

Creating strong goodwill and generating high levels of repeat business are the objectives of Customer Relationship Management. The information, skills and systems are now becoming available to make this a reality for airlines. Some are already reaping significant benefits from this technology.

How airlines can gain from Customer Relationship Management

With increased competition, customer relationship management (CRM) has become essential for global airlines to attract and retain passengers. CRM is becoming increasingly sophisticated in giving an airline the ability to know as many factors as possible that affect each passenger's purchasing behaviour. This includes information such as: the passenger's job; how often they fly; how much total revenue they generate for the airline annually; which routes they most frequently fly; in which cabin classes they fly; any complaints or problems they have had in the past; any meal or service preferences; and the methods they use to purchase tickets. If airlines use these data well they will be able to offer passengers a high degree of personalised service.

The airlines have established frequent flyer programmes (FFP) and other means to maintain a reliable and profitable relationship with their customers.

However, with the increasing reliance of passengers on modern IT to arrange their trips, they are less inclined to be faithful to just one carrier. In the US, the volume of travel bookers who buy their business travel on-line has grown to 41% of US airline passengers, which has spurred airlines on to adopt modern IT techniques to improve their CRM.

Database

The first step to a successful CRM is to build the customer's profile by using a customer database, understanding the nature of their demand, particular purchasing preferences, and purchase potential. In the past, customer data were dispersed in an airline's different systems, such as booking and check-in. The incomplete and inconsistent data were not enough to draw a passenger's profile,

so the airline could not evaluate the passenger and predict their behaviour.

With the adoption of modern IT, airlines have made great efforts to integrate the data they hold on their passengers, and have reaped several benefits as a result.

For example, in 1998 Continental Airlines' data warehouse developers began updating and integrating its customer data from more than 40 of its different operational systems. The new data warehouse was built using hardware and software from NCR Corp's Teradata division.

In the first year following completion of the data warehouse project, more than \$7 million in fraud was recognised and eliminated, and the airline saw a \$41 million reduction in the cost of sales.

Three years later, the events of September 11th 2001 tested the data warehouse differently. The data developers sorted through 35 different data marts and loaded the airline's booking system into XML, so that senior airline officials and the FBI could monitor customers booking flights in real time.

Now, 1,300 of Continental's employees have access to flight schedules, seat inventory, revenue and ticketing data and customer profiles. The data warehouse is also used for revenue management, fraud detection, and crew payroll-management applications.

Some airlines go further than simply centralising their customer data, and build a second data centre to improve data handling efficiency and safety. Traffic growth and the September 11th terrorist attacks forced Southwest Airlines' executives to re-think their computer infrastructure. A second data centre was built to reduce security risks, improve data recovery and use data analysis to improve CRM. The challenges faced by IT teams are daunting, however.

Southwest flies to 60 airports in 31 states and data must be collected at each airport for use by analysts to improve customer service and reduce cost of sales. Easing the effort is a massive Teradata data warehouse of 2 terabytes of usable data that enable the IT team to analyse up to 26 subject areas (that is, a fact or piece of information about a passenger, such as the routes on which they most often fly).

The size and scope of the data warehouse is set to double in size over the next two to three years, as Southwest integrates all its corporate data.

"We share our passenger database with Air France, and the data held has increased from 3.3 million to 10 million," says Cristina Zanchi, director customer relationship management at KLM. "With the database, we can analyse the passengers' profile and predict their behaviour, such as when and how many times they will fly in a particular period, so that we know a passenger's value and contribution to our company. We also do a Data Quality Check every month."

Market research

When airlines began to realise the importance of marketing in the post-deregulation era, their first problem was what they should market to which passengers, and how they should do it. Marketing campaigns could end up being a waste of money unless potential customers were segmented and specified.

Market research is therefore another important step to a successful CRM. In practice, some European and North American airlines have such in-depth market research that they can provide a specific passenger's profile to their staff before they actually book a flight.

To do this, they usually carry out intensive market research to provide three

Air France-KLM Group has a frequent flyer programme (FFP), known as Flying Blue, with a membership of more than 10 million passengers. The FFP's gross revenue increased by 9% in 2004. Flying Blue allows members to earn and spend miles on the Air France & KLM networks, as well as flights operated by any of the nine airlines in the SkyTeam group.



fundamental sets of information: establishing a picture of an active customer, who they are and how they behave; segmenting inactive customers to gain a better understanding of their characteristics; and demonstrating which lifestyle, demographic, or psychographic traits differ from one segment to another in order to market more effectively, identify key market segments and penetrate new markets.

Various companies specialising in market research have offered routes to the information outlined above. The solution provided by Ruf Strategic Solutions, an American firm, is prominent. This company uses BullseyePlus 112 Cluster Analysis Profile, a model built to compare the active customers to the total customers.

The model appends a cluster code to each record on the client's database, based on the demographic and psychographic make-up of each particular record. These records are then grouped together and summarised by cluster code and active status. Active status is given to a passenger that frequently purchases tickets. The number of active customers is then compared to the number of total customers within each cluster code. Finally each cluster is ranked from the highest to the lowest based on the percentage of the actives in the cluster.

The next solution is to segment inactive passengers (ones that have not bought tickets for some time) between those with a high propensity to buy tickets in the future (those with a positive balance) from those that are unlikely to buy a ticket in the future (those without a positive balance). This gives a better understanding of how these customers

differ from each other. This objective is met by building another BullseyePlus 112 Analysis Profile, which compares the inactive customers with a balance to the total inactives. The model appends a cluster code to each record on an airline's database based on the demographic and psychographic make-up of each particular record. These records are grouped together and summarised by cluster code, inactive status and balance status. The number of inactive customers with a balance is then compared to the total number of inactive customers within each cluster code. Finally, each cluster is ranked from highest to lowest based on the percentage of inactives with a balance.

The last objective segments the active customers using the 'Decile by Net Purchase Dollars' report, which differentiates those clusters that fall to the bottom deciles from those that rise to the top. This allows an airline to identify the characteristics of those clusters that tend to have higher net purchase dollar amounts from those with lower ones.

The result of the analysis helps an airline to predict the propensity of a particular customer to buy from it based on the information and data held about them. This is combined with the airline's marketing history and multiple industry variables.

Communication

After better understanding customers' needs and spending characteristics, some airlines begin and maintain efficient and effective communication with their customers. In the past, communication was mainly by post and telephone but two problems rendered these methods

ineffective. The first was the cost of phone calls and the staff required, and the second that mailshots did not reach the right people due to the lack of valid postal addresses.

Today's airlines have improved communication with various software solutions to generate a mailable database of destination-specific passengers. This helps airlines identify and convert non-frequent flyers into members, communicate with previously unidentified passengers, and promote services to existing FFP members.

The most important effort of all is to find airline customers' postal addresses. Passenger name records (PNRs) have been widely used to identify these, but they are not enough to obtain the correct postal address, since some passengers leave a temporary one, such as a hotel. However, North American carriers enhance the PNRs by using national databases of public information based on phone numbers, and e-mail and postal addresses, which results in a file of 'marketable' or addressable individuals. Some software providers use the airlines' PNR and other public information to establish databases. Airline Automation Inc's Airpower Direct (APD), for example, captures relevant passenger data from Frontier Airlines' PNRs, which are enhanced by the USA's national databases.

Using valid addresses, airlines can communicate with customers and prompt them to visit their websites by including links in e-mails promoting special offers. By using e-mail, airlines can also conduct stealth marketing without causing a price war.

Various software solutions are available to assist airlines in



communicating effectively with customers. The APD FunBook, developed by AAI and Ruf, is produced as a private label, airline-specific package and sent (via postal mail and/or e-mail) to passengers before they travel.

The FunBook includes a message to the passenger from the airline, as well as special offers from its marketing partners (such as hotels) and other advertisers. It may also include special offers from the carrier, such as frequent flyer conversion for non-members, or cross-sell offers for frequent flyers as space allows.

Frequent Flyer Programmes

After making a deal with a customer, retaining them and developing their loyalty emerges as the airline's first priority. This is why global airlines are enthusiastic to develop various FFPs.

There are two main types of FFPs: point-based and mileage-based.

The mileage system provides mileage based on the cabin (first, business, economy) in which a passenger travels.

The points system rewards the passenger based on the service class of their ticket (first, business, economy and various discount classes in economy) and the price paid. With the second approach, the customer is rewarded for the value or revenue they bring to the airline, and not the class in which they travelled.

Using the points system, the airline has the option of distinguishing the number of FFP points obtained by date, flight number, route or class. This gives the airline flexibility in making special offers with certain conditions. For example, it could set up a special promotion offering double points for customers flying from Frankfurt to

Santiago on Flight 123 from 1st March to 31st May using Y class. The airline can also award the passenger points for the frequency of flights taken within a particular period. Airlines always use this facility to promote a new route, manage seasonal activity or improve load factor. For example, 1,000 extra points can be awarded to a passenger flying at least three times from London to Paris on flight 456 from 2nd January to 31st March using Y class.

As a consequence of the FFP, the airlines issue different levels of frequent flyer membership cards to segment their passengers further. The card system can tailor different offerings and services to customers based on their points and revenue value. With the development of FFP, some airlines are collaborating with companies in other industries, such as hotels and car-hire firms, to award passengers their points.

Airlines worldwide are keen to acquire modern IT to implement massive and complex CRM. "CRM is so important for airlines, but the airlines' profit margins are so narrow that they need to consider the cost of purchasing software carefully. Fortunately, over the past decade, the price of CRM software has come down significantly, which has driven KLM's enthusiasm to acquire modern IT to improve our CRM," says Zanchi. "In 2002 KLM began to use a software named E-Piphany to manage its FFP, which is now called Flying Blue. Flying Blue allows members to earn and spend miles on the combined networks of Air France and KLM, and also on flights operated by other SkyTeam member airlines, as well as some other 30 airline partners. This global network of 18,000 flights and 900 destinations allows

SAS and CSC Airline Solutions provide a mobile self-service check-in system. Since the service was launched, the number of subscribing passengers has increased by about 10%. The system allows passengers, carrying only hand baggage, to use their mobile phones to check in up to 23 hours before their flight departs.

customers to benefit from all the advantages that Europe's leading loyalty programme has to offer."

Structured in four levels (Ivory, Silver, Gold, Platinum), Flying Blue makes it possible to track the flight behaviour of each of its customers and rewards them with mileage points accordingly. Frequent travellers on any of the nine SkyTeam member airlines, and Kenya Airways, accrue miles, which allow them to move up to the next highest membership tier. Air France and KLM even offer Platinum members the possibility of becoming lifetime Flying Blue Platinum members, with all the privileges that come with it.

"Our FFP now has 10 million members. We segment the members by the following criteria: age; frequency; marketing approach; revenue contributed to KLM; and the routes they fly. FFP benefits our company in two ways. With the help of IT, we rely more on database marketing, which reduces the cost of call centres, e-mails, and mailed letters," says Zanchi.

IT providers are now attempting to provide solutions to improve the FFP. Amadeus's Altéa is an easily integrated suite of Customer Management Solutions. Its outsourced model is delivered on a single community platform that allows airlines to focus on their core business. The solution comprises three functionalities: Altéa Sell; Altéa Plan; and Altéa Fly.

Altéa Sell transforms passengers into loyal customers, enabling airlines to drive sales across a range of distribution channels to boost growth and better serve customer needs, regardless of how they book.

Altéa Plan enables airlines to quantify and control inventory across the entire sales and operations environment, from the sales office or e-commerce website through to departure control. Altéa Plan streamlines processes to improve operational efficiency at the same time as enabling airlines to manage real-time seat pricing to increase yield.

Altéa Fly redefines departure control systems, leveraging Altéa integration to embed customer value in every decision made at the airport. Altéa Fly streamlines operations in the two key areas of customer management (check-in) and flight management (load control).

Unisys CLS 4.0, a CRM solution, offers a number of enhancements that

The benefits of customer relationship management are illustrated by the Air France & KLM Group, which has experienced a 9% increase in revenue from its FFP. The group has also managed to reduce the cost of sales.



allow airlines to further personalise customer service offerings and expand the benefits for frequent flyers. The system has an extensive Web client interface and customer profile display so that the airline can enter preferences and lifestyle habits, and also assign customer value based on activity and other factors such as travel experiences.

CLS 4.0 allows duplicate accounts to be merged together and provides many additional options for promotional activities, as well as capabilities in five languages, which is critical in the Asia-Pacific region. Vietnam Airlines has adopted this solution to assist its Golden Lotus Plus system, an FFP programme. With the assistance of CLS, the Vietnam Airlines Golden Lotus Plus system can also send activity history and other communications to members via e-mail.

Faculty

As well as using CRM to construct a good relationship with their customers, airlines are now keen to adopt new technologies and software solutions to reduce passengers' burden and time at check-in, baggage handling and other service-related procedures. In this way the airlines can establish a positive image and attract more passengers.

A survey conducted by SITA shows that 56% of North American carriers, 31% of European airlines and 36% of Asia & Pacific airlines have deployed self-service kiosks for check-in, and that 20% of European Airlines and 11% of North American airlines plan to provide voice mobile telephony service by 2007.

Among the various software solutions available, the mobile self-service check-in system jointly built by Scandinavian

Airlines System (SAS) and CSC Airline Solutions is impressive. Several years ago, CSC Airline Solutions suggested to SAS that they should combine their SMS and speech technologies to build a mobile check-in system to simplify passenger handling. This system is based on a combination of technologies that lets passengers check in using their mobile phones. The system works by combining the continuous feed of booking and flight status information with a check-in notification SMS text message service, which in turn has been extended with an automated speech check-in service in multiple languages.

This service includes the following steps. About 22 hours before scheduled departure, the customer receives an SMS text message informing them that check-in is open. The customer then calls the SMS originator number. Using speech recognition technology, a dialogue begins that gives flight details, allows the customer to check in and receive a seat assignment, and provides friendly reminders about travel documents and baggage tags. A final SMS text message is sent to confirm the successful check-in transaction. The service is based on the applied technologies.

The check-in notification application uses the SMS engine platform to send a message to the customer's mobile phone. The language of the SMS and dialogue is dependent on a national prefix, and the originator number is set accordingly. When the phone call is answered, the caller's mobile phone number is retrieved automatically and forwarded to the voice check-in web application to retrieve passenger information. All check-in transactions are performed via a web application within the reservation and

check-in system. A clean-up application deletes all old data in the database. In addition, any undelivered SMS messages will be deleted at the time of departure. At the same time, the system maintains security of passenger and flight information.

Since the service was launched, the number of subscribing passengers has increased by about 10% per month, resulting in 23,500 check-ins per month and accounting for about 8% of all possible SAS check-ins. The service, however, only targets those passengers who are frequent flyer programme members or those that use electronic tickets. The mobile check-in system has realised significant cost savings compared to manual and kiosk check-in systems. The SMS system also provides a great return on IT investment through reusable components and easily scalable, web-based, dynamic systems. The technical reliability of the system stands at 99.96%.

Benefits

"From a business perspective, a 2% increase in customer retention can have the same financial impact as a 10% reduction in operating costs, hence the decision to upgrade to the latest CRM system to help us to achieve these gains," says Trinh Ngoc Thanh, marketing planning director, Vietnam Airlines.

"The CRM's contribution to KLM is significant. One is that the whole Air France-KLM group's revenue from FFP increased by 9% in 2004 and KLM's revenue from FFP increased by 5%. The other is to reduce our operating cost. We have reduced our costs related to generating sales." says Zanchi. [AC](#)