European airline industry – strategies for the new millennium

European Airline Industry – Strategies for the New Millennium European Airline Industry – Strategies for the New Millennium Debarshi Datta, Analyst, Airline Vertical with Subham L. Chakravarty, Asst. Manager, Airline Vertical This paper depicts the current scenario in the European Airline Industry through in-depth analysis and appropriate case studies and suggests restructuring, along with the implementation of modern IT systems as an effective tool in the struggle for survival. SkyTECH Solutions is a U. S.

ased software solutions company providing consulting and customized IT solutions and products for the global travel and transportation industries. © Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium Structural Evolution of the Airline Industry in Europe Case Study of a Flag Carrier: British Airways British Airways is UK's largest international scheduled airline, flying to over 550 destinations to the bestlocated airports. Traditionally, It has always remained one of the top major airlines of the world by its infrastructure and services.

Recently, the airlines has signed an agreement with Iberia to develop a joint business on key routes between London and Spain that includes revenue and cost sharing on flights between London Heathrow and Madrid and Barcelona. British Airways extensively focuses on customer loyalty, and for this reason, it is implementing a series of self-service kiosks along with e-ticketing to provide its flyers a faster, hassle-free mode of check in. Stats show that the ASK of British Airways in Dec 2004 was higher by 3.

9% from Dec 2003. The traffic, measured in RPK grew by 3. % from the previous year. The European airline industry is a dynamic industry that changes its trends in accordance to the general European economy.

The overall air transport market in Europe is expected to grow substantially in the coming years.

The International Air Transport Association along with few leading bodies like AEA and ATI estimate that the number of international scheduled passengers traveling between countries in Europe will grow from 233 million in 1999 to 302 million in 2005, reflecting an average annual growth rate of 4. %. By contrast, the low-fare segment of the market is expected to grow at a significantly higher rate. It is estimated that low-cost airlines which carried 6. 3% of all domestic and international passengers within Europe in 1999 will increase that to a share of 16-18% by 2005 making them a formidable unit in the European air travel market. The European airline sector has historically been dominated by national flag carriers who together account for over 70% of civilian passenger traffic.

These airlines came up after the Second World War and were state-owned or statesponsored. Examples include British Airways, Lufthansa and Air France. Intra EU Airline Market Shares in 2001 SAS KLM 6% 4% Others 45% Alitalia 7% Iberia 7% Air France 8% British Lufthansa Airw ays 12% 11% However, the scenario has changed very rapidly. With the deregulations taking effect, the European airline industry took a turn towards the most optimal model of operations i. e. , the low cost sector.

Low-cost airlines are the order of the day in Europe.

Their extremely affordable fares along with their range of destinations from the Scandinavian countries to places like Paris or Berlin provide a handful package for the previously airsick passenger market. Average airfares in the low-cost airlines sector account for just 3% of the average monthly EU industrial wage. In Europe more than 100 airports now have low-cost services. The low cost carriers are going on an overall expansion starting from an increase in the fleet size. The larger airlines are gradually responding to this low-cost boom and they are considering a change in their strategies as well.

These dynamics would definitely define the state of the market in future. The major carriers were already under the impact of several detrimental factors like oil prices and increase in tariffs charged by main airports and air traffic control around the turn of the millennium. The attacks on US only catalyzed the process as some leisure travelers decided to avoid long-haul routes and airlines had to increase the insurance premiums they had to pay in case of mishaps. In 2001, while most traditional players reported losses due to the 9/11 impact and some succumbed to the competition, Europe's leading low-cost carriers were

According to a study conducted by ELFAA (European Low Fares Airlines Association), when an LCC enters the airline market, it creates quite a transformation. Out of its total market, 59% is newly generated demand while 37% comes from the existing airline market.

The same study shows that out of the newly generated demand, 71% would not have previously traveled, 15% would have traveled by car while only 6% shift is from the railways. The shift occurs from that vulnerable segment of

passengers whose price sensitivity is considerably high. Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium Case Study of an LCC: The rise of easyJet Founded in 1995, easyJet is a front running European low cost airline along with Ryanair. It has over 100 routes to almost 40 key business and leisure airports in Europe. The phenomenal growth of easyJet, since its first flight in November 1995, was boosted by its merger with Go-fly in August 2002.

easyJet has a very strong business model which is the backbone of its success. It uses the Internet to reduce distribution costs.

It maximises use of each of its aircrafts. The easyJet decision makers believe in trendsetting ideas like serving no lunch onboard for faster turnaround time in airports which reduces its airport charges as well. They have also taken the help of IT systems for e-ticketing and legacy systems which are accesible through servers located worlwide and thus have transformed their operations into a paperless environment.

In this context, they have developed a data warehouse which helps to migrate data from the various operational systems automatically.

They have also implemented reporting tools which include OLAP (On Line Analytical Processing) tools for data mining. unfazed by the situation and instead had a dream run. Ryanair and easyJet boasted operating margins of 26 and 9. 5 percent, respectively. In June 2002, Ryanair had a market capitalization of €4.

9 billion ($4. 82 billion), 45 percent more than that of British Airways (BA), which had revenues that were 20 times larger at that time. Passenger volume of Ryanair in December 2004 rose 9. 5 percent from the previous year.

European Air Traffic Growth Forecast 450 400 350 300 250 200 150 100 50 0 Ye a 19 r 96 19 97 19 98 19 99 20 00 20 01 20 02 20 03 20 04 20 05 20 06 20 07 20 08 20 09 20 10 Passenger Vol (M) Total Europe FSC LCC IATA Forecasts IATA, AEA and other leading organizations like ATI predict a steady growth for LCC's in the coming years which would also proportionately increase the entire European air traffic volume.

However, the growth rate of the larger airlines is not very promising and they have to come up with newer strategies to cope up with this immense upsurge of the low-cost sector.

In this event, the European airlines can take a cue from Delta Airlines in US who in Jan 2005 have declared to reduce their fare prices by 50% for travel within the continent. The Open Skies Agreement After the creation of a Single Market in air transport in 1992, which enabled free access to the market for all airlines from the community, the European Commission expressed the view that the Member States should no longer enter into bilateral agreements with third countries on an individual basis. USA started offering " open skies" agreements to other countries from 1992.

The ' open skies' policy is the basis for accomplishment of a single market free of discriminations and enhances a coherent European policy for international aviation. Recently, in the context of the presidential elections,

Vagn Sorensen, Chairman of AEA (Association of European Airlines), has stated the negotiations regarding the Open Sky Agreement to be remarkable According to him, the key is the change in global travel patterns and airlines must be able to exploit new opportunities quickly within the globalised marketplace.

He expected the EU and the US to demonstrate their willingness to assume leadership in this matter.

The Regulating Bodies EUROCONTROL is the European Organization for the Safety of Air Navigation. This civil and military Organization has 34 Member States (2005). Its primary objective is the development of a seamless, pan-European Air Traffic Management (ATM) system to stand up to the present and future challenges of the aviation community. One of the prime challenges is to cope with the forecast © Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium growth in air traffic, while maintaining a high level of safety.

Eurocontrol's activities range from strategic and tactical flow management to controller training; from regional control of airspace to development of leading-edge, safety-proofed technologies and procedures and collection of air navigation charges. European Parliament has always closely monitored issues relating to air traffic control and has been aware of its importance for the implementation of a common transport and safety policy. The parliament has taken major steps in prevention of air accidents like blacklisting the carriers who do not meet EU safety standards.

The parliament takes the view that high priority should be given to the interoperability of new technology and to launching of European-scale research and technological development initiatives (such as Galileo) to develop smart air transport systems. The European Union (EU) — previously known as the European Community–is an institutional framework for the construction of a united Europe.

The liberalization of the European Community's internal air transport market started in 1987 and took full effects by 1997.

The situation changed fundamentally, creating a single integrated aviation market that comprises of twenty-five Member States (2004). The progressive development of EU regulatory standards and policies across a number of fields is a positive sign that is reflected in cases like establishment of EASA (European Aviation Safety Agency) and adoption of the Single Sky legislation. Since cabin crews have an important role to play in safety, the Joint Aviation Authorities (JAA), an ICAO body, have adopted standards (JAR-OPS) which include provisions on flight crew training.

These standards improve air transport safety in Europe by developing a Human Factors-centred approach, in operational training, Crew Resource Management courses as well as in pilot performance management. Market Structure and Share Prices The LCC growth is amply reflected by the share prices over the last ten years.

There has been a steady increase in the share prices of lowcosts after the entry of Ryanair and easyJet reflecting a shift in preference from the European Majors towards the LCC's. When the Low-cost market was going

strong, many airlines entered into the scene and tried to fragment the market.

But increase in competition and reduction of prices took heavy toll on many airlines like Volare, GetJet, Flyeco and Sabena and they got bankrupt or had to enter into mergers. There has been a considerable rise in the volume of air passengers in the European Transportation Industry, from about 167 in 1996 to above 280 in 2004. This growth has been accelerated by the entry of low-cost airlines in the market that has definitely given a major fraction of people to travel by air who would have traveled by other means normally.

It is very evident that the majority market for no-frills irlines are leisure travelers. Budget airlines have played a significant role in the growing consumer interest in flexible, self-packaged vacations and weekend city breaks markets. Normalised Stock Prices of European ; US Airlines 400 350 300 250 200 150 100 50 0 Dec-99 Aug-00 Dec-00 Aug-01 Dec-01 Aug-02 Dec-02 Aug-03 Dec-03 Aug-04 Apr-00 Apr-01 Apr-02 Apr-03 Apr-04 The 9/11 impact hit strongly across the entire market like a stroke but the recovery of Ryanair as compared to flag carriers like British Airways or Air France has been outstanding.

Such pioneer low-cost carriers, which had initially entered the market to take a chunk of the shares of the majors, now individually dominate over a segment of the market. British AirwaysSouthwest AirlinesAlitalia Ryanair Northwest Airlines Delta Airlines Lufthansa Source: SkyTECH Research © Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium Case Study of an Alliance: Air France – KLM Air France, since

its merger with the Dutch company KLM, led to the creation of Europe's leading airline group: Air France-KLM.

Its credo of quality service, punctuality and now services like electronic ticketing means that traveling is easier than ever before. The new group ' Air FranceKLM' relies on its strength and the complementary nature of their brands and also on the hub and networks of both the airlines. Air France-KLM had already released revenues for the second quarter on November 15, 2004, showing a 6. 4% rise to €5.

132 billion, from a pro forma €4. 823 billion a year earlier. According to the IATA Annual Report of 2004, the industry was hit by four horsemen of the apocalypse – SARS, war in Iraq, terrorism, and a poor economy.

In 2005, the price of oil threatens to be another barrier. However, Ryanair with an extremely economical operating cost model, which is responsible for its high operating profit margin, is ideally seated to lead the recovery.

Operating Profit Margin vs. CASM of European & US Airlines Operating Cost per Seat Mile (CASM, c) 30 % 25 % 20 % 15 % 10 % 5% 0% -5% -10 % -15 % 7 8 9 10 11 12 13 14 15 16 17 Operating Profit Margin Southwest easyJet Ryanair Iberia Delta British Airways Northwest Lufthansa Source: SkyTECH Research based on 2003 Company Data The Survival Strategies

Alliances, Spin-offs and Cross-Holdings Global alliances have greater scope and are the most significant strategic alliances in terms of network expansion. The prime purpose is to achieve all the marketing benefits by linking two or more large airlines operating in geographically distinct markets, ideally in different continents. Global alliances normally involve

code sharing on a large number of routes. They may, however, extend to include schedule co-ordination, joint sales offices, ground handling, combined frequent flyer programmes, joint maintenance activities as well as some equity stake transfer.

The individual members may have other route or region specific alliances. SkyTeam Aero Mexico Air France-KLM Delta Alitalia Nothwest Continental Czech Korean Air Star Alliance Air Canada Air New Zealand All Nippon Airways Asiana Airlines Lufthansa Spanair United Varig SAS Singapore Airlines Thai Airlines Austrian Airlines LOT British Midland US Airways OneWorld Aer Lingus American Airlines British Airways Cathay Pacific Finnair Iberia LanChile Qantas Major Global Alliance Networks © Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium

Some Revolutionary LowCost Strategies… Ryanair outsources all its check-in and airport services to Servisair in all its locations including its main base at Stanstead. EasyJet on the other hand, makes sure that its fleet is on air for about 12 hours per day on an average in comparison to 9 hours for most of the larger airlines. Some low-costs operate from secondary airports that are far from cities to minimize the ground handling costs at the major airports. All these factors add up to a cost advantage of 40-65% per ASK over traditional airlines on intra-European international routes.

Europeans took a leaf out of their US counterparts and found that increase in the size of an alliance would give rise to greater scope of penetrating the market. To achieve the desired horizon of scope, alliances and mergers were a useful solution, as these would generate extra traffic volumes between the partner airlines. The new trend in the European airline market set by the

entry of low-cost airlines like Ryanair forced some traditional airlines to launch their low-cost versions to capture the new segment of passenger revenues and stay in the competition.

The formation of bmibaby from British Midlands is a classic example of this kind of spin-off. Following the change in the market trends in the European aviation sector, some of the more profitable airlines entered into the game of acquiring or holding shares in other relatively smaller airlines to boost their profits. This strategy paid off in many cases and Ryanair set up an ideal example of such cross holdings.

Airline Restructuring The airline industry is always up against the combined forces of volatile revenues and high fixed costs. Around 60%* of the total cost incurred by the airlines is virtually invariable in the short run.

This section of costs is incurred by aircraft ownership, fuel costs, ground handling charges, maintenance and airport charges. Thus, the management has few alternatives while facing the challenges of cutting cost. It can only optimize in areas like crew costs, sales, marketing and distribution, passenger services and administrative costs.

Although the factors constituting the fixed and variable costs of leisure and nofrills carriers are similar, the different strategies involved gives rise to a significant difference in the total running costs.

The low-cost model ideally looks to outsource as many of the non-core business functions as possible. They do not boast of complicated networks or eye-catching frills. On the other side of the coin, the leisure carrier operating model aims at maximizing its own assets and resources to optimize the

return on capital expenditure. Industry research shows that the airport charges, staff costs and price of distribution for the larger network carriers are much more than their low-cost counterparts. This is mainly due to the maintenance of a large infrastructure, usage of primary airports and fees to be paid to the different GDS for bookings.

As the competition in the market becomes fiercer with the success of the low costs, many larger airlines are tempted to change their operating model. But here lies the catch! Any production model in an airline strategy has specific assets, costs and process logic, and thus cost structures. However, all production models have two things in common: They are capital-intensive Their fixed costs are high Thus, it can be seen that the operating models of airlines are very rigid and redefining it totally is not at all a cost-effective solution.

Airlines should accept the fact that however troubled the water is, still there will be enough room for both full time and low-cost carriers to co-exist. Their survival strategies should focus to reposition themselves in the variable costs segment that are independent of the operating model.

The three pillars for operational restructuring are boosting revenues, cutting costs and restructuring the balance sheet that makes profits up by 10-18%*. A Look across the Atlantic – The Southwest Model

Booz-Allen-Hamilton analysis demonstrates the advantage of the operating model of Southwest Airlines, who pioneered the low-cost model in the US. Out of the total cost differential from an average network carrier, 70% is due to its operating model. However, only a small fraction of difference is caused

by the no-frills factor, while the greater part of the influence comes from the complex business processes and distribution costs. * Roland Berger Strategy Consultants © Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium

The IT Systems for Airline Restructuring – A Brief Overview Revenue Accounting Systems are required to tally the billing discrepancies of the CRS and to keep a track on the exact number of passengers flown by connecting airlines for network carriers.

Billing Information Data Tapes (BIDT), available from all GDS, provides airlines with extensive transactional data on all their bookings made through the respective GDS. Revenue Accounting Systems also deliver important information for the airline management and other strategic departments like marketing, key account cooperations, network or sales management.

Airlines like Lufthansa and United have implemented such systems and have gained considerable amount of advantage from them. Pricing Systems are thoroughly driven from extensive operations research techniques that deal with pricing analytics, pricing execution, and pricing decision optimization. These systems take into consideration the elasticity of demands and try to provide pricing strategies dynamically to maximize profits for an airline.

They also provide decision support in critical situations.

Leading pricing systems along with revenue optimization techniques cause an overall revenue enhancement of 6-8%. Crew Scheduling Systems are essential for airline operations control as managing crews is one of the most complex functions of an airline. Crew cost can be controlled and it provides

one of the greatest opportunities to boost revenues. Case Study: Manpower Administrative Resource Suite of United Airlines The Manpower Administrative Resource Suite (MARS) is an application that supports manpower planning and scheduling to other various United's divisions like flight dispatch, CSR and Ramp service.

Some of the main features include: Employee Scheduling ; Exception Tracking Tracking Vacation and Holiday Inventory Roster Generation Overtime Administration Ad-hoc Reporting Gate Assignment and Planning Systems Gate Assignment and Planning System (GAPS) is the software, which supplies the Station Control Center personnel with the real time information about arrival, departure, turn flights and connecting flights at different gates of the airport. It also provides the ability of changing and updating the gate assignment data in a fast ; user-friendly way.

Leading airlines like United have implemented such advanced systems for better optimization of its assets. The modern IT systems are just the ideal tools to optimize the airlines processes and restructure their existing operating models economically. IT systems can help in boosting revenues as well as cutting costs and thus enable the airlines to stay ahead in the competition. Options Stop revenue leakage Marketing Campaigns Rework pricing Optimize network Routing IT System

Interline Revenue Accounting BIDT/MIDT Data Verification O ; D Revenue Management System Online Distribution Channels Pricing Systems based on Yield Management and Game Theory Profitability Forecasting, Network Analysis and Aircraft Scheduling Systems Operations Research based Systems Boost Revenues (Effect up to: 2-6% *) Options Optimize Fleet

Increase crew productivity Streamline product Optimize Purchasing Optimize Resources Optimize Assets Optimize Processes IT System Aircraft Scheduling Systems Crew Scheduling Systems Cut Costs (Effect up to: 8-10% *)

CRM Solutions Vendor Management/EDI/SCM Systems Optimization Systems for Manpower, Machines, Vehicles etc.

Gate Assignment ; Planning Systems Easy Check-in, Self Service Kiosks, eTicketing, Online Distribution, Baggage Tracking Where IT Systems can fit in … * Roland Berger Strategy Consultants © Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium Concluding Remarks… The airline industry in Europe has undergone a total paradigm shift after the entry of low-cost carriers pioneered by Ryanair and easyJet.

They initially entered the market to generate more passenger demand in those segments that were shy of flying due to the airfares of the full service carriers. However, with their overall success, they started to take a chunk off the market shares of the larger airlines. The 9/11 impact, coupled with issues like fuel prices, poor economy and other factors caused the detriment of some of the larger airlines like Sabena who could not endure this challenge. Low-costs, with their economical operating model, survived the troubled times pretty well and are all set to lead the recovery.

All these entice some full service air carriers to change their operating model to the low-cost one.

But this does not mean the end of the road for the historically predominant airlines. Even though IATA, AEA, ATI and other leading organizations predict a very steady growth for LCC's in years to come, they do not write off the

major airlines but say that both these types of airlines would mutually co-exist. Flag carriers like Lufthansa, British Airways, Alitalia, Iberia and others are still responsible for a large segment of the aviation market shares individually.

In fact, Air France – KLM, after their merger has proved to be one of the most successful airlines worldwide and according to Air Transport World Magazine, has been awarded the airline of the year for 2005. As mentioned earlier, it is not economical to change the operating model of an airline struggling to survive; rather the strategies should be oriented towards optimizing their existing models so that they become more cost-effective. And with the power of the modern IT systems airlines can look to restructure themselves in an optimized way and stay ahead in the struggle for survival.

Finally, we put forward the IT systems that airlines can leverage in critical areas like cutting costs, boosting revenues and strategic agility. Appropriate case studies, derived from systems implemented by not only European carriers but also world leaders across the Atlantic like United Airlines are presented to give an overall judicial view. © Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium Role of ICT in the Evolution of Airline Business Strategies

The IT edge in the distribution channels for Airlines Online Travel Agencies: Travelocity ; Orbitz Sabre owns Travelocity while Orbitz was launched on the Internet using Worldspan as its Internet Booking Engine. Travelocity and Orbitz are the leading one-stop travel sites that provide secure online

reservation facilities for airlines, cars and hotels. They also have access to a range of travel destinations and discount offers.

Orbitz has an award-winning flight search engine that makes it easy to find the lowest fares on more than 455 airlines.

Such sites are the best distribution channels for low cost airlines since the airlines don't have to pay extra charges for displaying their fares. Global Distribution Systems (GDS) Most scheduled air travel worldwide is booked through travel agents, who generally make bookings using Global Distribution Systems, which provide the air tickets to them anywhere in the world. They have colossal networks that serve thousands of travel agencies. GDS are also a major distribution channel for car and hotel bookings and thus, serve the purpose of a business traveler ideally.

The GDS charge a fee per segment of a flight schedule to the airlines that are listed in it. Most of the major airlines worldwide subscribe themselves in such systems. GDS like Sabre provide effective inventory cost management solutions as well as revenue maximization opportunities to the participating airlines. Amadeus Air France Iberia Lufthansa SAS Galileo Aer Lingus Air Canada Alitalia Austrian Airlines British Airways KLM Olympic Airlines Swissair TAP Air Portugal United Airlines US Airways Sabre American Airlines Worldspan Delta Airlines Northwest Airlines Transworld Airlines

Case Study: Orion – The Inventory Management System of United Airlines With the Orion project, United implemented an industry leading pure O; D revenue management system that provides the following functionalities: Path-class point of sale demand forecasting O; D passenger valuation

Network optimization O; D inventory control Orion was ranked as the number one functioning revenue management system in the world by an independent survey of SH; E Consulting done for SQ. According to MIT Passenger O; D Simulation Consortium, Orion-like revenue management systems add 1. 5% – 2.

% in total revenue, almost 0. 75% at the expense of less sophisticated leg-based competitors. Founder Airlines of world's major GDS Central Reservation Systems (CRS) Central Reservation Systems are controlled by individual airlines and hold the actual airline inventory. They often perform other functions like check-in. Since GDS charge airlines for bookings made through them, there is a marked trend to avoid them. Low cost carriers and chartered airlines usually do not use GDS facilities.

For CRS, bookings are made directly via the airlines through a call center or the web.

GDS or online travel websites also internally access the CRS. Technology Solutions in Airline Operations Departure Control Systems (DCS) Departure Control Systems handle the check-in and boarding process once a passenger arrives at the airport. As a result it holds the most recent and accurate information about the passenger like passport details, frequent flyer details, seat allocation, flight details, information on bags checked in etc, and records what © Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium Case Study United's Flight Scheduling System

United's flight scheduling system yields benefits more than $ 100 million/year. It provides cutting-edge solutions like: Improve passenger and profitability forecasts (17. 8% MAPD) Identify profitable routes and frequencies Improved efficiency and effectiveness of schedule planners Measure impact of schedule changes Analysis of alliances and code-share actually happens at check-in and boarding time.

In all cases, the CRS passes data on to the DCS, which will perform check-in for a particular flight. Governments can utilize the DCS data set to know more about travelers intending to cross their borders.

Top ranked airlines like Singapore Airlines have benefited immensely from the implementation of DCS. Revenue Management Systems The AGIFORS' (Airline Group of the International Federation of Operations Research Societies) annual Revenue Management Conference was hosted by Air New Zealand in March 2004 which had its focus on how effective revenue management could increase the efficiency of an airline and it also showed how Delta Airlines made a paradigm shift in their revenue management system from leg-bucket control to origin-destination forecasting and optimization.

Origin & Destination (O & D) Revenue Management System Origin/destination based revenue management system evolved not only to overcome the limitations imposed by leg/class control, but also to enhance the revenue of airlines as the operations research models suggest and figures show.

Major players like Lufthansa are benefiting from these systems. O&D based Scheduling Systems A system-wide, O&D-based view is needed to maximize the benefits of airlines by co-ordinating the capacity planning, pricing and yield management processes.

Research and development currently being done focuses on the integration of the scheduling, pricing and yield management processes to improve the overall performance and effectiveness of an airline's schedule. SOC Decision makers of airlines have always relied upon management tools developed from years of operational experience for handling situations like loading the aircraft in the most effective manner to maximize revenue, ensure ontime performance or reducing disruptions. Such heuristic tools are used in even the largest airline OPSC centers, such as the System Operations Control (SOC) of United Airlines.

Leading ASP'S are also coming up with a range of integrated products that provide solution to issues like weight and balance, air traffic, weather, ground handling, passenger re-accommodation and government regulations. Case Study: History of Frequent Flyer programs and Customer Loyalty In 1981, American Airlines introduced a program called AAdvantage. Their purpose was to reward customers for using the airline and promote future customer loyalty. American Airlines started the program by using their customer database.

They tracked the members' number of flown miles and put together a reward system of " a mile earned for a mile traveled. " To round out the array of

services for the travel customer, American Airlines also included Hertz rental cars and Hyatt hotel stays in the program.

It was an instant success. United Airlines almost immediately launched their Mileage Plus program and enhanced the system by offering an " enrollment bonus" of 5, 000 miles. The other major domestic airlines soon followed this trend. Incidentally, at the 2004 OAG – Airline of the Year Awards, United won the award for the best marketing campaign. CRM

Customer Relationship Management is a business strategy designed to reduce costs and increase profitability of a company by forming customer loyalty. True CRM gives a holistic view of each customer.

Employees in areas such as sales, customer support, and marketing can make fast and reliable decisions about target marketing strategies and positioning future tactics. RFID implementation in Baggage Tracking Radio frequency identification (RFID) is a method of remotely storing and retrieving data using devices called RFID tags. An RFID tag is a small object, such as an adhesive sticker, that can be attached to or incorporated into a product.

RFID tags contain antennae that enable them to receive and respond to radio-frequency queries from an RFID transceiver. In a typical RFID system, individual objects are equipped with a small, inexpensive tag which contains a transponder with a digital memory chip that is given a unique electronic product code. The interrogator, an antenna packaged © Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium Case Study: ARINC's Multi-User System Environment (MUSE) Airport personnel

need access to complete, accurate passenger and flight data to provide efficient service.

ARINC's Multi-User System ® Environment (MUSE) solution leverages existing IT assets as much as possible, while enabling multiple airlines and airport support operations to use the same basic information system. This eliminates complicated interfaces and reduces the need for redundant resources. From ticketing to baggage handling to rental car and hotel reservations, MUSE accommodates everything through one system and is accessible from a single workstation. ARINC also offers a browser-based versioniMUSE™, that supports both IP and legacy systems using either desktop or handheld terminals. ith a transceiver and decoder, emits a signal activating the RFID tag so it can read and write data to it. When an RFID tag passes through the electromagnetic zone, it detects the reader's activation signal.

The reader decodes the data encoded in the tag's integrated circuit i. e. , the silicon chip and the data is passed to the host computer for processing. The price of RFID tags range from as low as 15 cents to $100 for the really sophisticated ones. IATA is promoting RFID technology for the ease of baggage check–in systems and is gradually replacing the bar code scanners which had lesser accuracy.

According to IATA, the benefits of implementing RFID systems are: Airline Benefits A major airline may handle up to 70 million pieces of baggage per year Of these an average of 0. 7% are mishandled RFID will reduce that by 30%-40% bringing down service recovery costs Greater efficiency in off-

loading baggage for no-show passengers Passenger benefits More reliable baggage handling Fewer delays from no-show passengers Fewer mishandled bags Delta has plans of implementing RFID systems throughout the US airports it serves. United Airlines made a proposal to IATA regarding RFID data specifications for baggage.

Multi-user Kiosks Airline and airport self-service kiosk solutions are designed to boost customer satisfaction by letting passengers easily check in at the airport, select or change seats, and print out a boarding pass. Kiosks can let customers avoid waiting in long lines. United Airlines has implemented easy check-in services in all its self-service kiosks.

The multi-user kiosks provides the following customer benefits: Fast, seamless transit through airport facilities Staff support Seat selection Local Language support Frequent flyer update Faster check in

Case Study: SITA and Athens International Airport (AIA) implementation of CUSS In readiness for the Athens 2004 Olympic Games, SITA and AIA installed a series of Common Use Self Service (CUSS) kiosks to simplify the passenger journey and provide airline passengers with a refreshing alternative to standing in line at check-in counters. Twenty years ago, SITA implemented the world's first ever common use solutionCommon Use Terminal Equipment (CUTE) in time for the 1984 Olympic Games in Los Angeles. The Internet Advantage

Online Reservations Web-enabled reservations are a rising trend as numerous websites provide onestop solution to discounted fares, hotels, vacation packages, flight schedules, car rental, resorts, special group rates,

frequent flyer miles in addition to airlines online reservations. Some of the leading sites for online reservations are: MicrosoftExpedia Orbitz ebookers.

com System One Travelocity Travel Quest Travelogix Travel Web © Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium

Case Study: United Airlines and ANA Launch Joint e-Ticketing Customers traveling on international trips that include both United and All Nippon Airways (ANA) operated flights are able to use just one e-ticket for all trip segments. Mark Schwab, United vice president-Pacific, said that E-ticketing is essential for ensuring efficient customer service. E-ticketing is becoming the industry standard in ticket reservations and United remains at the forefront of the transition from paper tickets. United has already launched similar agreements with the Star Alliance carriers Air Canada and Lufthansa.

United has undertaken a global project that will soon enable customers to travel on the entire Star Alliance network with just one e-ticket.

United has 1, 030 EasyCheck-in kiosks positioned throughout 104 airports for E-ticket customers traveling within the United States or internationally from the United States. Lowest Fare Checks Some sites like www. lowestfare. com provide the lowest fares to flights, hotels, cars, cruise, vacation packages etc. While others like TraveloCity provide tips for searching the lowest fares on the net.

Such websites are really useful for travelers who used to previously go to travel agents who would in turn make bookings through a GDS. Now, they have the option of checking the best rates and offers at their own will. e-

Ticketing The difference between a normal ticket and an e-ticket lies in the fact that instead of receiving a paper ticket from a ticket office, the person who buys the ticket simply gets a confirmation number that guarantees his seat on the plane. E-tickets facilitate the trend toward direct customer sales.

But beyond reducing travel agent fees, airlines on an average also save about $6-7 dollars for every ticket they don't have to print and mail to customers.

Online Check-In Online Check-In is a service that enables a passenger to check in for a flight from home, office or anywhere there is an Internet connection before arriving at the airport. Online Check-In enables the passenger to avoid Check-In lines at the airport by printing the boarding pass from home. Numerous airlines like Southwest, Delta, Alaska, AirTran etc. have implemented online check-in services. Services & Standards

Application Service Providers (ASP) ASP's are a third-party entity that manages software services and solutions to customers worldwide from a central data center. Numerous airlines like Aeromexico and Gulf Air take the help of ASP's to run their business better.

The advantages of using an ASP Access to skills and support unavailable in-house Rapid implementation Possible reduction of staff in non-core areas of the business Gains in time-to-market for products and services Access to technical support Solves the IT skills shortage Provides improved quality of service, thus helping in business growth

EDI Electronic Data Interchange is a method of transporting all types of information, such as purchase orders, invoices, payments and graphics

electronically to the receiver. Value Added Networks (VAN) introduced EDI technology in the 1970's and it replaces paper-based communications with electronic equivalents. Since EDI is based on a standard developed by the American National Standards Institute (ANSI), it acts as a common language that can be shared between different business backgrounds. Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium Case Study: United EasyCheck-in United Airlines has partnered with Las Vegas McCarran International Airport to help make McCarran the first airport in US to offer SpeedCheck multiple-airline self-service check-in kiosks. United's EasyCheck-in has a major presence at its every hub and more than 1, 000 kiosks are available at over 100 airports.

When traveling domestically or internationally from the U. S. ith a United electronic ticket, a passenger can avoid line waits and have the boarding pass ready for security checkpoints with EasyCheck-in. For additional assistance, each EasyCheck-in kiosk also features a customer support hotline phone connecting directly to a United airport service representative. Most calls are answered within 10 seconds.

Internet EDI consists of two established standards to securely transport EDI documents over the Internet. The Internet EDI standards are AS1 and AS2.

The AS1 standard is a way to securely transport EDI documents over the Internet via SMTP i. e. , e-mail.

The AS2 standard is a way to securely transport EDI and XML documents over the Internet via HTTP, which is basically sending a document over the Internet rather than emailing the document over the web. Internet EDI

Benefits: High transaction speed Decreased costs / errors One-time data entry Reduced time and paperwork 100% secure electronic data transmission Lufthansa Cargo has been offering EDI booking access since 2001.

This process enables secure and simple electronic booking, handling and confirmation in the space of a few seconds. Spec 2000 Spec 2000 is an extensive assortment of e-business specifications for products and services that are designed to overcome challenges catering to the supply chain system of airlines. It has served the industry for more than 40 years and numerous airlines use Spec 2000 to query, order, ship, and receive parts using computer-to-computer e-business transactions.

It is a secure standard that is regarded as one of the best commercial practices by aircraft manufacturers likeBoeingand Airbus along with major airlines like United and American Airlines. By optimally re-organizing business processes and reducing administrative costs, Spec 2000 has become one of the foundations of the aviation industry's current e-business processes. Air Transport Association (ATA) looks over Spec 2000 and it is the combined product of 12 international industry associations representing airlines, manufacturers, suppliers and repair agencies.

It provides lucrative, state-of-theart methods for information exchange and defines the e-commerce, file exchange and bar coding standards that different companies should conform to for an overall uniformity between them.

Biometrics Airport Kiosks are now equipped with the most modern IT systems. Airlines like Finnair and Iberia have implemented kiosks with biometric devices that have provisions for fingerprint and iris scan. © Copyright SkyTECH Solutions European Airline Industry – Strategies for the New Millennium

About SkyTECH Solutions SkyTECH provides IT consultancy and develops niche software solutions and products for the global travel, transport, retail and logistics industry. Backed by strong domain / business process experts, SkyTECH offers tested proven solutions across different functional areas and technology platforms in the transport sphere that directly impact the bottomline of clients. SkyTECH's global presence is spread across Chicago & New Jersey (USA), London & Amsterdam (Europe), and Kolkata, Mumbai & Bangalore (India).

SkyTECH's Global IT Delivery Model combines on-site and offshore project execution to deliver IT services at the lowest possible cost.

SkyTECH's offshore development infrastructure, located in India, is certified to ISO 9001: 2000 and SEI CMM Level 5. SkyTECH is developing global technology standards spearheading technical consultancy through industry associations like the OpenTravel Alliance (OTA) and IATA. SkyTECH's Operations Research group adds significant value to airlines by working on core airline functions including scheduling, reservations, revenue management, and supply chain management.

SkyTECH's rapidly increasing client base is spread across different geographies (USA, Europe, China) and diverse travel ; transport segments

(airline, airports, logistics, product companies, consulting firms, networking firms), and includes one of the world's largest airlines as well as one of the world's largest IT consulting firms. SkyTECH Solutions India, USA, Europe www. skytechsolutions.

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