there will be significantly less oil than at the beginning, and it will be worth considerably less. The same principle applies to an airline’s product. Although each department may handle its schedule-related tasks proficiently, a lack of coordinated technology, processes and communication will ensure a less-than-smooth transition from one area to the next and weaken the product and its ability to generate expected revenues.

Sources and Solutions
Identifying the sources of revenue leaks and implementing solutions to minimize them is certainly a challenge, but it can translate into millions of dollars in annual revenue for an airline. It’s an opportunity to strengthen the business and squeeze more revenue from existing assets.

Some of the most common sources of revenue leaks and methods for reducing their impact include:

- Lack of coordination between schedule planning, pricing and revenue management — Schedule planning creates the optimal schedule based on an origin and destination strategy and passes it to pricing and revenue management. Using their own systems and data, which are often leg-based, pricing and revenue management assign pricing and yield controls without knowledge of schedule planning’s O&D strategy.

  Airlines can resolve this issue by implementing processes and software in these areas that share the same data and interpret it the same way as well as establishing regularly scheduled meetings with representatives from scheduling, pricing and revenue...
management to troubleshoot issues, evaluate and coordinate plans, and discuss topical ideas. It’s important for each department to have a high degree of knowledge about the functions performed by the other departments. For example, scheduling should alert pricing about any particularly lucrative O&Ds in the schedule that can command premium fares rather than simply matching those already in the marketplace.

- Separate cargo and passenger planning processes — Even airlines with a substantial cargo presence in the industry still tend to operate their passenger and cargo areas as separate entities. In general, little consideration is given to the impact of a schedule change on an airline’s ability to carry additional cargo and therefore generate greater revenues.

Airlines can implement technology solutions and processes that enable better coordination between these two entities. When developing a schedule, they should realize that it may be beneficial from a revenue standpoint to fly more cargo and less passenger traffic on certain routes and be willing to put the necessary types of aircraft on those routes, even if it does not seem to be the optimal solution for carrying passenger traffic.

- Discrepancies in sales targets — Although a schedule may be planned, priced and even revenue managed at an O&D level, chances are sales targets for the internal sales force as well as travel agents are based on total enplanements at each airport.

Airlines should evaluate the way they motivate, compensate and reward their internal sales forces and external sales agencies. Is it in alignment with the methods used to plan and develop the schedule? Additional revenue can be realized by implementing O&D-based sales targets or O&D share-based sales targets, which reward sales personnel for a specific percentage of the sales for each O&D.

- Schedule disruptions — Thunderstorms, flight cancellations and mechanical delays, to name just a few, can all wreak havoc on an airline’s schedule. An airline’s natural response is to quickly solve the operational problem at hand. But operational decisions made without regard to their impact on schedule profitability can unnecessarily cost an airline millions of dollars in lost revenue.

To address this situation, airlines must first develop a schedule that is robust — one that assumes there will be disruptions, allows for contingency plans and handles all this with minimal revenue loss. Next, they should understand the value of responding to the operational problem at hand by considering both the operational and commercial aspects of schedule recovery. Quite often, airlines respond to disruptions with a contingency plan that is the easiest to execute solely from an operational standpoint. When there is a set of severe flight delays, for example, an airline may lose more revenue by deciding to delay and cancel subsequent flights to recover from this disruption rather than simply ferrying aircraft over from other stations. Because ferrying aircraft is typically an expensive option, it is often not a common operational response. However, it may present the best response in this situation when looking at the commercial and operational aspects of schedule recovery. Although at times a bit more complex, commercially based decision making evaluates the impact of schedule disruptions and responds to them on a network level.

- Planning schedules without basic constraints — Quite often airlines have separate network planning and scheduling departments. Network planning designs the optimal revenue-generating schedule but without the necessary constraints. Scheduling then adds the necessary constraints and makes what it believes to be a minor schedule adjustment. The result may be an operationally sound schedule that bears little resemblance to the one created by network planning.

This can be addressed by incorporating basic operational constraints into the initial schedule design process. Technology providers, such as Sabre Airline Solutions, offer software that enables planners to include gate, crew and maintenance constraints in this process. As a result, planners forward to schedulers a schedule that requires only minor adjustments and still retains its initial optimal design and ability to generate expected revenues.

- Lack of revenue integrity (see related article on page 67) — Revenue integrity simply means enforcing the rules. Failure to collect ticket reissuing fees, duplicate bookings and bookings made in one class but ticketed in another class are just a few examples of activities that can cost an airline between 1.5 percent to 3 percent in revenues a year. Most likely, that 1.5 percent to 3 percent was included in the original revenue estimates for the schedule.

Airlines should enforce the rules and implement a post-process checking system that regularly evaluates each ticketing transaction and determines whether it follows the rules. In addition, there are a number of companies that specialize in processing passenger name records and flagging possible fraudulent transactions — deliberate or unintentional. Keep in mind that the value of maintaining revenue integrity can be worth hundreds of millions of dollars to a major airline in a single year.

In the end, the solutions for reducing revenue leakage fall into three basic categories: improving processes, adjusting organizational structures and implementing technological solutions. Because processes and organizational structures involve people and long-established methods of conducting business, even necessary changes are often met with resistance. Technology tends to be the easiest solution for minimizing interdepartmental leaks. But no matter which methods an airline uses, the initial plan placed in the pipeline should closely resemble — especially in terms of revenue — the one executed at the end of the pipeline.

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+count it up
1942 — Year Hawaiian Airlines became the first certified air freight carrier in the United States and its territories receiving air freight certificate #001, granted by the Civil Aeronautics Board.
Many airlines appear to be focused on cost containment at the exclusion of many other management activities. The escalating costs of jet fuel, employee salaries and benefits, and rising interest rates are only three examples of why airlines continue to focus on expenditures. While unit costs are declining across the industry, revenues also continue to diminish, which continues to put profit pressure on all airlines. Inevitably, many airlines under these circumstances will find themselves short on cash and nearing financial collapse, leaving them in a position to seriously contemplate the implementation of an airline turnaround.

The object of a turnaround is to reverse the losses that an airline experiences and lead it back into profitability. When the carrier is able to maintain a consistently profitable position, then the turnaround is complete. While this process is often misunderstood, there are basic characteristics of an airline turnaround and key steps that should be followed for a successful outcome.

The Basic Rules
A few simple rules can be identified that are common for almost all successful turnarounds. The most basic issue is the turnaround must bring about both tactical improvements and strategic change in business practices. Successful airlines with industry-leading management practices don’t require turnarounds. Therefore, airlines requiring turnarounds need to have at least some business process changes to be successfully improved. While few would complain about revenue increases, there will be many arguments about any new cost-containment exercises. These truths lead to five simple rules regarding airline turnarounds:

1. Start an airline turnaround with revenue-improvement exercises rather than cost-containment exercises.
2. Of an airline’s employees, 5 percent make money and 95 percent spend money. Find the 5 percent who make money and improve their performance. Then, work on the cost-containment capabilities of the remaining 95 percent.
3. Survival is a tactic not a strategy. Fix the airline’s financial condition first and then implement a strategy for long-term health and success.
4. Follow the money; perform turnaround actions in the order that will produce the largest financial improvements in the shortest length of time.

Normative analysis is a method used to balance the financial impact of an airline’s performance compared to its operational impact. Characteristics or comparisons that fall in the red region require improvement, while those in the green area can be improved, but in many cases are less important to the turnaround process.
Controlling Costs

Controlling costs of an airline is not an easy task. The reasons are fairly simple but also say a great deal about the airline business. A basic expenditure tree demonstrates how costs of an airline are split and allocated — total operating costs at an airline are split into two types of costs, indirect and direct:

- Indirect operating costs are commonly referred to as overhead. For an airline, they include most management functions such as finance and human resources. In addition, costs include “general and administrative” items, non-operating facility costs and similar infrastructure costs. For the average airline, about 16 percent of its total costs are indirect operating costs, but this number is closer to 8 percent for low-cost carriers.
- Direct operating costs are precisely related to the provision of air services to customers, and they are split into two types — fixed and variable. For the average airline, direct operating costs account for about 84 percent of total costs and about 92 percent for low-cost carriers.
- Fixed direct operating costs are directly related to the provision of air service that does not change from month to month. These costs generally include aircraft leases or ownership, fixed salaries of crew and other operating personnel, and the costs of operating facilities. For average airlines, about 42 percent of direct operating costs are fixed, which equates to about 35 percent of the total operating costs. For low-cost carriers, about 46 percent of direct operating costs are fixed, equating to about 42 percent of total operating costs.
- Variable direct operating costs are related to the provision of air service that changes from month to month. These costs are split into two types — flight costs and passenger costs. For average airlines, variable operating costs are about 58 percent of direct operating costs, which means they are about 49 percent of total operating costs. Low-cost carriers are not very different; their variable operating costs are about 54 percent of direct operating costs, which means they are approximately 50 percent of total operating costs.
- Flight costs are variable and directly relate to the operation of the flight. They include the majority of fuel costs, crew variable costs, landing and navigation fees, most maintenance costs, and similar expenditures for airlines. These costs exist even if a flight departs without passengers. For the average airline, flight costs are approximately 82 percent of variable operating costs, which equates to roughly 37 percent of total operating costs. For low-cost carriers, flight costs are about 80 percent of variable operating costs, which equates to about 38 percent of total operating costs.
- Passenger costs are variable and directly relate to passengers in areas such as catering, passenger weight-related fuel costs, baggage-handling costs, reservations costs and passenger handling (where these costs are paid for each passenger to a passenger handling service provider). For average airlines, passenger costs are about 18 percent of variable operating costs, which means they are roughly 9 percent of total operating costs. Similarly, low-cost carriers have shown that about 20 percent of variable operating costs are passenger costs, approximately 10 percent of total operating costs.

Of course, the percentages vary from airline to airline, but not by much. The implications of this expenditure tree are very important. First, 90 percent to 91 percent of total airline costs are unrelated to passengers. Despite the fact that most airlines are dedicated to passenger carriage, nine-tenths of their expenditures are not related to passengers. If passenger demand decreases or passenger yields decrease, the costs of operating an airline generally remain about the same. This is a fundamental problem with the financial performance of the airline industry. This also presents a potential strength of the industry because the revenues that are attributable to incremental passengers are essentially all profit, meaning incremental passengers equal incremental profit. Low-cost carriers obviously understand this simple approach, which is why they offer low fares to stimulate very high load factors. This is also the reason for the first rule of airline turnarounds — start with revenue-improvement exercises rather than cost-containment exercises. Incremental revenues increase profits rapidly, so this is the first place to start when implementing an airline turnaround.

Increasing Airline Revenues

Just about any struggling airline’s revenues can be increased by introducing changes that affect its revenue drivers, including:
- Flight scheduling — Network configuration, flight times, capacity applied to the flights and connectivity to codeshare partners and other airlines,
- Pricing — The fares and rules that an airline applies,
- Revenue management — How the airline overbooks its flights and applies discount-allocation levels to each of its fare classes,
- Sales — How the airline sells its products and provides incentives to representatives to sell its products,
- Distribution — The storefront where the airline makes its products available for sale, including traditional bricks-and-mortar distribution storefronts as well as online distribution outlets,
- Branding — How the airline projects the image of its products and services,
- Loyalty — How the airline rewards its most frequent flyers to ensure continued loyalty,
- Advertising — Where and how an airline advertises its products, services and branding,
- Promotion — How the airline promotes its products to its customers and third-party service providers.

Airlines understand this simple approach, which is why they offer low fares to stimulate very high load factors. This is also the reason for the first rule of airline turnarounds — start with revenue-improvement exercises rather than cost-containment exercises. Incremental revenues increase profits rapidly, so this is the first place to start when implementing an airline turnaround.

Airline turnarounds begin with an examination and improvement of these basic revenue drivers. Work is performed on all drivers concurrently to ensure revenue improvements occur rapidly and enhance the performance of each other.

Revenue performance still requires human interaction, which is the reason for the second rule of airline turnarounds — 5 percent of an airline’s employees make money and 95 percent spend it. Find the 5 percent who make money and improve their performance. Then, work on the cost-containment capabilities of the remaining 95 percent.

The 5 percent of the employees who are in areas such as flight scheduling, pricing, revenue management, and sales or distribution roles have the most positive impact on an airline’s revenues. The performance of these employees should be the first concentration of the airline turnaround; however, they are often the most difficult to change. While these revenue-impacting employees are happy to see the revenues of their airlines increase, they often do not wish to change their procedures or practices to allow these same increases in revenues. This is the reason the performance of these 5 percent must be an immediate
point of concentration. It is also important that all employees feel a sense of urgency about the need for an airline turnaround.

**The Tactics of Survival**
In the worst cases of airlines requiring a turnaround, there is breakdown in trust between the various stakeholders involved in the airline:
- The board of directors, as representatives of the shareholders, do not trust airline management or employees,
- Airline management does not cooperate well with the board of directors or trust in the performance and abilities of employees,
- The employees mistrust management and the board of directors,
- The passengers have little faith in the airline and generally “vote with their feet” by using the services of the airline’s competitors.

The board of directors and management are responsible for setting the strategy of the airline. It is important, therefore, that the strategy not be simply to survive. Airlines should have a strategy that forces financial success and meets social obligations to their stakeholders. While airlines should not have a strategy merely to survive, they should implement tactics to ensure survival. The difference between strategies and tactics is a difference of perspective. Strategies have a long-term perspective, while tactics have a short-term perspective. Airlines that require a turnaround need to implement the tactics of survival first, but in such a way that the strategy of the airline is supported. The tactics of survival — increase revenues, decrease unit costs, implement cost-containment exercises on controllable costs and conserve cash as much as possible — are fairly easy to understand, even if they are not so easy to implement.

Airlines generally fail because of a lack of cash, not because of a lack of profitability. Airlines can operate for years with losses without ceasing operation. It is only when cash reserves become insufficient that airlines are forced to cut back operations. When this occurs, the airline will shrink rapidly and become very difficult to save. It is very difficult to “shrink” an airline to profitability. While airlines should be “right sized,” the most effective turnarounds tend to grow the airlines instead of shrink them. While there will be tactical “retrenchments” on selected routes and in specific markets, successful turnarounds generally find other markets to profitably assign the carrier’s assets. Airline managers have to implement the tactics of survival first and then ensure that the strategy of the airline promotes the long-term health and success of the airline. The tactics of survival have to be implemented quickly, indicating that the airline’s management should implement the right practices that will enable it to survive.

**Following the Money**
Determining the best tactical approach to survival is addressed by “following the money.” During the initial stages of the turnaround, the airline should take a careful assessment of its current procedures and practices. A standard four-part methodology helps perform this assessment:
1. Characteristic analysis — Specific characteristics of the airline and its performance, which is accomplished through the collection of financial and performance data as well as via direct interviews with its management and staff, need to be gathered.

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**Expenditure Breakdowns for Average Airline and Low-cost Carrier**

Because nine-tenths of an airline’s expenditures are not driven by passengers, operating costs would generally remain the same if passenger demand or yields dropped. While only averages, these values represent the general level to be expected at most airlines.
2. Comparison analysis — Results of the characteristic analysis are compared to industry data, previous performance, budgets, goals, standards and other items to identify the differences between the characteristics of the airline and realistic performance benchmarks.

3. Normative analysis — The characteristics and comparisons identified in the previous analyses are analyzed against a context of expected financial and operational impact on the airline. Those characteristics and comparisons that are uniquely identified and are not performing successfully are marked for examination.

4. Prescriptive analysis — All characteristics and comparisons that are identified as requiring change during the normative analysis are examined during this analysis. Specific “prescriptions” are identified for the changes that must occur to improve the performance of the airline.

The prescriptions are specific measures that need to be implemented to successfully produce the turnaround, and they provide a variety of information, including:

- The specific recommendation to be implemented,
- The length of time necessary to implement the recommendation,
- The expected financial impact associated with implementing the change, which should include expected capital costs, operating costs, revenue impact and profit shift associated with implementing the prescription.

“Following the money” is the process of implementing the prescriptions in the manner that will produce the largest financial benefits in the shortest possible time. The “timed benefits” formula is used to determine the order of implementing the prescriptions.

Timed benefits are calculated for all prescriptions and the prescriptions are sorted in the descending order to timed benefits. That is, the items with the largest financial impact in the shortest possible time will be implemented first, meaning that a prescription that may take a long time to implement but will have a very large financial benefit will be implemented with high priority.

During the implementation, there will be several important tasks identified that do not necessarily impact the performance of the airline quickly. For example, organization changes and realignment requirements are frequently identified during the turnaround assessment. The airline’s management must resist implementing these with priority unless it is clear that implementation will have a positive financial impact in a short period of time. This requires discipline and a single-minded approach to the turnaround and tactical survival. This discipline must be implemented throughout all levels of stakeholders in the airline.

Communication Among Stakeholders
Rule No. 5 (Communicating with all stakeholders. Information should be free-flowing and disbursed to alleviate concerns and drive business culture changes.) is probably the most important rule.

All stakeholders of the airline will show anxiety related to the turnaround. First, the fact that the airline requires a turnaround leads to anxiety. Stakeholders, management, employees and even passengers will know that an airline’s financial performance is sufficiently degraded to require a turnaround. In publicly traded companies, shareholders nervously watch their holdings and look for opportunities to lower their risks wherever possible. Management should understand the position of the carrier and that key managers will leave for other positions, thus causing a “brain drain.” Employees will lose morale and this will affect their ability to provide high-quality services, which will be clearly noted by passengers and other customers.

By starting a communications program early in the turnaround process, the airline will be able to eliminate some of the worst anxiety issues. The communication should detail as much of the turnaround plan as possible without detailing items that might impact competitiveness. For example, the airline can share that it will examine its revenue drivers, but not the exact way prices will be altered. Communication of competitive details of the turnaround plan in advance of implementation may provide a competitor with the ability to counteract the positive effects of implementing the plan. Nevertheless, many characteristics of the plan can be shared with stakeholders.

Communicating details of the airline turnaround to stakeholders has several important benefits, including:

- Reduces anxiety among shareholders, which tends to keep share values higher,
- Reduces anxiety among management, which should reduce “brain drain,”
- Improves employee morale, encouraging higher service levels,
- Maintains customer loyalty because of passenger confidence in the airline.

The benefits of communication tend to far outweigh the possibility of inadvertent dissemination of competitive information and, therefore, should be free flowing.

Profitability is not easy to produce at most airlines. If it came in a bottle, all airlines would be profitable. Therefore, airline turnarounds are the unfortunate result of a difficult industry where margins are tight and competition is aggressive. An airline turnaround can produce short-term profit shift and long-term stability. Sabre Airline Solutions has been successful at using the key rules of a successful turnaround to help airlines in many regions around the world. These simple rules can be used by diverse airlines to improve their success and profitability.

Shane Batt is a senior partner with Sabre Airline Solutions Consulting. He can be contacted at shane.batt@sabre.com.

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**+count it up**

**25** — Age of the youngest female jet captain in the world.
Capt. Linda Pauwels flew Boeing 707 aircraft for Southern Air Transport.

**1986** — Year of the first husband/wife cockpit crew.
Capt. Jim Price and First Officer Penny Price operated Boeing 727 aircraft for FedEx.
SOME airline executives might be surprised to learn that distribution control plays an important part in revenue maximization for an airline. One of the responsibilities of this area is to ensure that ticketing rules are adhered to with every booking. Theoretically, an airline would like to have only ticketed segments in its reservations system for a particular flight on the day of departure. All non-ticketed segments for the flight represent an unnecessary added cost and potentially lost revenue. The ratio of ticketed segments to total segments, the ticketed segment penetration rate, can indicate how successful an airline is at capturing revenue opportunities.

In the best of all possible worlds, airlines would use electronic ticketing almost exclusively, avoid the use of passive segments and enforce ticketing time limits. Airlines that achieve this goal experience a 97 percent to 99 percent ticketed segment penetration rate, which means they have recovered as much revenue as possible from existing booking levels. Most airlines are not so fortunate. Geography, competition and an airline’s own ticketing policies play a significant role in the determination of a carrier’s ticketed segment penetration rate. Analyses conducted by Sabre Airline Solutions Consulting indicate that most airlines’ ticketed segment penetration rates range from 50 percent to 85 percent. There are outliers, of course, that fall well below 50 percent.

To illustrate how an airline can capitalize on potential revenue recovery opportunities by boosting its ticketed segment penetration rate, consider a carrier that ranges from a low of 55.5 percent in January to 109 percent in December. It is possible to have rates higher than 100 percent because some bookings that

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### Utilizing Non-ticketed Segments

<table>
<thead>
<tr>
<th>Total non-ticketed segments</th>
<th>Percent of non-ticketed segments cancelled and resold</th>
<th>Segments resold</th>
<th>Average segment revenue after taxes and commissions</th>
<th>Revenue recovered</th>
</tr>
</thead>
<tbody>
<tr>
<td>188,404</td>
<td>5%</td>
<td>9,420</td>
<td>US$150</td>
<td>US$1,413,030</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>18,840</td>
<td>US$2,826,060</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15%</td>
<td>28,261</td>
<td>US$4,239,090</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20%</td>
<td>37,681</td>
<td>US$5,652,120</td>
<td></td>
</tr>
<tr>
<td></td>
<td>25%</td>
<td>47,101</td>
<td>US$7,065,150</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30%</td>
<td>56,521</td>
<td>US$8,478,180</td>
<td></td>
</tr>
<tr>
<td></td>
<td>35%</td>
<td>65,941</td>
<td>US$9,891,210</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40%</td>
<td>75,362</td>
<td>US$11,304,240</td>
<td></td>
</tr>
<tr>
<td></td>
<td>45%</td>
<td>84,782</td>
<td>US$12,717,270</td>
<td></td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>94,202</td>
<td>US$14,130,300</td>
<td></td>
</tr>
</tbody>
</table>

### Ticketed Penetration Rate

<table>
<thead>
<tr>
<th>Penetration rate</th>
<th>Ticketed segments</th>
<th>Total segments</th>
<th>Non-ticketed segments</th>
<th>Non-ticketed segments reduction</th>
<th>Additional savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>80%</td>
<td>753,616</td>
<td>942,020</td>
<td>188,404</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>82%</td>
<td>753,616</td>
<td>919,044</td>
<td>165,428</td>
<td>22,976</td>
<td>US$88,458</td>
</tr>
<tr>
<td>84%</td>
<td>753,616</td>
<td>897,162</td>
<td>143,546</td>
<td>21,882</td>
<td>US$84,246</td>
</tr>
<tr>
<td>86%</td>
<td>753,616</td>
<td>876,298</td>
<td>122,682</td>
<td>20,864</td>
<td>US$80,327</td>
</tr>
<tr>
<td>88%</td>
<td>753,616</td>
<td>856,382</td>
<td>102,766</td>
<td>19,916</td>
<td>US$76,676</td>
</tr>
<tr>
<td>90%</td>
<td>753,616</td>
<td>837,351</td>
<td>83,735</td>
<td>19,031</td>
<td>US$73,268</td>
</tr>
<tr>
<td>92%</td>
<td>753,616</td>
<td>819,148</td>
<td>65,352</td>
<td>18,203</td>
<td>US$70,083</td>
</tr>
<tr>
<td>94%</td>
<td>753,616</td>
<td>801,719</td>
<td>48,103</td>
<td>17,429</td>
<td>US$67,100</td>
</tr>
<tr>
<td>96%</td>
<td>753,616</td>
<td>785,017</td>
<td>31,401</td>
<td>16,702</td>
<td>US$64,305</td>
</tr>
</tbody>
</table>

**TOP:** By eliminating non-ticketed segments and reselling even just a portion of them, airlines can recover significant amounts of revenue each year. Although it is unlikely that an airline can recover all of the potential revenue, even recovering only 10 percent can lead to substantial gains.

**BOTTOM:** By increasing its ticketed penetration rate, an airline stands to eliminate unnecessary distribution fees. At a cost of US$3.85 per segment in a GDS, non-ticketed segments generate additional costs. An airline with 753,616 ticketed segments can recoup more than US$600,000 a year by improving its ticketed segment penetration rate from 80 percent to an industry-best standard of 96 percent.
are made during one month may be ticketed in another. The average for this carrier is 80 percent.

If the segments were booked via a global distribution system, for every 2 percent increase in ticketed segment penetration (a reduction of non-ticketed segments), a carrier with about 750,000 ticketed segments could save between US$64,000 and US$88,000 based on eliminated non-ticketed segments at a cost of US$3.85 per segment in a GDS. If the airline could achieve an average penetration rate of near industry best at 96 percent, it could save US$604,463 in annual distribution costs.

The cost savings are only part of the story. The airline also has the opportunity to recapture revenue that was lost as a result of seats being returned to inventory in a timely manner.

A sensitivity analysis indicates that if only 10 percent of the segments are resold at a revenue rate of US$150 per segment, then the recovered revenue is US$2,826,060. While it is perhaps unreasonable to assume that the carrier could recover 100 percent of the non-ticketed segments, if the segments are released into inventory early enough in the booking cycle, a 20 percent goal is realistic and sometimes higher is achievable.

“The cost savings are only part of the story. The airline also has the opportunity to recapture revenue that was lost as a result of seats being returned to inventory in a timely manner.”

An airline must develop a methodology to measure and track its ticketed segment penetration rate. For GDS bookings, the easiest way to establish a rate is to use a combination of BIDT (GDS invoice detail) and ticket control number data. The total number of coupons issued for the month from the TCN data is divided by the total number of net BIDT bookings. This division produces a percentage for ticketed segment penetration.

Sabre Airline Solutions offers revenue integrity tools (see related article on page 67) that can help airlines develop a robust monitoring program. These tools monitor daily bookings created by travel agents and airline staff to check for ticketing time limits and then process them according to a particular airline’s criteria.

Without automated tools, it is very difficult to monitor each PNR that enters an airline’s reservations system as this would require significant human resources. Since BIDT is distributed once per month by the GDS, a distribution control analyst should perform the calculations monthly to measure progress.

By eliminating non-ticketed segments, airlines can ensure that they begin to control costs and recover additional revenue that would otherwise be lost.

Stan Boyer is a partner with Sabre Airline Solutions Consulting. He can be contacted at stan.boyer@sabre.com.

Calculating Ticketed Segment Penetration

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Total YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net bookings</td>
<td>100,391</td>
<td>79,655</td>
<td>75,422</td>
<td>69,680</td>
<td>88,331</td>
<td>88,013</td>
<td>92,911</td>
<td>80,691</td>
<td>80,113</td>
<td>78,034</td>
<td>62,398</td>
<td>47,899</td>
<td>941,538</td>
</tr>
<tr>
<td>Ticketed segments</td>
<td>55,698</td>
<td>64,966</td>
<td>55,779</td>
<td>55,016</td>
<td>65,608</td>
<td>87,440</td>
<td>80,065</td>
<td>67,671</td>
<td>62,435</td>
<td>59,946</td>
<td>46,783</td>
<td>52,209</td>
<td>753,616</td>
</tr>
<tr>
<td>Tktd. sgmt. penetration</td>
<td>55%</td>
<td>81.6%</td>
<td>74%</td>
<td>79%</td>
<td>76%</td>
<td>99.3%</td>
<td>86.2%</td>
<td>83.9%</td>
<td>77.9%</td>
<td>76.8%</td>
<td>75%</td>
<td>109%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Using BIDT data combined with TCN data, an airline can calculate its ticketed segment penetration rate. By taking the number of ticketed segments (from TCN data) and dividing it by the number of net bookings (from BIDT data), an airline can determine its penetration rate. Many factors such as geography, competition and an airline’s ticketing policies affect the penetration rate and can cause it to vary month to month.
From Distribution to Merchandising With ...
GLEN HARVELL, VICE PRESIDENT, AND YANNIS KARMIS,
PRINCIPAL, AIRLINE STRATEGY AND PLANNING,
SABRE HOLDINGS

Evolving into NEXT GENERATION TRAVEL RETAILING

With deregulation of the global distribution systems, a travel retailing revolution has begun that will reshape the airline industry.

Few would argue that in today’s hyper-competitive markets the need to effectively distinguish a product from competitors’ is essential for success. No place is this more true than in the airline industry where pricing is transparent, comparative shopping is abundant, product is perishable and outside agents manage sales to the most profitable customers. Yet, the art of retailing remains at its infancy across the travel industry and specifically the airline industry — though not for long.

The emergence of the Internet and recent push toward deregulation of global distribution systems around the world have stimulated a travel retailing revolution that is quickly gathering momentum and will reshape traditional airline disciplines such as revenue management and distribution. In this new regular column of Ascend, we will explore the discipline of retailing and how it is transforming airline sales and marketing.

Evolving into Next-Generation Travel Retailing

In the wake of GDS deregulation and increased online competition, a new breed of travel merchandising tools and capabilities are poised to enter the market. These tactics range in maturity from conceptual to proven and operational.

Data Insights (Access and Influence)
For decades, marketing information data tapes and customer relationship management databases have been the foundation of knowing the customer and tracking industry metrics. The introduction of customer shopping data is
about to change all that. Shopping data enables an entire suite of next-generation retailing products and marketplace insights.

Unlike traditional retailers that simply have point-of-sale transaction data, airlines will soon have access to data captured throughout the buying process. Imagine Procter and Gamble being able to follow every potential consumer of its products through any retailer’s aisles and record what was looked at, what product labels were read, what was added to the shopping cart, how the retailer’s inventory compared to its competitors and, ultimately, what the consumer chose to purchase.

This capability will soon be available through the Sabre® global distribution system and will seed the next generation of customer understanding to provide airlines with an improved influence at the point of sale.

Exclusive Fares (Differentiated Product)
Just as designers develop specific lines of clothing for preferred retailers, so, too, are airlines considering exclusive (or private) fares to preferred distribution partners. While this is nothing new to the airline industry, the reach and sophistication of targeting fares to specific consumer segments has reached a new plateau.

Late last year, a U.S. domestic airline began providing select Sabre Connected™ agencies with exclusive fares significantly below the lowest published rate available in the open market, including those available on its Web site. After detailed agency and consumer analysis, these discount fares were made available on a few targeted routes and distributed to select population of agencies.

By focusing on the highest potential routes and agencies, the airline increased its yield by stimulating incremental sales without the risk of triggering a competitive fare sale. Within 60 days of launch, the carrier had increased its share of sales in the target markets by more than 10 percent.

Introducing exclusive fares to distributors is not new; airlines have done it for years. What is new is the capability to provide exclusive distribution with insight into customer, agency and route selection; customized fare discounting and near real-time measurement; assessment and decision support. This promises to expand how airlines think of private channel distribution.

Elements of Effective Retailing

Exclusive Fares (Differentiated Product)

Airlines began a strong push into online promotions five to seven years ago with e-mail marketing and data mining CRM databases.

Next Generation Promotions (Merchandising Strategies)
Airlines began a strong push into online promotions five to seven years ago with e-mail marketing and data mining CRM databases.

Travelocity’s Under the Radar program is a perfect example of a new, highly effective and targeted merchandising tool. Through this program, Travelocity works with a preferred airline partner to create a set of fares that are only available via a private booking engine accessible through a link within the e-mail. The fare is never made public, masking it from competitors and avoiding yield dilution by offering it only to the targeted consumer. Travelocity’s UTR program enjoys a click-through rate 25 percent to 33 percent higher than that of traditional e-mail campaigns and average sales conversion rates of more than 1 percent.

As retailing evolves in the travel industry, a vast array of merchandising tools are poised to emerge; not just through online retailers, but through GDSs and airline Web sites. To effectively compete for every potential customer, airlines need to identify the best tool set for their specific business needs.

The next generation of travel retailing is here, and here to stay. Travel technology providers and airlines themselves are quickly developing the next generation of marketing and sales tools that will transform the industry’s view of sales and marketing. In an industry where one incremental passenger can swing the balance between a profitable flight and one that loses money, it is critical that airlines are not left behind. Future issues of “From Distribution to Merchandising” will continue to explore how the next generation of retailing is reshaping the airline industry.

Glen Harvell and Yannis Karmis can be contacted at glen.harvell@sabre.com and yannis.karmis@sabre.com.
Despite its highly volatile, seasonal and directional nature combined with the fact that it shifts with the ebb and flow of the world’s economy, Cathay Pacific Airways’ cargo business still manages to produce healthy revenues.

Cathay Pacific has capitalized on its location and airport resources as well as developed strong partnerships within the supply chain to help maximize revenues through a strong air cargo business. Last year was one of record-setting accomplishments for the Hong Kong-based cargo carrier, showing that an airline can boost revenue with a thriving cargo business by dominating a niche market, capitalizing on its natural geography, maintaining a sharp focus on cost control and forming strategic joint ventures.

Cathay’s cargo operation, with a fleet of 100 aircraft including 15 Boeing 747 freighters, comprised more than one-third of the company’s total revenues in 2003, or HK$9.4 billion (US$1.2 billion). Revenues and available ton kilometers were up 17 percent, and the company noted an improvement in cargo yield of 6.8 percent in its interim report covering the first six months of 2004.

In addition to dedicated freighters, the airline also makes use of the belly space on its fleet of wide-body aircraft. It is the launch customer for the Boeing freighter conversion of the 747-400 and plans to bring more of the same type into its fleet in coming years.

Cathay’s cargo operation, which carried 972,416 tons of freight last year and achieved record-setting revenues of HK$10.4 billion (US$1.4 billion), has permeated deep into its corporate culture.

“Cargo is a part of every key decision made,” said Ron Mathison, director and general manager of Cathay’s cargo operation. “Cargo growth last year continued to be driven by
demand for exports from southern China. Congestion in U.S. west coast seaports helped boost demand for air cargo services as well. Business on trunk routes from Hong Kong to the United States, Europe and Japan remained strong throughout the year. Our network will be further enhanced with a new daily freighter service to Shanghai that began in January."

Mathison believes it is beneficial that Cathay’s cargo operation is not part of a separate company or division. Instead, the company can take advantage of passenger aircraft that account for more than 40 percent of its cargo lift. Mathison also believes the success of the airline’s cargo business is due in part from its strong network and cities, providing many options to move cargo to Europe.

The center of Cathay’s activity is its hub at Hong Kong International Airport. Hong Kong occupies an ideal geographical position, enabling the airline to serve Europe, Australia, Southeast Asia and the United States from its home base as well as the European and U.S. markets from Australia.

With the shift in manufacturing to Asia, Hong Kong benefits by having major manufacturing capabilities at its doorstep. In particular, the China market is experiencing extraordinarily strong growth.

Along with the unique geography of Hong Kong, Cathay benefits from the services offered at one of the world’s leading cargo airports. HKIA offers extraordinarily well-equipped facilities for cargo handling. The airport’s master planning, design layout, and offering of facilities and services has enabled it to become the biggest international air cargo center in the world, with plenty of room for future growth.

Hong Kong offers more than world-class facilities to Cathay. There is a unique service-oriented work ethic in Hong Kong, and it is renowned for its industrious, highly productive, well-trained work force. A consequence is that airline workers are highly energized, as are the staffs at different forwarders, agents and suppliers that make up the supply chain.

Much of Cathay’s cargo is tied to local and global trade. About 60 percent of all cargo business is to or from China. According to Mathison, the airline’s cargo business has seen strong imbalances caused by currency fluctuations and rapidly changing market conditions. A strong euro benefits exports to the European Union, while a weak dollar benefits imports to Asia from the United States.

This imbalance is also mirrored in cargo volumes at the airport. In 2004, of the 3.1 million total tons moving through HKIA, almost one-third was import cargo and nearly two-thirds was export.

To deal with volatility in the cargo business, Cathay has placed a strong focus on cost control and risk mitigation, looking for ways to remove inefficiencies from the supply chain. The airline has developed a lean and efficient organization, capable of responding to the changing cargo landscape. Cathay outsources its terminal and ground handling services to avoid the burden of fixed expenses. Instead, the company pays for services on a per-kilohandled basis. “In this business, you want to minimize your asset risk,” said Mathison.

**Technology and Joint Ventures**

“Our broad network requires a high level of information technology support to ensure shipments are correctly assigned and arrive at their final destination on time,” Mathison said. Cathay relies on its CUBIC system for booking and recording cargo information at each step along its journey. Cargo agents can determine
Taking Cargo to the Max

Using a decision-support system such as the CargoMax Revenue Manager, can help airlines optimize their cargo business and capitalize on a significant source of revenue.

By Raja Kasilingam | Ascend Contributor

Air cargo is increasingly becoming an important source of revenue for airlines across the globe. On average, the revenue generated from cargo operations is 13 percent of the total air traffic revenue and up to 40 percent for some airlines. According to last year’s Boeing World Air Cargo Forecast for the period of 2002-2021, world air cargo growth will expand at an average annual rate of 6.4 percent. As the demand for air cargo increases, it is vital for airlines to capture as much market share as possible and carry the right types of cargo within the constraints of their network to increase revenue and maximize profitability.

Recognizing the revenue-generating potential of an efficient cargo department, experienced airlines have transformed this sideline operation into a vital component of their business strategy. The success of an air cargo operation can be impacted by a number of factors — lengthy unproductive processes, untimely flight schedule updates, inaccurate data availability, and uninform ed and inconsistent decision making. Airlines require automated decision-support tools to help manage cargo operations at an optimal level, thereby increasing revenue while maximizing profit and improving customer relationships.

Technology combined with deep industry expertise is vital to the success of an airline’s cargo operation.

Future Cargo Growth

Air cargo traffic will triple during the next 20 years. On average, the cargo business will grow 6.2 percent a year during that period, and revenue ton kilometers will increase from 156.5 billion in 2003 to 517.7 billion by 2023.

Competition and LCCs

As with other successful businesses, there are emerging competitors such as neighboring airports competing for cargo business. Although 90 percent of all cargo along the Pearl River Delta is currently moving through HKIA, the number will decline as new airports emerge. The new airport in the Pearl River

Continued on page 49
Operations and decision-support systems can help airline cargo operations improve productivity, service levels and revenue. When selecting a cargo system, airlines should look for a provider with expertise in revenue management, revenue accounting and reservations. Systems such as the Sabre® CargoMax® Revenue and Pricing Suite address the specific needs of air cargo companies, including solutions to meet some of the key cargo business and operational requirements of an airline such as space control and revenue management, management reporting, performance measurement, rating, revenue accounting, invoicing, claims management, inventory control, and operations planning. Revenue Manager, in fact, has helped airlines generate more revenue and profitability and maintain/improve service levels.

In the early 1980s, revenue management techniques were first applied in the airline industry as a method to increase revenues resulting from passenger sales. With the success of revenue management to improve passenger revenues, these techniques were applied to other business areas such as hotel, railroad, car rental and cargo. Sabre Airline Solutions was the first to develop and install an initial version of a cargo revenue management system in the early 1990s. Since that time, Revenue Manager has helped airlines achieve revenue and profitability growth while maintaining service levels.

Airlines around the world generate additional revenue and profitability using Revenue Manager in one or more ways, including:

- **Capacity planning** — Accurately knowing the capacity available for sale at the very beginning of the booking period is important so that demand is not spoiled or turned away. Benchmarking and post-implementation measurement of benefits from capacity planning using Revenue Manager shows revenue improvement of up to 5 percent.

- **Allotment management** — Allocating space to the right station or customer based on revenue usage or type of cargo and considering the possibilities of satisfying allocations among multiple routes considering network effects helps increase revenue from allotment sales by up to 4 percent.

- **Pricing guidelines** — Determining minimum acceptable prices (or hurdle prices) to sell cargo based on flight capacity, demand, service level desired, rate and density of cargo can also dramatically improve revenues. Carrying the right freight mix in terms of rate and density maximizes the revenue and contribution from the three-dimensional cargo capacity. By utilizing Revenue Manager, cargo companies can increase revenue by up to 6 percent according to recent benchmark studies.

### Capacity Planning

Determining the capacity available for sale is a challenging problem for air cargo carriers given that most airlines carry cargo in the belly of the passenger aircraft. It is a two-step process. The first step involves determining the physical capacity available for carrying cargo. The second step is to increase this by a factor to consider for customers who cancel, no show, and over or under tender.

The physical capacity available for cargo is not fixed or known in advance unlike the passenger side of the business where the seats are fixed. Forecasting cargo capacity becomes complex because it is three-dimensional and is affected by everything that goes on the airplane ahead of cargo such as passengers, bags, mail, catering and company materials. Revenue Manager helps airlines forecast the various categories of loads that precede cargo and estimate the physical capacity available for carrying cargo. In addition, it considers several important aspects such as ground-time restrictions (turning schedule), baggage containers by class of service, tail number, aircraft container configuration and other seasonal aspects. The capacity available for sale is determined using a probabilistic optimization model considering the cost of offloads and spoilage, desired offload percentage (inverse of service level desired), and physical capacity. More accurately determining physical capacity and capacity available for sale also reduces offloads due to capacity problems.

### Allotment Management

The optimal allocation of allotments to various stations and customers is a very important decision process for carriers in the Asia/Pacific region. These carriers sell almost all of the available space as allotments while carriers in other parts of the world sell anywhere from 20 percent to 60 percent of the total cargo space as allotments. Revenue Manager has helped carriers determine the optimal allocations to various stations and customers considering revenue, space usage, and type of cargo and has improved revenue significantly.

### Pricing Guidelines

Optimizing the freight mix onboard is an important aspect of maximizing revenue and profitability. Control of freight mix onboard is typically accomplished by setting pricing guidelines based on shipment characteristics and demand. Revenue Manager helps carriers set pricing guidelines considering rates, density of cargo, capacity, demand and network effects.

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**Baseline Cargo Forecast**

<table>
<thead>
<tr>
<th>Year</th>
<th>Non U.S.</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>29.7%</td>
<td>70.3%</td>
</tr>
<tr>
<td>2021</td>
<td>26.1%</td>
<td>73.9%</td>
</tr>
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</table>

Source: Boeing
“Hong Kong will remain the preeminent gateway in the region and will experience strong growth. We will have a declining share of an increasing market, indicating there will be plenty of room due to rapid growth in China’s markets.”

Continued from page 47
Delta, Baiyun (Guangzhou), will take some cargo business away from Hong Kong, which will most likely impact HKIA’s ability to maintain its market share. However, Cathay expects continued double-digit growth even with the competition from new airports.

“Hong Kong will remain the preeminent gateway in the region and will experience strong growth,” said Dora Kay, head of international marketing at HKIA. “We will have a declining share of an increasing market, indicating there will be plenty of room due to rapid growth in China’s markets.”

Competition to Cathay is not new. HKIA has more cargo capacity flown by more airlines than any airport in the world.

When asked about low-cost carriers emerging in Asia/Pacific and looking at cargo business, Mathison said that, “Cathay already is a LCC. In cargo, there is no room for high-cost operators. The game is to be the lowest-cost provider of a high-value product.”

Future trends in cargo at Cathay will be the expansion of electronic booking, “paperless cargo” and e-airway bills. More than 85 percent of the airline’s business at HKIA is completed through electronic bookings, with the highest penetration of online bookings in Asia/Pacific. This, in part, is driven by the need to file electronically to speed customs requirements as well as improve efficiencies in distribution and deliver more visibility of shipments throughout the entire supply chain.

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In addition to the financial benefits of the system, airlines have realized additional benefits such as increase in productivity, up-to-date availability of data, consistency in decision making and improved response time. The extent of revenue benefits from using Revenue Manager depends on a number of key factors such as the level of sophistication of current revenue management methods, business process alignment with the system, data quality and availability, product acceptance at all levels within the cargo organization, and users believing and using the system.

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### Global Cargo Markets

<table>
<thead>
<tr>
<th>Region</th>
<th>Growth, percentage</th>
</tr>
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<tbody>
<tr>
<td>Domestic China</td>
<td></td>
</tr>
<tr>
<td>Intra-Asia</td>
<td></td>
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<tr>
<td>Asia-North America</td>
<td></td>
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<tr>
<td>Europe-Asia</td>
<td></td>
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<tr>
<td>Latin America-North America</td>
<td></td>
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<tr>
<td>Europe-North America</td>
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<tr>
<td>Europe-Southwest Asia</td>
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</tr>
<tr>
<td>Intra-Europe</td>
<td></td>
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<tr>
<td>Europe-Middle East</td>
<td></td>
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<tr>
<td>Europe-Africa</td>
<td></td>
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<tr>
<td>Europe-Latin America</td>
<td></td>
</tr>
<tr>
<td>North America</td>
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</table>

Of Asian markets, Intra-Asia will grow the fastest, averaging 8.4 percent growth per year, while the Asia-North America and Europe-Asia markets will expand at average annual rates of 7.5 percent and 7 percent, respectively.

World average 6.4%
Personnel at China Eastern’s new airport operations center at Hongqiao International Airport play a vital role in making sure customers arrive at their destinations on schedule. During times of disruption, the airline’s AOC manages a variety of tasks, such as swapping aircraft types, to ensure customers are re-accommodated in a timely fashion.

China Eastern’s new airline operations center enables it to rapidly respond to costly disruptions such as mechanical problems or weather-related delays.
As the ticket agent looks over a departure lounge filled with passengers scheduled to take a flight from Shanghai to Beijing, China, his phone suddenly rings with the dreaded news from the maintenance supervisor that the aircraft is out of service. After consulting with the airline’s operations office, it is quickly determined that a spare aircraft is not available, and the part needed to repair the original aircraft is hours away.

Faced with the unpleasant duty of informing 121 passengers eagerly waiting to board the aircraft that the flight must be cancelled, a call is placed to China Eastern Airlines’ reservations center to inquire about space on one of its flights. Once the call is received and transferred to the new airline operations center, a group of professionals quickly assess the situation.

Utilizing advanced technology, China Eastern operations coordinators determine that an Airbus A320 has just been released from a series of maintenance checks and will be available to transport all the stranded passengers from Shanghai to Beijing. The manager on duty alerts all departments that are represented in the AOC by generating a message and, in a matter of minutes, the passengers are re-accommodated on the new flight.

Airlines throughout the world are faced with this dilemma on an hourly basis, and only those that possess the best hardware and software, coupled with highly trained operations professionals, succeed in today’s constantly changing airline environment. Although major carriers all utilize some type of automation, some small or regional carriers still rely on manual methods to track aircraft utilization and maintenance checks. Airlines with a small number of aircraft can manage these routine tasks; however, as their fleet grows, this process becomes unmanageable.

As the economy in Asia continues to surge, airlines operating in the region struggle to utilize their fleet in the most efficient manner, sometimes extending maintenance and flight crew times to the maximum allowed duty limits. During off-schedule operations, airlines are challenged to deviate from their published schedules and optimize a scheduled recovery as quickly and effectively as possible. Multiple cancellations and delays are usually associated with these events, sometimes leaving passengers stranded for days at a time.

Personnel working in AOCs are inundated with critical decisions that will determine when and how passengers will ultimately arrive at their destinations. By substituting or “juggling” different aircraft types on selected flights, passengers can be re-accommodated in a timely manner. It is during these events that airlines possessing skilled operations personnel and automation capable of monitoring their schedules routinely generate additional revenue.

Realizing the potential of advanced automation and a highly trained work force, China Eastern Airlines’ senior management had the vision to take the necessary steps to create a new operations center. On the outskirts of Hongqiao Airport located in Shanghai, the airline has constructed a state-of-the-art AOC that encompasses the latest technology, including the Sabre® Movement Manager, the Sabre® Dispatch Manager and the Sabre® Load Manager.

Bringing together its operations functions helps China Eastern better respond to unexpected delays, which helps improve customer service and, therefore, retain valuable customers. Centralizing its operations helps the airline minimize delays caused by unexpected disruptions, ensuring passengers are re-accommodated as quickly as possible, which helps lead to repeat business and continued loyalty.

The genesis for this project began when China Eastern management contacted Sabre Airline Solutions Consulting to conduct a scoping study to assist with the integration of its operations. It had become clear that if the airline sought to combine its operations into a single entity and continue to grow, some drastic steps had to be taken. A scoping study was conducted in August 2003 focusing on an in-depth review of the airline’s nine branch offices and two subsidiary operations. After a thorough review of the consulting team’s findings and recommendations, China Eastern decided to build an AOC. Sabre Airline Solutions assisted the airline with the development of its new operations facility and provided training and onsite representatives to help the airline bring the AOC to life. Additionally, a consultant from Sabre Airline Solutions will remain onsite for two years to assist with the development of business processes that utilize the industry’s best practices.

“We are confident we will see excellent results by implementing the recommendations made by our valued Sabre Airline Solutions partners,” said Yu-Lin Wu, vice president for China Eastern Airlines. “We expect that the new efficiencies we will achieve through the operations control consolidation will heighten our performance in this highly competitive marketplace.”

A major part of the AOC success comes from centralizing key departments under one roof and making unified decisions.

“Having the ability to integrate our total operation and bring together our most talented individuals in one location will ultimately lead to increased productivity and add to the efficiency of the airline,” said China Eastern Director Andy Yang. “Most delays in airline operations occur simply because decision makers within the airline are in different locations, making it almost impossible to deliver timely decisions. The ‘ripple effect’ then takes place, and the customer is the one who suffers.”

Another major step China Eastern has undertaken is the development of a crisis center and the updating of its emergency response procedures. The types of emergency situations the AOC must contend with include sabotage threats, hijacking, aircraft accidents, natural disasters, military operations assistance and severe weather situations. Without clear emergency operating procedures, these types of incidents become extremely difficult to manage. Additionally, the training aspect of key decision makers is a never-ending challenge that strains even the most sophisticated airlines. China Eastern has taken the approach of selecting the right individuals to fill these positions while incorporating the latest techniques and strategies to train them.

With its new AOC and emergency operating procedures in place, China Eastern is well on its way to becoming one of the most profitable carriers serving the region.

Craig Parfitt is management principal for Sabre Airline Solutions Consulting. He can be contacted at craig.parfitt@sabre.com.
Airlines have long focused on luring high-yielding business travelers, but two European-based carriers have taken the notion one step further.

Lufthansa German Airlines and Swiss International Air Lines, looking to tap into the lucrative business travel between Europe and the United States, provide business-class-only flights.

For the two airlines, flying traditional long-haul aircraft on certain routes between Europe and the United States did not achieve strong enough financial results to justify continuing the service. Business demand was strong, but not strong enough to fill the planes. Because the need for specific service between the two countries still existed, the carriers independently found a creative solution.

Lufthansa, which recently celebrated 50 years of service, operates the business-class-only flights 18 times a week between two German and two U.S. markets, and Swiss operates a similar service six times a week to the United States. Both airlines offer the services in partnership with PrivatAir, a Swiss-based company specializing in ad hoc charters for the executive segment using all-business-class aircraft.

For Lufthansa, the rationale behind the introduction of the executive jet service was simple. Constantly monitoring its routes, in October 2001, the airline realized its Dusseldorf-Newark route, although highly popular with business travelers, was not sufficiently profitable. Lufthansa decided to discontinue the route, leaving a big business community without a connection between one of Germany’s economic powerhouses, the “Ruhr-Gebiet,” and the United States. Seeing that there was a specific niche market, Lufthansa sought to fill the gap in a way that would profitably satisfy the business demand.

In June 2002, Lufthansa, through the use of PrivatAir’s executive jets, resumed service between Dusseldorf and Newark.

“The cooperation with PrivatAir allows us to accommodate customer demand for a nonstop connection from North Rhine-Westphalia to New York,” said Thierry Antinori, executive vice president of marketing and sales for Lufthansa. “We are delighted to be able to serve the route economically in cooperation with a partner airline.”

Through a wet lease agreement, PrivatAir provides the aircraft, either special Boeing 737s or Airbus A320s, and crew, and Lufthansa controls the onboard product. Both aircraft types are licensed to fly trans-Atlantic
and are specially equipped with auxiliary fuel tanks. They have a maximum of 48 business-class seats; the schedules of the special flights are integrated into Lufthansa’s regular network as well as optimized to connect to Star Alliance partner United Airlines’ hub operation at Chicago O’Hare International Airport.

Unlike a conventional executive jet that would have to be chartered, Lufthansa sells seats at regular business-class rates. Business-class passengers do not have to pay a premium when using the executive jet for the trans-Atlantic portion of the trip.

The most interesting aspect of these flights, however, is not so much the way they are being operated but the impact they have had on Lufthansa and its customers’ behavior. Lufthansa officials said customers have responded very positively to the new product. Over and above the sheer convenience of having nonstop service across the Atlantic, a remarkable number of passengers seem to appreciate the swift check-in procedures as well as the private and exclusive ambiance aboard the small jets.

“Fast check-in and check-out procedures, plus having a maximum of 48 passengers for a crew of four, also add to the exclusive experience,” said Katrin Haase, manager of media relations for Lufthansa.

Lufthansa said acceptance of the product exceeded expectations, and passenger feedback indicates that customers intentionally select executive jet flights.

“We have passengers who tell us that they drove up to Dusseldorf just to be able to fly on our executive jet. And with the schedules being efficiently synchronized, also transiting passengers from different markets appreciate the product.”

— Katrin Haase, manager of media relations for Lufthansa
Europe and the United States. The flights are operated under a similar wet lease agreement, and Swiss, likewise, takes on all operational responsibilities.

However, unlike Lufthansa, where the executive jet services were added, Swiss replaced an existing three-class-configuration Airbus A330 rotation with a Boeing 737 business jet — a decrease in available seats from 196 across three classes down to just 56 business-class seats. This reflects the former combined business- and first-class capacity on the route between Zurich, Switzerland, and Newark.

The airline’s focus when introducing the Newark flights was to offer an attractive and competitive business-class product.

“This flight is ideal for Basel’s chemical industry as well as Zurich’s banking sector, which have their U.S. offices in New Jersey or Manhattan [New York], both easily accessible from Newark,” said Dominik Werner, media relations officer for Swiss. “And while Swiss International targets business communities not only in the Zurich and Basel area, but also the southern parts of Germany as well as Northern Italy, passengers flying in economy on Swiss International still have the choice between daily Zurich and Geneva [Switzerland] flights into New York’s John F. Kennedy International Airport.”

Swiss also emphasizes the focus on maintaining a high and consistent level of service for its business-class-only flights.

“The PrivatAir crew is only deployed onto the Zurich-Newark rotations to ensure they are familiar with our product as well as the expectations we have,” Werner said. “Initial customer feedback is very positive, and load factors exceed our expectations.”

While Swiss and Lufthansa have experienced success with their business-class-only jet service, these services aren’t likely to expand into slot-constraint airports where airlines are already struggling with capacity.

But with customers demanding more flexible schedules, the market for executive jet services operated by traditional carriers is certainly there, and there may well be an increase of this type of service in coming years.

Marco Contento is a Europe-based account director for Sabre Airline Solutions. He can be contacted at marco/contento@sabre.com.
Dublin, Ireland-based, low-cost airline Ryanair has turned nickels and dimes into a pot of gold by luring passengers onboard with cheap ticket prices and charging them for value-added services such as food, drinks and retail products from lottery tickets to perfume.

In the nine months ended Dec. 31, Ryanair reported that ancillary revenues, including in-flight sales and other things such as car rentals and even personal loans, grew by 36 percent to €151.2 million (US$202.9 million) in the same period. This performance reflects the strong growth of non-flight scheduled revenues, car hire and ancillary products. The company told analysts that ancillary revenues continue to grow at a faster rate than passenger volume and now account for 16 percent of total revenues compared to 15 percent last year and 13 percent in 2003.

The philosophy of Ryanair’s maverick Chief Executive Officer Michael O’Leary is simple: “Our strategy is like Wal-Mart,” he told Newsweek. “We pile it high and sell it cheap.”

“Our strategy is like Wal-Mart. We pile it high and sell it cheap.”
— Michael O’Leary, Ryanair CEO

That means using small airports so planes can get back in the air in just 20 minutes. Free meals? Forget about it: Even a bottle of water sets customers back €2.24 (US$3).
**Not the Original Plan**

Airlines seeking new sources of non-ticket revenue as they battle high fuel costs and lower fares amid tough competition might wonder if it’s simply the luck of the Irish or a sound business plan that has enabled Ryanair to comfortably weather the worst-ever air transport crisis.

The answer is both.

Ryanair began in 1985 as an upstart David fighting Goliath competitor Aer Lingus flying routes to the United Kingdom and Ireland. Operating as a traditional carrier, the airline was successful in getting passengers onto planes but was losing money. Under a new management team headed by O’Leary, Ryanair re-launched in 1991 as a “low-fare/no-frills” airline, closely modeling the Southwest Airlines model.

During a nine-month period in 2004, Ryanair grew by 36 percent to €151.2 million (US$202.9 million) in ancillary revenues such as in-flight sales, car rentals and personal loans, compared to the same term the previous year. Ancillary revenues account for 16 percent of the airline’s total revenues compared to 15 percent last year and 13 percent in 2003.

The company was positioned in 1997 to take advantage when the European Union fully deregulated the air business, enabling the carrier to open new routes to continental Europe. Ryanair was at the right place at the right time when it gained entry into Stockholm, Sweden; Oslo, Norway; Paris, France; and Brussels, Belgium.

Today, Ryanair has 12 bases and 209 routes that cover 93 destinations across 19 European countries.

**Thinking Outside the Plane**

According to the airline’s Web site, Ryanair attributes its success to low fares and friendly efficient service: “And how do we do it? Superb cost management. Landing in airports that don’t rip you off. Free seats when we’re feeling generous. No frills on your flight — but we’ll sell you food, drink and gifts.”

Frills come at a price. On Ryanair, if you’re thirsty, you’ll pay €1.25 (US$1.68) for a Coke or other soft drinks. Coffee is €2 (US$2.68). Chicken, roasted vegetables and mayonnaise served in a tortilla wrap cost €5 (US$6.72).

Not hungry or thirsty? Ryanair will sell you an airport parking space or airport transfers. It will book “hen and stag” parties for you, and you can even pay for it with a Ryanair credit card. That’s thanks to the carrier’s Internet online booking site: ryanair.com, launched in 2000. Ancillary products sold on the Web site cover the gamut of travel and leisure services, including:

- Car discounts,
- Hotel discounts,
- Airport transfers,
- Airport parking,
- Activity breaks,
- Deals of the week,
- Gift vouchers.

In the 12 months ending in February, the site was visited 27,165,404 times — an obvious sales channel Ryanair isn’t shy about maximizing.

The airline is profitably engaged in what Mark Riseley, senior travel analyst with GartnerG2, calls “dynamic packaging.”

“Dynamic packaging is a business process that allows individual travel components from different suppliers such as flights, hotels and car hire to be combined online into a single package. The package price is calculated in real time by applying mark-up or discount rules to the combined components,” said Riseley. “The choice, within certain constraints, is up to the buyer, the calculation is automated and prices for the individual components are not visible, so inclusive tour rates can be applied.”

Ryanair’s Santina Doherty, the Irish low-cost carrier’s marketing and ancillary revenue chief, told reporters the airline has barely scratched the surface of what the Internet can do. And Ryanair is counting on this high-margin, low-risk revenue stream to become an even bigger contributor to its bottom line.

**Are Customers Buying It?**

Ryanair’s aggressive stance on ancillary sales doesn’t escape the attention of its passengers.

“Nothing is free on Ryanair,” said Kevin Miney, a Dublin, Ireland, resident and frequent passenger. “Absolutely nothing. Even its in-flight magazine is handed out on demand, and it is hugely focused on making money. Somebody was telling me recently they were on one of Ryanair’s flights and they saw advertising for Coca-Cola on the seat back. The company is using every means to try and market different things to try and get a few

Patricia Clark can be contacted at wearelistening@sabre.com.
IN THE BLACK

A Conversation With ...

JOE LEONARD,
CHAIRMAN AND
CHIEF EXECUTIVE OFFICER,
AIRTRAN AIRWAYS
ne of the most successful airlines during the past few years, Orlando, Florida-based AirTran Airways has become a growing force in the North American aviation industry. Since its founding in 1993, the airline has become one of the largest low-fare airlines in the United States — and one of the most profitable. For 2004, a year plagued by high fuel costs and yield pressures, the airline earned a net income of US$12.3 million. During the year, it also reported a traffic increase of 18.7 percent.

As one of the industry’s most progressive low-cost carriers, AirTran Airways has creatively pursued ways to protect its revenue as well as find additional income streams. Although it is a low-cost carrier, AirTran Airways actively pursues business travelers. The carrier, unlike many of its low-cost peers, offers assigned seating and a business-class cabin. It has also installed XM Satellite Radio on its aircraft, providing free access to 100 digital channels. The airline recently launched a campaign featuring famous British pop singer Elton John to promote its XM Satellite Radio. Last June, AirTran Airways announced a major enhancement to its frequent flyer program, A+ Rewards, offering its top passengers the opportunity to redeem rewards to any destination in the world — even if AirTran Airways had to purchase a ticket on another airline.

In its pursuit of additional revenue opportunities, the airline has even broken away from the single fleet type. In July 2003, AirTran Airways, which is the single largest operator of the Boeing 717-200, announced an order for 100 Boeing 737-700s to compete more vigorously in longer-haul and transcontinental U.S. markets.

The airline, which operates a hub at the Hartsfield-Jackson Atlanta International Airport where it is the second largest carrier trailing only Delta Air Lines, has also begun expanding in other markets such as Dallas/Fort Worth, Texas.

Combined, the various programs the airline has implemented have helped it achieve positive results. During the past five years, AirTran Airways has increased the number of passengers enplaned by 80 percent, to 11.65 million. During the same period, the airline realized an increase in total revenue of 75.5 percent, to US$918 million. The airline has also increased its route network from 30 to 46 destinations since 1999.

Since 1999, the award-winning airline, which has been honored by Entrepreneur Magazine and Aviation Week and Space Technology, has been led by industry veteran Joe Leonard. Leonard, with 30 years of experience in commercial air transport, previously was chief operating officer at Eastern Air Lines and held management positions at American Airlines, Northwest Airlines and Boeing. The Augusta, Georgia, native recently shared his thoughts on how his airline has become one of the most successful in the industry.

Question: We know 2004 was a pretty tough year for the airline industry, especially North America. But you were still profitable. How were you able to enjoy a profit even during a very tough year?

Answer: Well, I think a couple things, but the primary key is keeping our costs low. We have managed to bring our non-fuel costs down 12 consecutive quarters to one of the lowest in the industry. Actually, our non-fuel costs are lower than Southwest’s at this point — somebody we benchmark against regularly. So it starts there, and then we’ve got a great product. You can’t have just low costs. You’ve got to have a good product. We have that. Our completion factor is good. Our bag numbers are the best in the industry, literally. Our people are terrific — very nice, very friendly service. Our brand new airplanes help a tremendous amount — first, by improving our efficiency, and second, the impression that it makes on our customers.

We spent extra money to put in wide-body bins so that we have the biggest bins available. We have them in our airplanes so people don’t need to check baggage as much as they do on some others. It’s just a whole package. In a word, it’s value — a great product at very low prices.

Q: You touched on something by mentioning value. You’ve been very innovative, and you deviate somewhat from the pure low-cost carrier model that Southwest pioneered, offering things such as a business class and assigned seating. How do you think that helps generate revenue?

A: We think it helps a great deal. It certainly helps with the impression of the company. You know, we’re kind of counterintuitive. We do everything that people say you can’t do. We do have business class. We have assigned seating. We run a classic hub-and-spoke out of Atlanta. So we do a lot of things that people say you can’t do and have low costs. But we do it. And, I think if you look at our research, it shows that 87 percent of the people who fly
“Our bag numbers are the best in the industry, literally. We have the biggest bins available... people don't need to check baggage as much... In a word, it’s value...”
We have the youngest Boeing fleet in America, and it's getting younger as we take brand new 737s at a pretty rapid clip.”
us are either likely or highly likely to fly us again. So if we can get people to try us, we don’t have any trouble getting them to come back, generally speaking.

Q: We wanted to talk a little bit about your frequent flyer program, the enhancements you’ve made allowing customers to fly anywhere in the world. How has this helped you retain your high-yielding customers and offset the cost of the program?

A: It was decided a long time ago that one of the limitations of our frequent flyer program was that we had a fairly limited network at that time. Today, we have a pretty extensive network in that we have 46 cities that we serve. But there are still places we don’t serve that people would like to go to. So to make our frequent flyer program attractive, it was decided some time ago that if we didn’t go there, we’d buy you a ticket on somebody else. And this past year, we decided to, because it was working and was reaching the objective that we had set out, expand it by taking you anywhere in the world, not just the U.S. system. We think it will pay off for us. Again, we don’t have any intention of flying internationally any time soon. This is a way for people who would like to go international to do so using their AirTran Airways frequent flyer program.

Q: You mentioned earlier that you’ve broken the rules so to speak and that you’re doing things that people say you can’t do and be successful. How are you able to do that? How are you able to run a hub system profitably? How are you able to do things that some say low-cost carriers can’t do and do them successfully?

A: It starts with the principle of keeping things as simple as possible. We work diligently every single day to make sure we keep our systems as simple as we possibly can. There’s a lot of hubbub these days about rolling complexes or continuous-flow complexes at the hubs. We’ve been doing that since the first day of the company, so this is nothing new for us; it’s something we’ve always done. We bring the airplanes in, drop the folks off, pick up a new load and the airplane goes out.

In addition to that, about 30 percent of our flying is point to point now. It used to be 98 percent of our flying was in and out of Atlanta. Today, it’s only about 70 percent. By flying point to point in conjunction with the hub, you can get your utilization up over 11 hours a day. And right now, they’re flying at about 11.1. We think we can get utilization up to about 11.5 hours per day per aircraft. And so that’s one way that you can provide revenue enhancements of a hub-and-spoke, which are definitely there, but also get the utilization of a point-to-point carrier.

Q: Another exciting thing you have done is installed XM Satellite Radio. Although it’s a complimentary amenity, how do you see that contributing to the bottom line?

A: We think XM radio is the future. You can’t buy a new car hardly without getting satellite radio in it. We think, obviously, XM is the best. We think it will be great for us. They’re going to have sports and over 100 channels of music and news and that sort of thing. We looked at video. We just don’t think video works for us because our stage length is an average of about an hour and a half, so you’re not going to watch a movie in that time. And, we think XM radio is a good alternative to that. We’re going to give it away. We think it’s an amenity that people will like. We don’t see the point in charging them for it. Obviously, we’re very excited about the launch with Elton John. I just saw one of the latest airplanes taxi past my window about 10 minutes ago with Elton’s profile

AirTran Airways, with the help of legendary musician Elton John, raised the bar on customer amenities when it launched XM Satellite Radio programming. As part of the initiative, the airline painted a rendering of Elton John on more than 20 Boeing 717s and donated US$50,000 to the Elton John AIDS Foundation.

Photo courtesy AirTran Airways
picture on the side and XM radio on board the airplane. So, we’re pretty excited about that. We’ll have the whole fleet up and running by this summer.

Q: Do you think that’s one of those things that breeds customer satisfaction and keeps them coming back to your airline when there’s a choice?
A: Oh, without a doubt. I definitely believe it further enhances the experience. There’s a certain segment of people who believe if you’re flying low fare you’re not going to have any amenities. So to the extent that we offer more than people expect, we exceed their expectations. We think that’s a real plus for us. And complimentary XM radio will be just one more element of exceeding the customer’s expectation, we believe.

Q: Are you considering other options such as buy-on-board programs to generate revenue?
A: Not really at this point. We don’t look at XM radio as far as a revenue producer. We view that as a customer enhancement. But we look at everything from time to time. But again, we get back to our basic principle of keeping things as simple as we possibly can. So unless there is a compelling reason to do something, we generally reject it. So again, we keep things as simple as we possibly can.

Q: You referred earlier to your fleet. Specifically, you are the largest single operator of the Boeing 717. What kind of benefits does that have? Does having modern aircraft differentiate you, and do you think that helps attract passengers?
A: I don’t think there’s any question about it. The number of comments that we get about the new airplane is just phenomenal. We have the youngest Boeing fleet in America, and it’s getting younger as we take brand new 737s at a pretty rapid clip. We’ll take 19 airplanes this year. So our average fleet age is actually very, very low and going lower rather than getting higher. The 717 was a remarkable transformation from the DC-9.

They’re all brand new. They’ve got state-of-the-art cockpits, auto-land capability, built with extra wide bins so you can store your bags, clean fresh air. It’s the only airplane flying today that has continuous flow fresh air. And it’s got a number of enhancements. Then on the business side, it burns 23 percent less fuel than the DC-9s that they replaced — so very fuel efficient, very modern, state-of-the-art airplane encased in a structure that’s proven to be truly remarkable over a number of years with the Douglas manufacturing techniques.

Q: You also talked about adding the Boeing 737. What other revenue opportunities does this create for you?
A: Well, the 737 does a good deal for us. Again, from an efficiency standpoint, the 737 actually burns less fuel than a 717, believe it or not. On absolute terms, it burns less fuel. It has the same complement of flight attendants and pilots, a five-person crew, with 20 additional seats. From an efficiency standpoint, it will help drive down our non-fuel unit costs, around 3 percent to 5 percent in 2005. From a capability standpoint, the 737 has far more range than the 717, and so it opens up the entire continental North America. We can go from any two points, one point in North America to another point in North America, nonstop without exception. What we really get out of the airplane is an enormous amount of range increase and 20 additional seats.

Q: You talk about your mantra of keeping it simple. And one of the rules of the low-cost fare segment is a single fleet type. Do you think the opportunities of having the 737 are going to be more than offset the added costs of the second fleet type?
A: We’ve always had two fleet types since I’ve been here since 1999. There’s actually one point where we had three fleet types — 737, 717 and DC-9s. So we don’t see that as a big deal. I think it’s overstated a bit. And even Southwest, from a practical standpoint, has more than one fleet type. They’re not as pure as it may look because there are 737s, and then there are 737s. The real thing is do you have a fleet big enough to make sure your pilot utilization is efficient, and we clearly believe that we’re in very good shape in that regard.

One of the things that we have here at AirTran Airways that most of the airlines do not have is that as part of our pilot agreement, our pilots make the same amount whether they fly 717s or 737s. There is no reason for pilots to move from airplane to airplane to chase higher income, which is what they do at a lot of the legacy carriers. So in that regard, we solve that problem by having a composite pay rate, so when we hire somebody off the street, they may go to a 717 or they may go to a 737, depending on what our needs are at that particular time.

Q: You’ve expanded service in areas such as Dallas/Fort Worth, breaking out a little bit of your Atlanta hub. Do you anticipate further expansion in markets outside Atlanta? And how does this play into your future strategy?
A: We’ll continue to grow outside of Atlanta. Like I said earlier, in 1999, 98 percent of our flights were to and from Atlanta. And while we’ve grown Atlanta substantially bigger today than it was back in 1999, today only 70 percent of our flights are to and from Atlanta, so we’ll continue to grow there. It’s a huge market. Atlanta is one of the very few airports in the country where there’s going to be a substantial improvement in capacity. A new runway comes online next year, which will be about a 20 percent improvement in airport capacity. There are also plans to add additional
There’s a certain segment of people who believe if you’re flying low fare you’re not going to have any amenities. So to the extent that we offer more than people expect, we exceed their expectations.”
gates down the road. So Atlanta is one of the few airports where you could actually grow. And we intend to grow Atlanta. But by the same token, we’ll go outside of Atlanta as well, as part of our diversification efforts.

Q: What role will technology play in helping maintain or generate revenue for your airline?
A: Considerable. We book about 65 percent of our tickets on the Internet. And to put that in comparison, we just turned our Internet site on in August 1998. So we’ve gone from zero in January of ’99 to about 65 percent today. The most recent numbers in January, we had about 53 percent of our passengers either checked in over the Internet or using kiosk technology at the airport. So this is permitting us to grow at a very rapid rate as we’ve been doing without adding a commensurate number of personnel to handle customers. We see that as we improve the functionality of our technology, we’ll see those numbers rising significantly. Obviously, if you’re selling 65 percent of your tickets on the Internet, you have a clientele that is already predisposed to using technology. We think we’re in very good stead there.

Q: Are there areas where you think technology can be a benefit?
A: I think we’ve addressed most of them. Both our 737s and some of the 717s are auto-land capable, which if you’re familiar with Atlanta, you know you get fog in the spring and fall, so we’ll be able to get in and land when other carriers may not be able to do so. That’s clearly a technology advantage with the capability of the airplanes that we purchased. We are equipping all of our fleet now with ACARS equipment, which is not new technology per se, but we think that in the very near future with some of the air traffic control initiatives, if you have ACARS, you’ll get some means of communicating with the airplane not using voice — that you’ll get some preference with air traffic control routing.

And so we’re equipping our aircraft with ACARS today to be ready for when those capabilities come online with air traffic control. I think from a safety standpoint, we have introduced a program called FOQA where we download data from our airplanes on a fairly extensive sampling basis, and it gives us the ability to look for trends and to identify deviations from the norm very, very early. I think this is a huge step forward in enhancement of safety, which we’ve incorporated across the board at AirTran Airways.

Q: We talked about how AirTran Airways, in particular, has helped break some of the rules of the low-cost carrier business model. How do you see that business model continuing to evolve? What kind of impacts do you think it will have on the airline industry as a whole?
A: We’ll continue to do what we’ve been doing, growing at about 20 percent per year, which we think is very manageable. And that is measured in available seat miles. We’ll do that by growing our hub in Atlanta first, adding frequencies to cities that we already serve out of Atlanta. So that’s No. 1. No. 2, we’ll connect the dots, i.e. fly from cities we already serve to other cities that we already serve. And lastly, we’ll add some additional cities.

Last year, we didn’t open any new cities at all. We normally open three to five. We’ve already announced three this year: Sarasota [Florida], which we’re operating; Indianapolis [Indiana]; and, most recently, Charlotte [North Carolina]. We’ll probably announce a fourth one in the not too distant future, and we’ll probably announce one or two toward the latter part of the year. So this year, we’ll open more cities than normal. I think we’ll continue to provide new equipment very efficiently in the manner that I’ve just described. And I think as more and more people hear about us and know about us and try us, our research shows that we have no problem getting people to come back.

The other thing I would say about the new airplanes is the built-in fuel hedge they give you. We operate the most fuel-efficient airplanes in the categories that we operate. When we put our 737 new generation up against a 737-200, it’s going to burn about 23 percent to 24 percent less fuel. When we put our 717 up against a 737 or an MD-80 or a comparable airplane, it’s going to burn about 23 percent less fuel than the older airplanes. So with fuel prices hovering around US$50 a barrel, we have a significant advantage over our competitors in that all of our airplanes are brand new and, by definition, burn less fuel than a significant portion of our competitors’ fleet.

Q: Do you see low-cost carriers continuing to grab market share? Do you think that will force the consolidation that some people have claimed is necessary in the airline industry?
A: I don’t know if it’s low-cost carriers per se. There’s really too much capacity in the system. To me, it makes sense for companies like us that are profitable to continue to grow. What doesn’t make sense are for companies that are losing enormous amounts of money, hundreds of millions of dollars a year, to continue to grow. This is one of the very few industries you’d see that happen.

I do believe there will be consolidation at the legacy end of the industry and probably at the lower-cost portion of the industry. That consolidation is taking much longer than it should because some of the weak carriers keep getting propped up either by the government or other interested parties. But eventually, something has got to give. You can’t keep flying and losing US$5 billion a year or more year after year after year. So at some point, there will be a shake out, either through consolidation or failure or some other mechanism. I can’t predict how that’s going to happen. But it has to happen.

Q: You talked about consolidation maybe in the low-cost carrier sector. As low-cost airlines such as yourself continue to expand, do you think increased competition is going to cause you to bump up against each other and affect your ability to remain profitable?
A: No, I don’t. First of all, we bump up against each other already and have been for a long time. So that’s nothing new. If you look at the overlap in route structures, all the low-cost carriers pretty much bump up against a significant portion of the rest of the industry. So that’s already been occurring for some period of time. As long as we keep our costs low, I think we can grow and do so profitably. So I’m not too much concerned with that, but at some point, you need a little more real estate or different real estate or whatever that tends to drive these consolidations. We’ll see how that plays out.

Q: We talked about how AirTran Airways was profitable even in the tough year of 2004. But the industry still suffered from low yields and cost pressures. And you probably would have liked to have been more profitable if you could have been. What do you think will be required to return the airline industry to full health where you’re seeing the kind of profits that you would like to achieve?
A: It’s going to take a shake out. It’s going to take some capacity to be taken out of the industry. And management of the various airlines have proven that they don’t have the discipline to do that. My guess is it’s going to require some failures in order to get the supply and demand balance back in some proper alignment. But that’s going to take a significant amount of time in all likelihood.
In the critical pursuit for revenue growth and cost containment, many airlines have overlooked one of the most attractive available sources of revenue expansion: a low-risk, high-reward revenue integrity strategy (see related article on page 29). A broad organizational focus on stemming revenue leakage can yield revenue improvements and cost reductions with minimal investment.

What exactly is revenue integrity? Also known as flight firming, it ensures that passengers travel within the conditions applied to their ticket. By identifying and eliminating non-revenue generating bookings, airlines obtain a truer picture of their available inventory closer to departure and are able to take appropriate measures to convert unsold inventory into revenue-producing inventory.

Manually identifying and enforcing ticketing time limits, handling passive segments, and duplicating segments and passenger name records can be fairly inefficient and cost prohibitive for many carriers. A successful revenue integrity program must consist of implementing automated tools and constantly monitoring reservations activity for compliance with policy across all distribution channels, with appropriate follow up in a timely manner. Sabre Airline Solutions’ recent acquisition of Lanyon Digital Queue enhances its portfolio with an end-to-end flexible and highly effective solution for revenue integrity management, rapid creation of robotic processes, and data consistency and accuracy assurance across multiple global distribution systems. Sabre Airline Solutions has created three product offerings based on the Lanyon Digital Queue platform:

- **Sabre™ SmartFlow™ tool kit** — A new-generation software technology for the rapid creation of robotic processes that interfaces with global distribution systems, airline reservations systems, databases, e-mail servers and Web services. Processes within the SmartFlow tool kit are created in a graphical environment using familiar point-and-click and drag-and-drop actions, and the tool kit enables carriers to create processes faster and more intuitively than any other offering in the industry. Airlines utilize the tool kit to enhance waitlist management, passenger reaccommodation, disruption management notification and down-line segment cancellation.

- **SabreSonic™ Revenue Integrity** — A solution that helps airlines optimize their overall revenue per flight, which focuses on eight predefined processes including ticketing time-limit enforcement, duplicate segment cancellation, duplicate PNR cancellation, passive segment cancellation, fictitious bookings, fictitious ticket numbers, restricted credit cards and restricted passengers.

- **SabreSonic™ GDS Analysis** — Technology that enables airlines to evaluate fares and other data on the GDS to ensure consistency and data integrity with the actual fares attached to their inventory on their host reservations system. By identifying erroneous information and correcting it in the GDS, carriers can prevent unnecessary credit memos, customer dissatisfaction and negative agency relationships.

An effective, consistent revenue integrity program enhances customer satisfaction by increasing passenger access to seats. It also lowers costs. For example, a typical airline meal costs between US$7 and US$30, depending on the cabin booked. Meals are catered based on the booked load so no shows often result in over-catered services.
Matching resources to more accurate demand can significantly reduce customer service costs. In addition, a well-managed revenue integrity program improves forecasting and scheduling. Over-forecasting is reduced, improving seat factors and revenues. Capacity can be better matched to demand either through an ad hoc schedule change approach or by changing components of a future schedule such as capacity, frequency, routing or product.

There are several examples illustrating the return on investment from a sound revenue integrity program.

**Airline Revenue Integrity Group**
The Airline Revenue Integrity Group, or ARIG, was established as a forum for airlines that utilized revenue integrity or were interested in implementing a revenue integrity department within their revenue management and distribution areas to share best practices and ideas. Since ARIG’s inception in 1998, participation has grown from seven to 30 airlines worldwide including British Airways, Air Canada, Alaska Airlines and Air France.

“Actions should always be taken at the same point in the booking cycle on all flights or not at all,” said Paul Rose, founder of ARIG and an airline revenue management consultant specializing in revenue integrity. “Airlines will succeed by automating revenue integrity processes and applying them consistently.”

Increasingly, airlines are finding in the current business climate that new business is hard to acquire, or in some markets, business is actually declining due to new low-cost entrants. Therefore, in order to maintain profitability, compete with new entrants or even simply survive, traditional carriers place a strong emphasis on controlling costs.

Well-established revenue integrity practices supply the ideal solution to reduce GDS costs, which are considerable for most carriers. Revenue integrity also increases seat availability, reduces no shows and late cancellations, which all result in unnecessary costs and lost revenues for airlines. Carriers that have implemented revenue integrity solutions have typically seen immediate beneficial results, typically producing a 1 percent revenue improvement. Yet, costs of implementing a revenue integrity solution are extremely low, thus offering an instant and high return on investment.

When considering a revenue integrity program, airlines often need to be convinced that they will receive a worthwhile return on their investment.

“Several of the leading airline proponents of revenue integrity programs have achieved more than US$75 million per annum in measurable benefits for an annual investment of less than US$790,000,” Rose said.

**British Airways**
British Airways, the first airline to utilize the SmartFlow tool kit, has been leading industry proponents of revenue integrity practices.

“We are delighted with what we have been able to achieve; our automated tool (the SmartFlow tool kit) has far exceeded our initial expectations,” said Paul Reynolds, revenue integrity team manager for British Airways. “We believe it is the best of breed in robotic revenue integrity software.

“Our primary use of the tool has been to automatically search through PNRs and apply a time limit when the agent must issue a ticket for that booking. If the booking has not been ticketed when the time limit has passed, we use the robot to cancel the booking. The benefits of this tool are immense, tens of millions of pounds annually, and are based on recovering what would have been a wasted seat on a full flight and allowing a genuine sale to take its place. This also allows us to reduce the extent of overbooking as we have increased the certainty of our demand forecasting. Our customers also get great benefit as they are able to get a seat on a full flight that otherwise would have been denied to them.”

The SmartFlow tool kit enables airline analysts to write the processes themselves, combining excellence in core software functionality with the business knowledge of industry experts.

“This has allowed us to expand our use of the SmartFlow tool kit in the revenue integrity field,” Reynolds said. “We use it to identify discrepancies between the schedule we are planning to operate and the schedule currently displayed in the GDS, thus avoiding the risk of serving the wrong schedule. The user-friendly nature of the product means we have some very sophisticated, but highly personalized processes tailored to the demands of individual markets and even market segments within countries.”

British Airways has recently expanded its use of the tool kit to include the field of managing contact with the customer during operational disruptions. It can trawl through the list of bookings and then e-mail or text message passengers, informing them of the flight delay or cancellation.

“The SmartFlow tool kit was designed as a PNR processing tool, but we have used it as a very effective workflow management tool, leading to significant time savings for our busy staff,” Reynolds continued.

Sabre Airline Solutions’ revenue integrity solutions help airlines achieve value in five key areas:

- Detecting and optimizing less profitable bookings,
- Reducing and normalizing overbooking,
- Eliminating inventory spoilage,
- Ensuring fares/availability consistency across GDSs,
- Improving forecasting and scheduling.

More than 200 airlines around the world rely on Sabre Airline Solutions for advanced decision-support tools that help increase revenues and improve operations. Implementing an effective revenue integrity program supported by industry-leading technology will position airlines for long-term success.

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**Availability discrepancy is one of several modules offered in GDS Analysis, a solution that helps airlines evaluate fare and other data to ensure consistency and data integrity.**
Airlines constantly face the need to remain competitive and profitable. Today, a vital aspect of an airline’s success depends on its ability to predict and react to competitors’ fare actions. Even the most experienced pricing analysts are challenged by the task of fares management. They must analyze and respond to millions of published and negotiated fares in addition to the hundreds of millions of constructed fares distributed by airlines around the globe.

Fares management addresses a carrier’s fares in relationship to those of its competitors. Each fare falls into one of five categories based on the assumption of a fare product, which is defined by specific criteria such as passenger type, advanced purchase, minimum stay requirements, seasonality, and midweek/weekend or peak/off-peak assignment. These categories include:

- Market share condition — A carrier has a higher fare than its competitor for the same set of governing conditions, indicating that the carrier will lose some amount of market share by offering the service at a premium. This particular case does not reflect adjustments in the price; however, theoretically, increasing market share could dilute the amount obtained from existing passengers.

- Revenue gain condition — A carrier has placed an identical product below the competition to obtain the destination as the low-cost leader for the product combination. The assumption is that it is possible to maintain the title of low-cost leadership while decreasing the gap between the carrier and its competition. In making the adjustment, the airline retains its leadership position, but it gains the same amount of passengers at a slightly higher price resulting in higher revenues per passenger.

- Leadership condition — A carrier is the initiator of a fare increase in a particular market. When the leadership condition is observed consistently, there exists an opportunity to drive the price with the expectation that the competition will follow, generating a higher revenue per passenger for the lead carrier while maintaining the same market share split that was observed at the lower price.

- Reactive response — A carrier reacts to its competitors’ fare changes; however, the intent is to minimize the amount of time the carrier strays from its strategy and is left in one of the first two conditions for an inappropriate amount of time.

- No matching product condition — An airline offers a product that is not offered by its competition. While this is not inherently bad, the over differentiation of products has a tendency to dilute the carrier’s other product offerings, reducing its net revenue.

A Fare Reaction

A methodical fares management strategy supported by state-of-the-art technology provides the perfect balance to effectively predict and react to competitors’ fare actions.

By Bryan McVicker | Ascend Contributor

Fare Match Reaction: Europe — United States

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<th>Prior to implementing the AirPrice system</th>
<th>Matched longer than one day 10%</th>
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<tr>
<td>Matched within one day 17%</td>
<td>Matched within one day 83%</td>
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<table>
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<tr>
<th>After implementing the AirPrice system</th>
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<td>Matched longer than one day 90%</td>
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A carrier using the AirPrice system can increase the number of fares it is able to match within a day from 17 percent to 90 percent. This validates the reaction time component of the AirPrice system, enabling the carrier to identify changes in the competitive landscape and consistently implement individual market strategies.
The five conditions can be compared with traffic in particular markets to identify potential revenue gains. Using innovative pricing technology, the conditions can be identified and acted upon, each in its own way, to minimize the losses that would occur if the condition was left unaltered. Without an automated system to process the large volumes of data, a carrier would find it impossible to monitor all of its market and individual product offerings.

Adopting a comprehensive pricing approach can help airlines effectively manage fares information in a competitive and timely manner. The Sabre® AirPrice® fares management system offers power and flexibility in fares management, competitor analysis and the reporting capabilities that an airline needs to be competitive and profitable. The system, which assists with decision-support capabilities as well as quickly and efficiently implements changes to reduce losses in time-to-market conditions, is based on the concept that speed to market drives revenues for pricing.

Aligned with a carrier’s business process and strategic and tactical business plans, the AirPrice system helps airlines implement fare changes and swiftly react to competition. The system’s dynamic data query tools help airlines examine relative market data — including competitors’ changes — to rapidly implement a solution. It delivers the advanced technology and automated functionality necessary to effectively analyze the volume of fares information available today.

Depending on an airline’s needs, the system can be implemented onsite and managed by an airline’s own data center and personnel, or it can be delivered through Sabre® eMergo® Web access, an application service provider delivery method.

Effective use of an automated pricing system is expected to increase revenues by 1 percent. Utilizing the AirPrice system in a competitive fares environment generally achieves a 1.5 percent revenue increase.

The ability to create a strategy, implement it in a decision-support application, and monitor and react to competition is critical. The AirPrice system addresses all channels carriers utilize to get their product to the consumer, storing published, private, Internet and agency agreement data for comprehensive analysis. Without the holistic value of this type of advanced technology, carriers are relegated to trying to effectively manage only a portion of their products, in the end, leaving money on the table.

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+count it up

7,932,003 — Number of flight plans generated annually via the Sabre® Dispatch Manager.
Time is Money

As the old adage goes, “time is money.” Of all the resources available today, time is probably the most precious, which is evident by the focus many people put on almost every facet of their daily lives. There are endless short cuts people take to salvage a few minutes here and there — ordering fast food to avoid the preparation time of a home-cooked meal, banking online to save a trip to the bank, telecommuting so countless minutes each day aren’t spent sitting in traffic.

Time is especially critical for airlines. For example, many carriers measure the productivity of their reservations staff in minutes spent per call — the fewer minutes for each call, the more productive the agent (assuming a good sales closure ratio). At the airport, an airline’s daily on-time performance is also judged in minutes. In the air, aircraft utilization is gauged by the amount of time spent flying. All of these measurements have the same conclusion — time is money. Successful airlines and travel-related companies spend their time wisely, retaining satisfied customers and contributing to a profitable bottom line.

This premise is equally applicable to passengers and airports. A recent report from J.D. Power and Associates said, “Time is a prime commodity in the travel industry, and it’s a major factor in influencing customer satisfaction.”

Airlines have invested millions of dollars in a multitude of time-saving technologies. These technologies are not only designed to save the airline time (as measured by airline employee effort), but they are also intended to save time for passengers with options such as online booking, e-mail messaging and express check in, all designed to optimize resources, facilitate improved communications and deliver value for both the airline and its customers.

While technology is helping the airline industry evolve, airports are striving to keep pace with the carriers they support. Today’s airports look much different from the airports of the 1980s and 1990s. Gone are the open spaces, large check-in and ticketing areas, and hordes of airport staff ready to provide premium service to passengers. The wide, open spaces have been converted to restaurants and retail shopping areas as airports seek to increase revenue. The large check-in and ticketing areas have been reduced as airlines decrease staff and deploy machines to perform self check in.

Airports and the processes associated with airport activity represent one avenue that airlines have used to differentiate their products from their competitors. The check-in process has the greatest impact on overall customer satisfaction with an airline, and a satisfied passenger is a repeat passenger. As airports continue to decrease the control and space available to airlines, it behooves airlines to invest in express check-in technology and processes to ensure that the passenger check-in process is simple, convenient and, most importantly, time saving.

Express Check In
A large variety of express check-in alternatives have been deployed during the past 10 to 15 years. One of the first options was curbside check in. Popular in the United States, curbside enables passengers to check in away from the airport terminal, receive a boarding entitlement and bag tags, and enter the airport unencumbered by baggage.

Another express check-in option is Internet check-in where passengers can check in for flights from the convenience of a home or office location, select a seat and
print a boarding pass without standing in an airport queue. Internet check in has experienced the most dramatic usage growth, increasing by more than 400 percent in the past two years among both business and leisure travelers.

Additionally, self-service kiosks have revolutionized the way that airlines operate an airport environment. The trend to deploy self-service kiosk technology has rapidly accelerated since the late 1990s and most major U.S- and European-based airlines already have a significant install base. Some airlines are already planning deployment of a second generation of hardware and software. And the trend is spreading to Asia where major carriers are beginning to deploy kiosks and other self-service technology.

**Benefits of Express Check-in Technology**

Why embark on an express check-in strategy? Two fundamental reasons:

- It saves the passenger time. Customer service improvements such as reducing check-in lines, improving handling of irregular operations and automating service recovery processes all help increase passenger satisfaction.
- It saves the airline time and money. Cost savings, primarily through reduced check-in staff requirement as well as reduced airport space needs, translates into lower airport operational costs.

These reasons alone are typically enough to justify proceeding down the express check-in path. But as technology evolves, there will be other benefits provided by express check in, including increased revenue opportunities for airlines. With the proliferation of kiosks and integration of customer relationship management data, the capability to target and sell additional services to passengers at various touch points is now a reality. Airlines already offer and sell upgrades at the kiosk. Soon, it will not be uncommon to purchase and pay at a kiosk for various types of in-flight services, such as meals and entertainment, and destination-specific services, such as limo or event tickets. The up-sell opportunities for airlines are only limited by the airline’s creativity and success in partnering with other companies to offer a plethora of travel-related services.

**Express Check-in Utilization**

With all of the benefits and cost savings associated with express check in, why don’t more passengers take advantage of it when it’s available? According to a recent J.D. Power and Associates report, almost 60 percent of passengers continue to check in at the main counter, even though an express check-in option is available. Passengers that check in using an express check-in methodology consistently report an overall satisfaction score that is higher than non-users of express check-in options.

The explanation for the higher satisfaction score can be assumed that passengers feel they have more control over the process or that their time is more effectively managed and, therefore, saved or preserved. Conversely, the rationale behind some passengers not taking advantage of express check in can be intuitively narrowed down to one of two things: either they don’t know about the option or they are uncomfortable using it.

In either case, airlines can certainly help influence passengers’ behavior in a number of positive ways. First, an airline must make the commitment to an express check-in strategy. Deploying staff, making technology investments and modifying business procedures are all part of the transformation. Second, an airline must market and sell its express check-in capability. Communications campaigns, marketing the convenience of express check in and motivating passengers to use it, are effective approaches to consider and plan.

Fortunately, regardless of the “marketing” approach, a strong adoption of express check in by the passenger base of a determined airline is almost guaranteed. For instance, one North American airline saw that more than 30 percent of passengers from its home airport were utilizing Internet check in after just three months. A U.S. major airline realizes more than 12,000 check ins per day with its online check-in tool. For another medium-sized U.S. airline, more than 75 percent of its passengers utilized one of three express check-in options for the airline’s hub airport after just six months.

**Looking Ahead**

Industry analysts project that in three to five years, 80 percent of all airlines’ check-in transactions worldwide will be via express check in. That is a monumental goal to achieve, but one that is being pursued diligently as airlines seek to improve service and cut costs. While the extension of express check in to include marketing and sales of other services is not fully known, it is expected to be a significant source of revenue in the coming years.

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Seat inventory is the treasured asset of an airline that, if managed effectively, can generate significant incremental revenues and make the difference between profit and loss. In a price-competitive environment, airlines are investing in improving their revenue management capabilities, which, depending on the carrier, could help increase annual revenues by 2 percent to 8 percent, and in some cases, even more.

Revenue management determines the optimal mix of short-, medium- and long-haul passengers in an airline route network by selling the right seat to the right customer at the right price at the right time to maximize system-wide revenues and profitability.

The service requested by a passenger determines reservation availability. The level of detail reservations requests can be controlled on a reservations system enhances the value of revenue management. Traditional revenue management techniques have relied on nested inventory controls by leg or segment on an airline’s host reservations system. By adding sophistication in how inventory is controlled, some airlines have since migrated to more advanced inventory control techniques such as virtual nesting and continuous nesting controls.

The ability to customize real-time inventory control requirements quickly based on the business requirements of an airline is paramount to the success of revenue management. Current legacy mainframe systems and even open-systems solutions provided by several vendors do not offer the flexibility to efficiently modify the inventory control structure as an airline transforms its business model to adjust to competitive landscape changes. The ability to adopt alternate inventory control techniques as the business model changes has become a requirement for an airline to remain competitive and is considered a necessity rather than a luxury.

## Integrated Planning and Execution Environment

The advanced planning environment consists of the Sabre® AirMax® Revenue Manager, the Sabre® AirMax® Group Manager and the Sabre® AirPrice™ fares management system. These advanced planning systems process a large amount of data and Revenue Manager sends the optimal inventory controls to the Inventory component for real-time processing of availability and sell transactions from travel agencies and other booking sources such as airport and city ticket offices.
During the current online era, airline distribution faces an availability crisis. Price-conscious consumers shop for travel, which has resulted in an exponential growth in availability requests relative to bookings. Trends indicate that online bookings will exceed 20 percent of total bookings this year. The growth in availability transactions has resulted in online look-to-book ratios in the 100 to 1,200 range. With the exponential growth in consumer shopping, some legacy host reservations systems cannot cost-effectively scale to meet future shopping needs. For example, a seamless availability transaction that originates in a global distribution system must query the reservations system’s inventory for true last-seat availability, implying that the reservations system should support a growing transaction volume, which may not be feasible.

SabreSonic™Inventory, a key component of the SabreSonic™Passenger Solutions, addresses an airline’s need for sophisticated inventory controls influenced by revenue management and also solves a distribution problem with real-time last-seat availability in a high look-to-book ratio from online channels. The Inventory component was developed as part of Sabre Airline Solutions’ overarching strategy to migrate reservations processing from the legacy transaction processing facility, or TPF, environment to an open-systems technology platform. With open-systems architecture that scales linearly with the transaction volume to be processed on commodity hardware, the Inventory component guarantees that the cost of processing availability transactions for airlines that may or may not be hosted in SabreSonic™Res will be significantly lower than current costs. The Inventory component, a satellite processor for availability and sell/cancel processing, serves as the system of record for an airline’s inventory. For availability processing, it serves as a front end to an airline’s reservations system and takes over the shopping load. For sell/cancel processing, the component serves as a satellite processor attached to an airlines reservations system to enhance its network revenues by providing the most flexible and sophisticated inventory control options in the industry.

Schedule change and passenger name record processing remain in an airline’s reservations system. Ad hoc and standard schedule change messages generated by a reservations system are processed by the Inventory component to keep the two systems in sync at all times. The Inventory component offers several major differentiators and benefits for an airline.

**Flexibility**

It gives an airline the flexibility to adopt the pertinent inventory control structure based on business requirements to manage seat inventory with the most comprehensive library of inventory controls ranging from traditional leg- and segment-based nested controls to the more sophisticated controls required for origin-and-destination inventory controls.

The objective of a nested inventory control structure is to ensure that a lower-valued class in the nested hierarchy is not available for sale when a higher-valued class is closed for sale. Nested inventory controls can be applied at a flight-leg or flight-segment level of detail. The Inventory component supports 26 booking class codes and cabin designators established by the International Air Transport Association for dissemination to global distribution systems. All variations of nested controls by booking class such as serial, parallel and mixed nesting controls are supported by the compo. In addition, segment limits, segment close indicators and minimum/maximum controls are also supported.

The component provides several options for O&D control such as static virtual nesting, dynamic virtual nesting and continuous nesting controls with the bid price curve. Based on an airline’s business need, different types of inventory controls can be used across the network. For example, a network carrier may decide to adopt multiple serial nesting controls on its feeder short-haul segments and bid price controls on long-haul segments. Flexibility in adopting alternate inventory controls as the business model evolves is a key element that is not available with traditional inventory control systems. The component also supports the generation of availability status, or AVS/AVN, messages for distribution to GDSs.

**Adaptability**

The Inventory component’s open-systems architecture ensures that the time to market for new inventory control strategies requested by an airline can be accomplished in a fraction of the time required for development and testing on traditional mainframe environments. Several network airlines, for example, have a need to modify their existing inventory control structure to support a coexistence strategy in markets where they compete with low-cost carriers. The modifications required to support restriction-free pricing controls can be provided quickly to accommodate current market conditions.

**Point-of-Sale Controls**

Advanced point-of-sale controls support the effective control of published tariffs and off-tariff fares at multiple levels from region and country to an individual travel agency. For published tariffs, point-of-sale control provides preferential availability based on fare differences by point of origin. For off-tariff fares, point-of-sale controls ensure that preferential availability is provided based on the negotiated fare value, which addresses the wide dispersion of fare values negotiated with individual travel agencies for the same market.

**Interline Proration**

Dynamic interline proration based on an airline’s revenue share of the total interline itinerary to determine availability adds to the bottom line in incremental revenues. Two types of proration are supported — standard IATA cost-weighted mileage-based proration and advanced proration based on special prorate (bilateral) agreements.

**Customer-Centric Availability**

Airlines have a deep desire to get closer to their customers, understand their traits and preferences, and retain existing customers. Current availability processing can provide a customer-centric availability response based on corporate identification or frequent flyer ID. Customer-centric segmentation of customers based on a value score can be accomplished across multiple dimensions such as an airline value tier, alliance value tier or simply a promotion tier for customers who have not traveled on an airline for a specific period of time.

**Availability Proxy**

For airlines not utilizing the Res component, the Inventory component eliminates the load off their reservations system in a high look-to-book ratio environment from online channels by serving as an availability proxy, a front end to respond to all availability transactions. It provides accurate real-time seat availability and offers a significant benefit over cached availability. With customer demands for calendar and destination shopping, the component provides a linearly scalable architecture with the number of processors as the volume of availability transactions that an airline must respond to increases over time. Benefits from deploying this real-time solution generate total-cost-of-ownership savings as well as incremental revenues. The Inventory component guarantees a return on investment in a matter of months if not weeks. The mon-
etary benefits for majors in the United States, by virtue of their size based on annual passenger revenues and passengers boarded per year, can be conservatively estimated to be between US$75 million and US$200 million. Large European flag carriers can conservatively expect benefits to range from €60 million (US$78 million) to €125 million (US$159 million) annually. And, a globally branded carrier in the Asia/Pacific region with significant off-tariff traffic can conservatively realize annual benefits of US$50 million to US$75 million.

Sabre Airline Solutions’ investment in future enhancements is dictated to a large extent on the priorities established from the voting process by the user community. Key areas of focus are driven by customer-centric requirements such as integration with customer relationship management to manage availability and sell based on the value of the customer; the next generation of restriction-free pricing controls, a pricing philosophy initiated by low-cost carriers and adopted to some degree by network carriers; channel revenue management based on competitor schedules and prices; and the ability to sense and respond based on current market conditions to enable zero latency in decision making for an airline.

The Inventory component integrates with the Sabre® AirMax® Revenue Manager, utilized by more than 40 airlines around the world. Revenue Manager supports sophisticated demand forecasting, overbooking, revenue mix optimization, performance measurement, group control, low-fare (restriction-free) pricing and monitoring functions to effectively manage airline seat inventory. Revenue Manager can increase revenues up to 8 percent or more depending on the sophistication of the carrier. At the heart of Revenue Manager is the network optimization model that can support a range of options for inventory controls based on the requirements for an airline, which takes into account its level of sophistication ranging from traditional nested to O&D controls with virtual- or continuous-nesting controls. A mirror image of the inventory control logic processed by Revenue Manager is also available in the Inventory component for real-time inventory control.

In addition to the integrated planning and execution solutions the Inventory component and Revenue Manager provide, future fares data augmented with historical traffic and fares information from revenue accounting is provided to the Inventory component by the Sabre® AirPrice™ fares management system. The AirPrice system responds to competitive fare changes and publishes an airline’s fare responses to ATPCO and SITA. It is the single most powerful application in the airline industry that demonstrates the power of an advanced revenue management planning application driving an execution system — intelligent content derived from Revenue Manager being used for real-time control of reservations based on the value of the reservations request. The integrated solution also has the unique capability of real-time messaging between Revenue Manager and the Inventory component for booking activity triggered re-optimizations of the flight or network to ensure that inventory controls always reflect the current state of the real-time environment.

The benefits of deploying the Inventory component and Revenue Manager for an airline are significant. Sabre Airline Solutions will continue integrating advanced planning systems with execution systems to maximum revenue-generating possibilities for the airline industry.

Ben Vinod is chief innovator for Sabre Airline Solutions. He can be contacted at ben.vinod@sabre.com.
Frontier Airlines, one of the new generation of airlines that is helping change the airline industry, has experienced tremendous success during the past decade.

With the help of key partners, the airline has also positioned itself to excel in the future.
In its 11-year history, Frontier has grown from a small start-up to one of the airlines that is helping reshape the U.S. airline industry. As it looks forward to the next decade, the airline has plans for continued expansion. But to take the next step, Frontier decided to enlist the help of several strategic partners that will help the airline achieve its goals.

Frontier marked a major milestone last July when the Denver, Colorado-based airline celebrated the 10th anniversary of its inaugural flight as well as carrying its 25 millionth passenger. The event represented another grand achievement for the rapidly growing low-cost carrier.

During the past decade, the airline, granted flag carrier status in 2003 by the U.S. government, has grown dramatically from two aircraft to 44 and expanded its route network from four U.S. destinations to 42, plus five more in Mexico. From 2002 – 2003, the airline’s passenger traffic grew 70 percent to 5,137,959 passengers carried. And, most importantly, the airline has been profitable in five of the past six years, including 2001 and 2002 when the industry experienced an unprecedented downturn.

Frontier has added or announced plans to add approximately seven new cities and 15 new routes to its network since the end of 2003, representing new destinations as well as the development of its presence in Mexico, which has been a tremendous growth vehicle for the airline. Frontier’s point-to-point service between Cancun and Salt Lake City, Utah, and Kansas City, Missouri, began last July; its service between Cancun and Nashville, Tennessee, and Austin, Texas, began in November; and in February, the airline commenced service between Cancun and St. Louis.

As one of the new wave of low-cost carriers, Frontier, which promotes itself as “a whole different animal,” has managed to successfully provide an enhanced customer experience while maintaining low fares. Frontier, which provides live television for each seat on its fleet of new Airbus A319 aircraft, has been successful by focusing on providing comfortable, affordable and flexible service.

Frontier, like its fellow new generation airline peers, represents “a whole different animal” for the airline industry by combining low fares with customer amenities. Capitalizing on its slogan, the carrier’s advertising and branding campaign features national television ads that animate the animals painted on the tails of the carrier’s aircraft as they lightheartedly tout Frontier’s advantages. The campaign, Chief Executive Officer Jeff Potter said, “has exceeded all of our expectations.”

“The best measurement of its success is the fact that since we launched the campaign, we have produced record-breaking load factors for the 10 months from June 2003 through March 2004,” Potter wrote in the company’s annual report.

With its passenger growth, the airline also added six mainline gates and several regional jet pads at its main operations at Denver International Airport. Frontier also recently signed an amendment to its purchase agreement with Airbus to acquire 15 additional Airbus A319 aircraft with purchase rights for up to an additional 23. The carrier also
announced plans to lease 14 additional A319s, which will be delivered during the next five years.

And, in another sign of strength, it significantly improved its liquidity as a result of a secondary offering of 5,050,000 shares of common stock in September 2003 that generated net proceeds of US$81.1 million.

Even with the success of its first decade, Frontier officials are not resting on their laurels, and the airline is already taking a number of steps to prepare for continued future expansion.

"Frontier has achieved a great deal of success during its relatively short history by being responsive to market needs," said Sean Menke, chief operating officer for Frontier. "Frontier has poised itself for another decade of continued growth as it helps revolutionize the airline industry."

"Over the past 10 years, we have made numerous fundamental changes to our business model, and our rapid growth has created many new challenges and added complexity to our operations. I expect the next 10 years will be even more turbulent."

As it looks forward, Frontier has begun to select partners that can lead to additional revenue-generating opportunities that will help the airline continue its successful journey despite the increasing complexities of a rapidly changing industry.

Last year, Frontier launched an affinity credit card program with MasterCard and Juniper Bank that has also exceeded expectations and has helped drive the airline’s EarlyReturns frequent flyer program enrollment to more than 1 million members, according to the airline.

In 2003, the carrier formed a long-term partnership with regional jet operator Horizon Air, which began service as Frontier JetExpress early last year. Through the agreement, Frontier added nine 70-seat Bombardier CRJ-700 aircraft to its fleet. Partnering with Horizon Air will enable Frontier to provide service to seven additional destinations in Arizona, California, New Mexico, Oklahoma and Texas.

The airline also maintains a codeshare agreement with Great Lakes Airlines, which provides Frontier’s service to 34 regional markets in Colorado, Kansas, Nebraska, New Mexico, North Dakota, South Dakota, Texas, Utah and Wyoming.

It has also formed marketing sponsorships with high-profile sports teams including the Colorado Avalanche, Denver Nuggets and the University of Colorado athletics. Frontier also formed relationships with five of the travel industry’s leading wholesalers to provide packaged trips to all of its Mexico destinations, including Mazatlán, Cancun, Puerto Vallarta and Los Cabos, based on their ability to provide the greatest flexibility in scheduling and the highest level of customer service.

One of the keys to the airline’s continued ability to remain profitable involves and passenger processing.

"We are confident that Sabre Airline Solutions’ decision-support tools will improve our ability to make the right decisions more quickly, and the breadth of functionality offered in the SabreSonic solutions will provide the flexibility we need to execute future passenger sales and service strategies," Menke said.

Frontier believed selecting a single primary IT provider would bring benefits beyond the value of the products themselves. With the challenges facing the industry, many airlines are attempting to simplify their operations by reducing the number of technology partners and seeking tighter integration across their business. As costs remain under pres-

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In keeping with its marketing campaign, “A whole different animal,” Frontier’s livery features images of various wildlife including rabbits, sea lions, horses and whales on its aircraft tailfin.

Last year, Frontier celebrated its 10th anniversary by carrying its 25 millionth passenger. The airline has a fleet of 44 aircraft including 37 Airbus A319s and seven Airbus A318s. The airline plans to expand its fleet through the lease and purchase of up to 52 new Airbus A319 aircraft.

Frontier has grown its route network from four U.S. destinations to 42 cities in 23 states plus the District of Columbia. The airline also serves five destinations in Mexico, including Cabo San Lucas, Cancun and Puerto Vallarta.

“Frontier has achieved a great deal of success during its relatively short history by being responsive to market needs.”

— Sean Menke, Frontier COO
Joining the Star Alliance represented a key component of US Airways’ recovery plan. But becoming a member of one of the world’s leading global alliances required a concentrated, comprehensive effort by the airline and its vendors.

As airlines look for new sources of revenue, many have considered joining one of the three main global alliances to cost effectively expand their reach and attract and maintain valuable customers. Alliance membership, however, is more than simply placing a new logo on an airline’s Web site and sharing lounges and frequent flyer miles. Joining an alliance requires a great deal of groundwork, numerous hours of preparation and highly coordinated efforts to ensure systems and procedures are fully integrated.

As part of its recovery plan, US Airways gained membership into the Star Alliance.

Joining an alliance enabled the airline to instantly expand its network — without having to purchase dozens of new aircraft or hire additional staff. By offering access to more destinations on partner airlines, US Airways preserves revenue from travelers who now fly part of their journey with the carrier. It also shares passengers with other airlines by providing access to destinations those airlines didn’t serve, generating additional income.

Based on the experience of other Star Alliance members, US Airways anticipated an increase in both traffic and revenue as more frequent flyers took advantage of the expanded network. The airline also realizes additional cost savings by participating in alliance-wide initiatives such as group fuel purchases and shared advertising.

Because US Airways already had a codeshare agreement in place with United Airlines, a founding member of the Star Alliance, membership in the larger organization seemed to be a natural outgrowth of its existing relationship.

Joining Star, however, required a monumental effort on the airline’s behalf as it worked to meet the requirements of alliance membership. To ensure that US Airways met its quality standards, the Star Alliance gave the airline a specific set of criteria, including integrating its systems and route network with the alliance, standardizing policies and procedures, and establishing agreements with its new partners concerning revenue sharing and other administrative activities.

US Airways categorized the requirements as either development projects or as compliance or procedural adjustments. The development projects were also broken down as unilateral, bilateral or multilateral based on who would be involved.

To meet the alliance membership requirements, US Airways assembled cross-departmental teams to identify the issues — such as securing necessary bilateral agreements with each of the other 14 member carriers, integrating all projects involving various vendors, establishing internal and external communications, resolving funding issues, and coordinating multiple staggered implementations of systems and processes — that needed to be addressed to integrate with the Star Alliance network. Each requirement was assigned to an internal owner, who oversaw the completion of the tasks necessary to meet the objective.

The cross-functional teams comprised representatives from multiple departments — marketing, sales, customer services, reservations, planning, international, revenue accounting, consumer affairs, revenue management, information technology and e-commerce. The airline also established an alliance department to serve as the primary point of contact for these internal teams as well as for fellow Star Alliance carriers.

“Joining the Star Alliance was one of the largest, and most complex, projects we’ve accomplished,” said Dennis Tierney, who headed US Airways’ alliance department at the time of the integration effort. “Once we got the alliance requirements, we had to go through virtually every aspect of our operation and identify the, literally, thousands of tasks that had to be completed. And we had to do so in a limited timeframe and within a specific budget.”

For US Airways, one of the most important and involved aspects of joining the Star Alliance was integrating its IT systems with the larger alliance. The airline relied on its
key IT provider, Sabre Airline Solutions, to oversee the IT integration efforts and coordinate them among all IT providers, which also included EDS, Lufthansa Systems and US Airways’ internal IT department.

After evaluating the Star Alliance’s IT requirements, the technical team created an integrated schedule for 16 main IT projects, identifying all supporting tasks and establishing a framework to complete them. The integrated schedule became the master timeline used to track progress throughout the integration effort.

The IT integration team also formed a decision-making group that included both airline executives and members of the core IT team. This group reviewed the status of each project, set the overall strategy of the program, provided risk management and also resolved any issues escalated to the group. The group also worked with the Sabre Airline Solutions account management team, which served as a liaison among the other vendors as well as the airline’s IT staff.

The integration team held weekly financial review meetings to track vendor spending and forecast expenditures to ensure that the budget was properly maintained and allocated across all vendor groups. An implementation review board evaluated the results of all the projects to ensure their quality and accuracy.

Upon completion, the alliance implementation project, which included integration of 25 technical points and joining requirements and 156 implementation and activation events, successfully integrated US Airways’ systems with those of its new alliance partners. The IT team spent a total of 35,000 labor hours during an 11-month period to complete the project, yet it still remained 13 percent under budget.

With its membership in the alliance complete, US Airways is integrated with some of the world’s leading airlines — Air Canada, Air New Zealand, All Nippon Airways, Asiana Airlines, Austrian Airlines, bmi, LOT Polish Airlines, Lufthansa German Airlines, Scandinavian Airlines System, Singapore Airlines, Spanair, Thai Airways International, United Airlines and VARIG Brazilian Airlines — that combine to transport more than 350 million passengers a year with 14,048 daily departures worldwide. The alliance also generates about US$75 billion a year.

By joining the alliance, US Airways offers its customers access to 755 destinations in 132 countries, 575 airport clubs and lounges, and accrual and redemption of frequent flyer miles on any of its partner airlines.

Having a strategic partner that can help coordinate the process of joining an alliance helps airlines take the necessary steps to gain entry into these organizations and begin realizing the benefits.

For information about assistance with joining an alliance, please contact one of our regional consulting partners: Alessandro Ciancimino at alessandro.ciancimino@sabre.com for Europe, the Middle East and Africa; Steve Hendrickson at steven.hendrickson@sabre.com for North America; Nadja Killisly at nadja.killisly@sabre.com for Latin America; James Sun at james.sun@sabre.com for China; and Vish Viswanathan at vish.viswanathan@sabre.com for Asia/Pacific.
IN Central and Eastern Europe, the times when national carriers had full monopoly are long gone. With the liberalization of the industry and the development of low-cost carriers, traditional mainstream flag airlines have had to face a harsh reality.

The changed rules of the game, however, bite much harder for some of the Central and Eastern European small to medium carriers, such as CSA Czech Airlines, LOT Polish Airlines and Malév Hungarian Airlines, with low-cost competition on the rise.

For several years, airlines in the region faced fierce competition from western low-cost carriers. The first so-called “cheap” airline operator appeared in the Czech market in 1999, followed by GoFly (now easyJet) connecting Prague, Czech Republic, to London, England. The market share for LCCs across the entire region is about 25 percent, with 10 of the region’s prominent low-cost airlines flying to Prague.

Most of the national airlines operating in the region were, and still are, government owned. Their decision-making processes and speed of responding to ever-changing market conditions is somewhat slower than in aggressive market organizations.

Although the population of the new European Union member states is relatively large (75 million), the percentage of airline travelers is still relatively low. The combined number of international scheduled passengers per capita among the new member states is only 0.3 percent versus 1.3 percent for the 15 original European Union countries. Despite the attempt of the region’s national carriers to attract non-domestic passengers, they still carry very high proportions of their own citizens.

Another discriminating factor is their image of being associated with old, outdated, legacy aircraft; bad service; and poor safety records. The reality, however, is very different; these airlines, like their competitors, have modern aircraft, enhanced service levels and high safety standards. Despite their long presence in the airline market — CSA with 82 years, LOT with 75 years and Malév with 50 years — most carriers in the region are virtually unknown to the international traveler outside the region. Passengers faced with a decision between paying slightly higher prices or flying with an ‘unknown carrier from behind the iron curtain’ would naturally lean toward the more well-known international airlines.

By Jarek Majdanski
Ascend Contributor

Airlines in Central and Eastern Europe face several challenges such as the expansion of low-cost carriers and currency corrosion that have many of them rethinking their business strategies.
between paying slightly higher prices or flying with an “unknown carrier from behind the iron curtain” would naturally lean toward the more well-known international airlines. Furthermore, the budgets for international marketing are certainly limited and the region’s airlines, in turn, rely heavily on their own citizens or the nostalgia of old-time immigrants.

The major challenge for these airlines is labor, rather ironic given that the cost of labor in the region is well below the average for the 15 established members of the European Union. Most airlines in the region have both numerous and strong unions — CSA leads the pack with 10 unions, followed by LOT with seven. The fact that different unions pull different ways adds to the challenges of the region’s airlines. All this creates a highly disruptive environment where, year after year, high-level management has to spend huge amounts of time on negotiations, trying to resolve internal disputes and reduce unjustified old-era benefits. It is also the case for nearly all airlines that the number of staff is far too high in comparison to their leaner and meaner counterparts.

A new and unique challenge for this region is currency corrosion. In the past, most of the local currencies gradually depreciated. These days, the markets work in the opposite direction. With the improving economy of the region, LOT has reported that a large chunk of its revenue last year was wiped out due to the currency movements in favor of the Polish zloty. The dollar depreciated by 21 percent and the euro by 14 percent against the local Polish currency. Most airline transactions are handled in non-domestic currencies, yet the results are expressed in the zloty. Moving exchange rates can also put unpredictable strain on the system.

Despite the major differences in the LCC model, including completely different cost structures, airlines in Central and Eastern Europe seem to fall into a dangerous pattern of trying to compete against the low-cost competition. This is not only done through drastic reductions on their price structure, but also by sometimes lowering their standards onboard. Flag carriers always served a particular niche of the market, specifically business customers, but if there is virtually no difference between national carriers and their LCC counterparts, passengers would certainly choose the cheaper option.

A growing force in the airline industry, low-fare airlines assume about 25 percent of the market share in Central and Eastern Europe, with 10 of the region’s eminent low-cost carriers flying to Prague, Czech Republic, home of flag carrier CSA Czech Airlines.

In addition to the growing low-cost carrier competition, another challenge facing Central and Eastern Europe and its flag airlines is currency corrosion. In Poland, the currency movements in favor of the Polish zloty have seriously impacted LOT Polish Airlines’ revenue.
While many of these circumstances are specific to the region, there still exists an entire selection of other “universal” industry factors such as the price of fuel and terrorism threats that add a considerable amount of pressure to airlines.

A testimony to the fact that there is a lot of interest in the new E.U. member states is the number of LCCs operating in the region, with more than 70 low-fare airlines now operating across the European continent, most of which fly to Central and Eastern Europe.

The market is certainly versatile, ranging from well-known and established international LCCs such as easyJet and Ryanair to local Central and Eastern European operators such as Sky Europe and Wizzair to LOT’s carrier-within-a-carrier, CentralWings.

With the exception of the genuine interest of overseas travelers in the region, there is another reason why so many carriers fly east — the great potential for market growth. As economies and income levels gradually improve to Western European standards, more and more Eastern Europeans take to flying. Both mainstream flag carriers and LCCs in the region have already noticed a significant increase in traffic and the number of passengers boarded. That trend is on the increase year after year, and it’s likely to continue for some time.

It is inevitable that the competition for these markets will not just go away. On the contrary, it is likely to get even more aggressive, employing market tactics such as price undercutting to snatch a customer from the hands of the competition.

In terms of market saturation, few more casualties in the LCC market could be expected, with a possibility of a few new mergers.

While most, if not all, of the region’s flag carriers will likely be around for years to come, attempts at bringing aspects of the LCC model into their own operations is counterproductive. Instead, they should focus on raising their standards and service levels to appeal to current and perspective customers who have higher expectations and don’t necessarily determine their purchasing decisions purely on price.

For carriers in Central and Eastern Europe, there remain a number of areas that require improvement; however, their ability to adapt quickly to changing market conditions is vital and should become the focal point. As Charles Darwin said, “It is not the strongest that survives, nor the most intelligent, but the one most responsive to change.” While advanced information technology supports this business need, for many carriers, there is great hesitance to make that initial investment, which, in many cases, is a lifesaver.

Commonly, airlines in the region continue to experiment and often make costly mistakes before turning to external resources. The bottom line, however, is that every aspect of an airline, whether it’s aircraft, technology or staff, has to remain current to fend off competition and retain customers.

 Probably the most obvious, but often forgotten, element to an airline’s success is keeping customers happy. It is truly the passenger who is the basis of the airline’s existence, and if they can’t be retained, even the most strategic cost-cutting and revenue-generating initiatives won’t be enough to sustain long-term success.

While many Central and Eastern Europe-based carriers have a lot of adjustments to make as a result of a changed aviation landscape, most of them will climb aboard and make changes necessary to give their competition a run for their money.

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### Propensity to Fly by EU Country

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<th>International scheduled passengers/population</th>
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The European Union has recently expanded, adding 10 new members, which make up 0.3 percent of scheduled international passengers per capita, and the initial 15 E.U. members make up 1.3 percent. Although the population is high in Central and Eastern Europe, the local community is less likely to fly for historical and economical reasons.
Choosing its Battles: Low-Cost Carriers Enter Asia/Pacific

Low-cost carriers have finally made their way into Asia/Pacific, but there is some skepticism about long-term victories in specific parts of the region.

By Karen Dielman  |  Ascend Contributor

Low-cost carriers have penetrated nearly every market with varying degrees of impact to network carriers. Traditional network carriers around the world are facing stiff competition from LCCs, with the Asia/Pacific region being the most recent to experience that change in the competitive landscape.

Looking at regions that have a more mature low-cost carrier market may help Asia/Pacific carriers understand and prepare for future changes and opportunities.

LCCs Around the World

In North America, the growth of LCCs has clearly affected the profitability of the region’s traditional network carriers. As of December, several network carriers have either entered bankruptcy or faced strong financial difficulties. Meanwhile, the region’s low-fare airlines have shown strong performance, including the continually profitable Southwest Airlines, jetBlue and AirTran Airways.

A prevalent trend in the North American low-fare market is the shift of LCCs away from strictly short-haul operations and toward longer-range routes, which have traditionally been the mainstay of network carriers. As LCCs invade this space, traditional network carriers struggle to stay above water. As a result, traditional network carriers have concentrated more on the development of international routes, which demonstrated much stronger performance last year.

In Europe, the introduction of low-fare airlines has trailed the development in North America, but the low-cost segment is growing very rapidly. As it grows, LCCs are not only competing with network carriers, but they are also competing with each other. This is producing even lower yields and increased financial difficulties in the European aviation marketplace. Although there have been many low-fare start-ups in Europe, there have also been many closures. And, it is thought the 2005 marketplace will continue to be very volatile this year.

There is also a consolidation within Europe of tour operators and low-cost carriers. Until the advent of LCCs, tour operators were the traditional outlet for low-yield regional travel, and they had a strong market share in Europe. Increasingly, tour operators run their own airlines. For example, LTU, TUI and MyTravel all operate airline subsidiaries. These tour operators are not restricted to vacation packages and can offer air-only services.

Similarly, tour operators frequently operate from secondary airports that are the traditional domain of low-cost carriers; therefore, their ticket prices are consistent with low-cost carrier competitors. Finally, low-cost carriers are increasingly consolidating packages online, thereby invading the traditional tour operator segment to increase revenues. The result is a consolidation of low-cost carrier and tour operator traffic within Europe.

In the Middle East, it has become fashionable to start a low-cost airline. However, unlike other regions, low cost in this region does not mean low service. The service standards within the region are high, and low-cost airlines have maintained these standards. El
Ethad, for instance, offers full meal service, in-flight entertainment, connecting baggage, long-haul services and serves primary airports such as London Heathrow International Airport. The only similarity Etihad has to low-cost carriers is low fares. Similarly, Air Arabia, which announced profitability in its first full year of operation, offers meal service, connecting baggage and other full-service amenities. The airline operates from a home base at a secondary airport, but its model is much closer to a full-service carrier than low-cost carriers in Europe or the United States.

Asia/Pacific is the new battleground between low-cost airlines and network carriers, with many traditional network carriers starting low-fare subsidiaries — a risky move because, to date, traditional network carriers have not produced a long-term, successful low-cost subsidiary.

LCCs have an increased influence in Southeast Asia. The general methods used to establish market presence are similar to tactics used by European low-fare airlines — enter a market with high frequency on narrow-body aircraft with tight seat pitch (29-inch pitch is common among LCCs in the region).

They charge fares that are a fraction of those offered by traditional carriers, and they also take advantage of industry tools such as Internet distribution, tight turn times and high equipment utilization. There is, however, a deviation with the European model in that Asian low-cost carriers maintain higher service levels than in Europe. Low-cost carriers in the Far East are copying many of the operating characteristics of the European and American models, but are still offering higher service standards in visible areas such as catering and in-flight entertainment.

The region’s LCCs have varying degrees of effect in key markets. In almost every market — except for Hong Kong-Singapore where the brand strength of traditional carriers is very strong — they are gaining market share compared to traditional carriers.

Three key markets — Bangkok-Hong Kong, Bangkok-Singapore and Hong Kong-Singapore — show differences in the impact LCCs have in this region.

In the Bangkok-Hong Kong market, low-cost Orient Thai has gained a substantial market share by offering average fares that are 25 percent to 35 percent of the published fare of the market leaders. This aggressive pricing strategy has hurt market share for some network carriers while not impacting others as all. The difference directly ties to brand strength in that market.

Overall, the Bangkok-Hong Kong market is not seeing any travel demand stimulation due to the introduction of LCCs, which demonstrates that the increased market share by LCCs on that route is purely at the expense of network carriers. Much of the growth for LCCs in this market is through discretionary travelers, particularly the “visiting friends or relatives” segment.

The Bangkok-Singapore marketplace is interesting because of the direct competition between two low-cost airlines: Thai Asia (a subsidiary of Air Asia) and Valueair, which have both earned market share based on high frequency operations using smaller equipment. These two low-cost carriers command nearly 20 percent of the market capacity. The fares for the two LCCs in this market are comparable because of the competition between the two, and again, the fares are 25 percent to 35 percent below traditional carriers in the market. The result is that the traditional network carriers are losing share rapidly in the face of price and capacity competition.

The Bangkok-Singapore market has grown significantly through demand stimulation. This is not just related to the addition of capacity but also due to the fact that low fares are now offered in this marketplace, clearly stimulating travel in new market segments.

LCCs in the Hong Kong-Singapore market have also stimulated travel demand. Valueair entered the Hong Kong-Singapore market last June and is gaining market share at the expense of other carriers. Mainline carriers have not been significantly impacted and have been able to increase yield of published fares as price-sensitive passengers flock to LCCs. With the market growth caused by market stimulation, the price-sensitive passenger segment has grown. Because this passenger segment has grown more rapidly than capacity, high-end service providers have benefited. Because the low-yield passenger segment has flocked to the LCCs and the market size has substantially increased, the higher-yield passengers have no choice but to use the high-end service providers who have thus

“Asia/Pacific is the new battleground between low-cost airlines and network carriers, with many traditional network carriers starting low-fare subsidiaries.”
leads to dilution. However, price, as a motivator, ultimately off the worst effects of dilution for some time. (US$96) and €75

In the Bangkok-Hong Kong market, low-cost Orient Thai has established a substantial market share by offering average fares that are 25 percent to 35 percent of the published fare of the market leaders. This aggressive pricing strategy has hurt market share for some network carriers while not impacting others as all. The difference directly ties to brand strength in that market.

been able to increase yield. However, the average fares for this market have come down overall due to LCCs and key U.S.-based carriers offering lower prices.

Overall, the introduction of low-cost carriers has had a significant impact in the region. Adding in the growth and privatization of Chinese carriers and the continued lack of stability among fifth freedom airlines (notably from struggling U.S.-based carriers), there could undoubtedly continue to be reductions in yields in Asia/Pacific. However, carriers with a strong brand presence will be able to stave off the worst effects of dilution for some time. But, ultimately, declines in yield — particularly among Japanese premium travelers — is expected in the foreseeable future. Carriers that maintain share through fare reductions will maintain share in the short term. However, price, as a motivator, ultimately leads to dilution.

LCC Growth

Many industry experts believe that the low-cost carrier phenomenon in Asia/Pacific is just beginning. The huge potential passenger volumes in India and China will fuel the development of more and stronger low-fare airlines in the region.

India has seen the announcement or commencement of services of four new low-cost carriers in 2004, many of which are properly financed and have a great chance of success. China is taking a notably conservative approach to the licensing of new low-fare airlines. As demand for air travel grows in domestic China, however, the government may take a more relaxed view and withdraw protection from the state-held carriers.

Undoubtedly, top LCCs will continue to grow in Asia, and it’s likely these carriers will receive licensing to serve Chinese stations in the near future. Still, the strength of the volume and the increasingly mobile Indian and Chinese middle class will indisputably make domestic low-fare airlines in these two countries powerful forces during the next decade.

Japan

In Japan’s travel market, the growth of LCCs will be stimulated by changes in the domestic aviation infrastructure, meaning that the largest threat of LCCs will occur in the domestic marketplace rather than internationally.

Low-cost carriers have a difficult time operating long distances due to the low yield and price of low-cost travel. Therefore, low-cost airlines must operate in high density domestic and regional international markets. Given the geography of Japan and the region as well as the existing rail infrastructure, there is very little opportunity for LCCs to establish a foothold in either the domestic or the regional marketplace.

Some of the region’s major carriers are experimenting with the introduction of smaller equipment types, enabling frequency to increase into regional markets while allowing for flow-over hubs, which will make the introduction of LCCs even harder in the marketplace.

Another consideration is that the cost of airports is very high and the congestion at major hubs — notably Narita and Osaka, Japan — prohibits the introduction of high-frequency operations. While new airports are being developed, these airports will soon be congested and will not support the low cost of operations required by low-fare airlines.

Perhaps the most important reason low-cost carriers will not soon find a secure hold in Japan is because of its position at the eastern edge of Asia. To be successful, low-cost airlines must generate a large amount of volume. Fares are unrelated to distances among LCCs. In Europe, for instance, the range of fares in the marketplace is from €75 (US$96) and €125 (US$160) per leg, regardless of distance, meaning LCCs must be centrally located to be most successful. Since fares are not related to distance, highest revenues can be achieved by flying the shortest distance flights and “turning” the seats on the plane as often as possible. Average stage lengths must be less than three hours, and the most successful low-fare airlines have average stage lengths less than two hours.

While LCCs might be able to establish a domestic presence in Japan — subject to the country’s constraints — Bangkok, Hong Kong, Singapore and new Chinese hubs present better geographic locations for start-up low-cost carriers because of their relative proximity to several large regional markets. Therefore, it is unlikely that existing LCCs in Southeast Asia will extend their networks to include Japan. These conditions may change fairly rapidly if any of the constraints are reduced.

The dominance of the primary carriers could be lessened as they are forced to restructure in the face of lower profitability. Also, if demand does not grow, the new aviation infrastructure might be sufficient and airport operations prices could be reduced.

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Airports’ Impact on LCC Growth

There have been discussions about investing in LCC terminals, which are designed to allow for high-frequency operations with tight turns. However, most of the world’s hub airports contain constraints on runway space. Therefore, while hubs could allow for low-cost terminals, LCCs would be unable to take advantage of the tight ground times unless additional runway space is added.

With the addition of runways at hubs, privatized airports will concentrate on the highest yield opportunities, which will be legacy network carriers as opposed to LCCs. Very few airport hubs have the ability to increase runway space sufficiently to allow for LCCs to take a strong hold and, therefore, make adequate use of LCC terminals.

Also, LCC terminals are designed to have fewer baggage facilities, catering facilities and service infrastructure (no lounges or premium facilities). While this certainly caters to the LCC model, what will keep traditional carriers from wanting to take advantage of the lower cost of LCC terminals for regional point-to-point operation?

It is doubtful that the purveyors of terminal space will be able to limit access to facilities based on the corporate service model of an airline; therefore, airlines willing to operate with fewer facilities will be able to petition and receive space at LCC terminals. If the hub wants to limit access to the LCC terminal, it will have to reduce costs at its other terminals to give traditional airlines equal savings opportunities.

LCC Subsidiary

Many industry experts believe the attempted introduction of low-cost subsidiaries by existing network carriers is a management diversion. Unless legacy carriers are prepared to divest of their local competitive markets, the LCC arms of the network carriers are, at best, a distraction and, at worst, a drain on legacy carriers’ capital and profits.

To date, network carriers have been unable to launch a successful low-cost subsidiary. During the past three years, there have been more than 40 start-up carriers created by legacy airlines, and not one of them has been fully successful. The reasons for the failure are quite varied.

First, LCCs require a lot of start-up capital, which traditional airlines don’t possess. Therefore, when troubled legacy carriers enter in the LCC regional

Asia/Pacific Travel Trends

The current close-in trends for air travel in Japan, China and Asia/Pacific show a considerable amount of growth and local volatility, supporting the belief that this region is experiencing a time of industry change. Local volatility, for example, can be seen in Japan’s domestic air travel, which is recovering but still volatile due to a struggling economic recovery.

The unprecedented poor weather in the third quarter of 2004 has had a dramatic impact on airline profitability and, therefore, limits the introduction of new capacity this year. Although recent domestic economic and passenger volume trends are encouraging, the marketplace continues to be highly elastic.

China continues to be a very high-growth air travel market, with its economic growth fueling double-digit air travel growth rates (10.1 percent normalized for severe acute respiratory syndrome). This trend is expected to continue at least through the end of the year.

The Asia/Pacific region as a whole is enjoying more than 15 percent year-over-year growth compared to 2003, strongly fueled by recovery from the SARS crisis. A normalized growth rate of 7.4 percent is seen in the Asia/Pacific region, which is greatly influenced by China’s numbers.

The short-term growth of air travel in the entire region is tied to the individual carriers’ response to rising fuel costs. The increase of fuel surcharges will cause a cooling in passenger demand, especially if struggling U.S.-based airlines with fifth freedom rights in the region do not adopt the policy of increasing fuel surcharges. The overall outlook for short-term growth is “cautiously optimistic.” Growth will continue, but recovery is fragile and can be derailed by inclement weather, increasing fuel prices and the slowdown of economic recovery.
marketplace to compete with existing entrants, they become torn between building the new airline and managing the competitive position of the legacy carrier. This may be the reason 34 low-cost airlines were created and 41 failed last year alone.

Finally, legacy carriers often believe they can cut their own costs by outsourcing certain functions, such as airport handling, ground handling, catering and maintenance, to their LCC subsidiaries. Unfortunately, these tend to increase the unit costs of LCCs, lowering their viability. If legacy carriers had sufficiently low costs to support the needs of an LCC, it would probably not see the need to create an LCC subsidiary.

For these reasons and also because there has not been a single example of a fully successful LCC start up from a legacy carrier — despite some of the largest and most successful carriers attempting this approach — most experts continue to feel this approach is unproductive.

Preparation for the Future
To sustain long-term success, network carriers around the world should concentrate on several key areas:

- Revenue enhancement — Network carriers need to increase revenues through best practices techniques including origin and destination revenue management, close-in re-fleeting, elasticity control, restriction-free one-way pricing and distribution channel management, all of which have only just begun to be utilized.
- Cost containment — Traditional airlines should continually search for ways to reduce costs, despite seemingly exhaustive containment exercises.
- Price competitively — Legacy carriers need to keep fares competitive with incumbent network carriers, although it is unnecessary to cut prices to the levels of LCCs.
- Service differential — Network carriers must use their brand and image to drive market share, which is best accomplished by maintaining a high-quality, low-cost approach to service provision.
- Asset utilization — Traditional airlines need to ensure dynamic use of available data to better forecast, manage assets and map capacity to demand.
- Network flow — Legacy carriers can retain viability by operating in markets that cannot be reached by LCCs.

Many industry experts remain optimistic about the performance and future of legacy carriers. Although these carriers must adapt to a changed environment, they have the distinct ability to prosper in the current and future commercial aviation marketplace.

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**count it up**

1.6 Billion — U.S. dollars, on average, that are spent annually for mishandled baggage by the world’s airlines. According to SITA, it costs the industry an average of US$87.50 when a bag fails to arrive at its destination on time.

1 — Number of airline fatalities per passenger kilometer for every million flights. Despite the rapid and constant growth in air traffic, accident rates have been reduced by more than 50 percent during the past 20 years.

12 — Percent of the more than 2.27 million scheduled flights worldwide that are operated by discount airlines. In 2001, low-cost airlines only accounted for 6 percent of the world’s flights and 8 percent of available seats.
The travel industry has always been at the forefront of e-commerce technology, beginning with the original SABRE computerized reservations system and continuing through to the SabreSonic™ Passenger Solutions. Today, there are several pressures that push for a much greater rate of change, including:

- Revenue issues, as airlines feel the pressure of low-cost competitors and the economic pressure of high oil prices. These effects, coupled with highly variable demand, force airlines to reduce costs and find new ways to increase revenue.
- The Internet, which provides new opportunities and new ways for suppliers and customers to connect with each other. Priceline’s “name your price” model is a great example of a new business model.
- Commoditization of computing, which removes barriers to entry in distribution. These reduced costs allow for new brokers that can address niche markets.

What effect has this had on the SabreSonic solutions? Rather than put a Web-facade on the existing reservations systems, we’re radically rethinking the architecture of the core systems and how we interact with customers and suppliers. Open-source tools and commodity computing are a key part of this strategy.

Open-Source Trends

Linux, Apache, MySQL and others have been the focus lately, but open-source tools have been many years in the making, and there’s a long history of Unix developers sharing source code. While some people think the primary advantage of open-source is that it’s available for free, this ignores two other major business advantages:

- Open-source software is built to portable interfaces, avoiding vendor lock in and enables us to choose from a wide variety of hardware. A good example is Advanced Micro Device’s new 64-bit Opteron processor — Linux is mature on this platform, and we’ve had it in production for about a year. However, many “closed” operating systems are yet to be released.
- Open-source software is generally more robust than proprietary systems. Eric S. Raymond, a prominent open-source advocate, summed it up neatly as, “Given enough eyeballs, all bugs are shallow.”

Standardization and commoditization mean that the hardware and operating system, and to a lesser degree the database and middleware, are now commodities. There was a time when airlines and other travel companies spent a great deal of time working on network protocols, operating systems and databases. Today, we don’t need to work in this space — TCP/IP is ubiquitous. Linux is scalable on many different platforms and open-source databases are gaining traction.

Shopping

The Internet has increased the look-to-book ratio. Shopping brings no revenue to distributors or suppliers, so this software needs to run on the most cost-efficient platform available. So, what do we use for shopping?

In 2000, we partnered with Compaq (now part of Hewlett-Packard) to prototype the Air Travel Shopping Engine, or ATSE. Rather than enhance the mainframe system that we’ve relied on for many years, it was clear that commodity computing was needed. The resulting system is a hybrid architecture — we use HP’s NonStop (formerly Tandem) systems to hold the master database and distribute work. The actual low-fare searches are performed on rack-mounted Linux machines. We have 150 HP servers, each with four AMD Opteron processors, running 64-bit Linux. The NonStop systems broadcast data to a smaller cluster of Itanium-based Linux servers running MySQL. Low-fare search requests are load balanced across this cluster. We’ve recently rolled out new functionality on this cluster that lets Travelocity return hundreds of low-fare search results for an individual’s query.

What does this mean for airlines? The new technology helps airlines realize benefits, including:
Displaying hundreds of options means that we can show many options for each of the carriers in a market, even when there are a large number of competitors.

The NonStop database and real-time replication to Linux means that fare changes are applied instantaneously. Fare changes are loaded much faster than in the legacy mainframe systems, so that responses to a competitor’s fare actions are implemented as quickly as possible.

Travelocity is also taking advantage of open systems, replacing its Unix servers with rack-mounted Linux servers. The application is written in Java, using a number of open-source libraries, running on Intel-based servers. These systems are replacing large, proprietary Unix servers, and the new architecture significantly reduces response time.

Finally, in the area of open standards, we’ve made our functionality accessible via Web services. XML, Java and the Apache XML tools are part of this system, now processing millions of transactions per day. Web services provide a number of important advantages to airlines, including:

- The ability to use off-the-shelf tools to develop client-facing applications, integrating content from multiple companies. Many leading companies on the Internet such as Google and Amazon are now providing their content via Web services. An airline utilizing SabreSonic™ Res will be able to offer its content for other companies to display in their Web sites.
- We will be able to retire proprietary structured protocols so airlines won’t be tied to a

“Given enough eyeballs, all bugs are shallow.”
— Eric S. Raymond

The Air Travel Shopping Engine runs on a cluster of 140 four-way Opteron servers from Hewlett-Packard. Fares, schedule and availability data are replicated in real time, flowing through a master database running on HP NonStop servers.
specific system. Private networks and specialized hardware are not required to use Web services, also reducing cost and time to market.

**A Customer Focus**

In the previous “Talking Technology” column, Barry Smith, chief scientist for Sabre Holdings, discussed customer choice models that enable airlines to model the true demand for a product. These models will also allow systems to tailor offers to specific customers and customer segments, requiring a lot of computing power. In addition, open-source tools drive down the cost of incremental computing power and incremental storage. This means we can now capture and keep individual transactions, process this data to build statistical models of customer behavior and, perhaps most importantly, we can use these models in real time. We can harness this computing power with models and business rules engines to tailor the displays to specific points of sale.

What does this mean in concrete terms? This year we began limited testing of a new system that can tailor screens to individual agency requests and gather model customer preferences in real time. Additionally, we can gather real-time display information and generate alerts, letting airlines know how their service is being seen by the marketplace. This new system moves control of the terminals off the mainframe and onto a cluster of Linux servers, using a flexible rules engine to dynamically create offers. We can imagine many scenarios, and we will test several, including:

- Cross-sell of additional products, such as hotel, car and insurance — We’ve previously done this on Web sites, but can now bring this to all points of sale. We could create new opportunities, such as selling meals or issuing vouchers for special services at the airport.
- Dynamic pricing and availability, which enables the system to “correct” inconsistencies in pricing — For example, if low-fare searches show that a carrier has the lowest fare in a market and has the only non-stop service, we can generate alerts in real time or even modify what is displayed. The rules to do this are flexible and can be modified online.

We’re not limited to products that are displayed in traditional reservations systems today because the new system is written in Java and can call external Web services from a number of partners. We’re effectively treating our traditional global distribution system as another content source.

**The Future of Distribution Technology**

New technology makes distribution systems more relevant and enables us to leverage commoditization and open systems to create new value to suppliers and customers. We believe that future distribution systems will bear little resemblance to the current mainframe systems; they’ll take a much more customer-centric focus, allowing suppliers to better understand what drives demand and give them the tools to respond to demand in real time. This is not just a vision of the future. We’re currently rolling out components and moving very quickly in this direction.

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**+count it up**

**28 million** — Number of passengers a year on average handled by Toronto Pearson International Airport, Canada’s busiest airport, which is projected to grow to 50 million by 2020. In preparation for the additional traffic, the airport is building a new multilevel-parking garage, which will have 12,600 spaces upon completion and is part of a US$3.3 billion terminal development project initiated to enhance customer service and convenience.

**80** — Percentage of all global available seat kilometers for the top 100 airlines that flow through at least one system within the _Sabre® AirFlite™ Planning and Scheduling Suite_.

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**Over time, as hardware, operating systems and middleware are being standardized and commoditized by competition from both proprietary and open solutions, system developers can add value by working above the commodity point, which is gradually rising up the stack.**

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It’s time for all-out innovation. And it’s time for proven leadership. Mission-critical areas require time-tested solutions. Longer than any other company, we’ve pushed technology forward to deliver vital systems airlines need to stay ahead, to make the impossible practical.

Working closely with carriers, we’ve developed a portfolio of flexible, integrated solutions that can optimize operations of all airlines — any size, any business model, anywhere in the world.

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Lufthansa benefits from close-in re-fleeting
Cathay’s cargo business drives revenue
Frontier Airlines enlists strategic partners