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After September 11th 2001, British Airways had to make drastic cost savings with external spend. This led to significant changes to their CRM environment. Read this case study to find out how BA were able to reduce costs, and provide more functionality leading to increased usage by implementing a Teradata CRM solution.

1.0 The Customer

British Airways is one of the world's longest established airlines and can trace its origins back to 1919. It has always been regarded as an industry-leader. As a founding member of the oneworld alliance, British Airways (BA) is the 5th largest global airline (in RPK's 2002 figures, Source: Airline Business).

The group's 45,000 employees in around 100 countries worldwide assisted more than 40 million passengers last year to get to their final destinations. BA's mainline fleet consists of just over 270 aircraft of 9 different aircraft types. BA operates from the world's biggest international airport, London Heathrow.

BA operates in a market characterized by over-capacity, slim margins (if they exist at all), government regulation, geopolitical influences, and high competition (fueled partly by lo-cost carriers). As a result, all airlines are in a constant battle for long-term survival.

In response to these pressures and others, BA launched its 'Future Size and Shape' program in 2002 with the aim of removing complexity and restoring the airline to sustainable profitability following the September 11th attacks. As well as fixing the core business, the goal was to achieve a 10% operating margin by March 2004. This plan has seen a variety of initiatives, largely based around stripping costs from the business.

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Having been a Teradata user since the early 1990's, BA launched an initiative in 2001 to consolidate information from across the organization into its Integrated Commercial Warehouse, or ICW. The vision for ICW is to simplify the decision-making processes by simplifying IT infrastructure and improving decision support capabilities within BA.

Currently ICW is an 8-node Teradata Warehouse, which houses data from a number of areas of the business, including customers, marketing, sales, accounts receivables, operations and other financials.

This centralization of data has a number of potential benefits for BA. A single source of information allows business users to rapidly find answers to questions critical to understanding customers and business performance. This can then be used to make informed decisions that affect future enterprise competitiveness.

Currently, many organizations are strangled by the lack of information sharing between functional departments. An integrated source of information is not only less costly to maintain, it also improves decision-making responsiveness and helps in the identification of cost reduction initiatives.

The largest data subject area currently on ICW is customer information. British Airways uses the Teradata CRM (TCRM) application, sitting on ICW, to manage its marketing communications with its global customer base.

2.0 History of CRM at British Airways

BA's marketing group comprises regional offices that create independent marketing campaigns, leading to fragmented operations and the potential for redundant communications. Following the creation of the Relationship Marketing Department in the mid-1990's at British Airways, campaigns and Executive Club analyses were initially conducted by an Analyst Team using SAS and Business Objects. The analysts were responsible for identifying the audience and pulling off contact files to execute each campaign.

BA then decided to implement their Customer Data Warehouse (CDW), based on Oracle and codenamed "Oceanwave". However, it took 2 years for the analytical teams to be able to use the information for campaigns and reporting. There were a number of issues with CDW, which can be summarized as follows:

- Complexity - The data structure was radically different to the previous system, and was not designed for analytical purposes. This made it difficult to understand and time consuming to use.
- Query Response - Using customer data for analytical purposes involved many joins which made queries slow and complicated and required advanced programming skills to create SQL queries for even the simplest of list generation.
- Performance - CDW was also being used as an operational data source for OCD (Operations Customer Database) which impacted analytical users
- Training - A lot of time and effort was required by contractors to train SAS users on how to access and use data.
- Data Quality - There were many questions with regard to data quality and so this undermined the analytical team's confidence in the data

Vantage was used against CDW for simple campaigns. More sophisticated campaigns were managed separately by the Analyst Teams using a combination of SAS, Business Objects and

local databases. However, the Vantage solution was found to be expensive and inadequate. As BA had an older unsupported version of Vantage and limited internal IT support, it would often take two to three days to build bi-weekly queries.

The Vantage solution was used to manage campaigns at two Carlson Marketing Group (CMG) (i.e. outsourced) locations in Minneapolis (North America) and London (UK and Rest World). In Minneapolis this was quite a complicated and costly process involving audience selections and database pulls using Business Objects and SAS analysis.

After September 11th 2001, BA had to make drastic cost savings with external spend. This meant the outsourced CMG operation in London had to be shut down at short notice. An interim replacement process was developed in SAS to fill the gap for a few months. The interim solution enabled the Campaign Operations Team to continue to produce campaigns, however, it required support from a SAS Analyst plus IT. BA also started looking at ways to reduce the external costs for campaign execution in North America by simplifying the processes and the Carlson IT support costs at Minneapolis.

At this point BA took the decision to implement Teradata CRM (TCRM) on ICW. The Switch to ICW from CDW was quicker and less painful than the CDW implementation for a number of reasons:

- Natural Step - The change from CDW to ICW in terms of a relational database was not as great
- Simplicity - The data structure of ICW was heavily influenced by the analytical requirements so it had a simpler structure (key tables are Customer and Transaction). Whereas the cutover to CDW took 2 years, it was only one month to move to ICW.
- Performance - Speed of accessing data was significantly improved on Teradata. Complex query response times could be cut from hours to minutes, days to hours.
- Data Quality – Easier to identify quality issues and implement appropriate actions to resolve them
- Training – Only 1 day of training was required and within one month all Marketing Analysts were using ICW only (biggest hurdle was getting logons and access)
- Access to data - Already had access to ICW through bedded-in tool TCRM
- Correct Tools - By using the right analysis tools (PC SAS8) BA could avoid issues on field name length restrictions

3.0 TCRM at BA: The Solution

British Airways went live with TCRM Version 4 in August 2002. Within only 4 months, the company had rolled out an integrated campaign management solution to a user base in multiple locations. The modules implemented are Communication Manager and Segmentation. TCRM is linked with other operational data in ICW (see below for description and benefits) such as flights

cancelled, number of bags, time delays, and type of check-in (i.e. desk, kiosk, on-line, call-center).

Globally all communications to Executive Club members and BARCs Customers (BA Registered Customers – previously known as NEON – Non-Executives On-line) are done using TCRM. To date, BA have implemented the application at 4 locations: British Airways Head Office London, ADP Camberley UK, BA New York and Carlson Minneapolis.

Configuration - The data source for TCRM is BA's Teradata Warehouse, ICW. This consists of an 8 Node Teradata 5250 with over 4 Terabytes of User Disc. TCRM is the largest application sitting on ICW currently. TCRM itself is supported by 2 middle tier servers and 3 test environments plus one production environment.

Resource - TCRM is supported internally via a single team in the IT department which covers the day to day support and development. This team includes 3.5 IT Support and Development plus 1 Business Consultant. There are 8 Super Users/11 Operational Users, plus 10-20 Casual Users

Current and Future Growth Drivers –

- Specific campaign requirements
- Re-launch of loyalty program/ Business realignment
- Cost savings
- External requirements
- Leisure database

4.0 The Benefits of TCRM to BA

- Integrated Information

TCRM supports integrated email, direct mail, call centre and web channels from one interface. It is a one-stop shop for all marketing communications, including Executive Club and BARCs information (BA On-line Registered Customers – previously called NEON – Non-Executives On-line).

TCRM also allows the business to leverage the large breadth of information held in ICW. Business users are able to get rapid insight into customer behavior, and use this to drive proactive 2-way communications. As a result, TCRM enables the business users to adapt and act quickly to newly identified customer insights. Customer information is also connected to the commercial data on ICW (e.g. flight, ticketing and operational data) allowing rapid campaign response to operational events.

Having a single view of the customer also helps to ensure compliance with the Data Protection Act, ensuring privacy preferences are stored in the one place.

- Improved Efficiency

TCRM has enabled significant improvements in resource efficiency, timeliness to execute, end-to-end marketing processes, faster response to changing business and customer conditions, and automation of standard communications.

In the area of resource efficiency, there has been a significant reduction in the number of analysts...the unique features of Teradata ICW mean that less time is required by analysts doing database administration (table joins, reorgs, data cleansing). Efficiency improvements have also been made possible through more rapid access to information on ICW. Users are now able to receive virtually instantaneous response to queries (using SAS, BO or TCRM) compared to the previous system (CDW) which frequently required a few hours to return query results. As a result, it has been possible to reduce the team of analysts from 8 to 3 FTE's (full-time equivalents), freeing up resource for more productive use (see Figure 1 below).

The volume of analysis has also increased. The Analysts are producing more and more sophisticated reports in response to requests from Marketing. Comparing the months of July-September between 2002 and 2003 (i.e. before and after TCRM implementation), the volume of requests has gone up by 150%.

The team can also be less reliant on specific programming skills (i.e. SQL and SAS). Previously, one team did the analysis to identify the audience, and another produced the emails. The interim solution for the UK and Rest of World required a SAS analyst for a minimum of 1-day per week. TCRM now enables greater efficiency and data integrity to ensure that the right person is emailed with the right communication at the right time.

Furthermore, the new solution has allowed the team to outsource simple communications to RMDC (ADP Camberley) - e.g. Club World offers to online customers. Campaign Communication Executives can also build simple queries.

Despite the overall reduction in the size of the team supporting CRM at BA, the volume of communications has increased.

- Campaign Modelling and Testing

The team can now model and test specific campaign strategies and use that to build a suite of communications that are regularly used in personalized campaigns. For more details on the suite of campaigns, refer to Section 4.0.

- Reduced Marketing Costs

In addition to the cost savings achieved through the efficiency improvements mentioned above, marketing costs have also been significantly reduced. This is in part due to a strategic shift from off-line to on-line communications. This is one of the ‘Customer-enabled BA’ objectives under the Future Size and Shape programme. The aim is to make dealing with British Airways so easy that customers choose to do it themselves.

The data in Table 3.1 below shows a significant increase in email campaigns before and after the implementation of TCRM. The overall volume of mail campaigns has fallen, reflecting the strategic direction of the organization.

Table 3.1 – Volume of Mail and Email Campaigns Before and After T-CRM Implementation

Month	Email 2003	Email 2002	Mail 2003	Mail 2002
April	145	54	15	30
May	105	43	9	13
June	69	42	20	8
July	90	63	22	12
August	120	52	15	28
September	103	34	21	24
TOTALS	632	288	102	115

* Note: figures may include multiple waves for individual campaigns

Marketing costs have also been lowered by bringing a large proportion of the campaign execution process in-house.

In North America, Carlson Marketing Group managed all the local execution of emails using their own email engine. Email campaigns were charged at a rate of 3 cents per email, which given the size of the audience was a considerable expense. This cost has now been significantly reduced as the process can be executed directly via TCRM.

- Short Implementation time

The easy data structure meant that the cut over to TCRM from the previous solution was quick and painless (1 month vs 2 years).

Training requirements have also been significantly reduced by being done in house and on the job. A new user of TCRM at BA can action simple communications within a week of being introduced and trained on the system. On the previous systems, users required multiple days of training and long lead times to gain understanding of processes and data, on occasions from paid contractors.

5.0 TCRM at BA in Action

The aim is for all Marketing communications (Servicing, Fulfillment, and Information) to Executive Club and Online Customers to be conducted using TCRM.

There have been over 600 campaigns to date using TCRM, addressing 4000-5000+ customer segments. As the suite of campaigns is created, it is very simple to repeat them with minimum user intervention. The following Case Studies illustrate some key campaigns which are run by BA for their customer base:

Case Study 1: Service Recovery for Industrial Action July 2003

Although TCRM was primarily intended for use by Marketing to send marketing communications, this operational use of the TCRM solution demonstrates the flexibility of the solution for other, more time-critical communication purposes. The ease of use, access to integrated data and quick results are a few of the primary reasons for this.

Initially after the Industrial Action of check-in staff at London Heathrow airport in July 2003, all emailable UK customers received three separate communications within four days of the action. The customers were easily segmented by route, date and customer value. Four customer groups were identified by the analyst team: affected passengers, forward bookings, Executive Club members and BARCs.

The initial communication with customers was either an apology and/or reassurance. In total 800,000 emails were sent with a relevant and targeted message. These communications could be rapidly turned around by a non-operational member of the team within one day of the request put in by clients.

Pro-active calls were also made to customers who were directly affected by the disruption. Within 4 days of the action, 25,000 prioritized telephone contact files were generated from TCRM for use by service centers and other support staff. Calls were then made to apologize for the disruption and compensate affected customers.

As the team had access to the detailed data they were able to segment the affected passengers by customer value, journey type and departure airport, and allowed customers who had already been emailed to be identified on the contact lists. As a result, the service centers could prioritize their activities and award customers with the appropriate level of compensation.

This example highlights the importance of having integrated operational information and customer relationship data immediately available for quick action in time of crisis.

Case Study 2: Quarter 4 2002/3 UK & I Campaign

This case study compares a one-time campaign organized in 2002 and pre-TCRM, and compares it with the same campaign in 2003 using the TCRM solution. The complexity of the qualification parameters and the resources required to perform the campaign in 2002 made it doubtful to be run once again. However, the implementation of the TCRM solution on the ICW facilitated the process and removed some of the risk associated with the promotion in the prior year.

BA designed this campaign to target full-fare Club World passengers with two free Club Europe tickets if they booked another flight in Club World within a specified time frame.

This is a complex campaign, running for 3 months and targeting around 150,000 customers, with approximately 13,000 customers who qualified for the offer. The complexity comes from the selection requirements. It is necessary to map to flight and ticketing data in ICW for each individual customer to ensure that the flight was actually ticketed and flown at full-fare. It is also necessary to crosscheck with the corporate deals database to see whether the ticket was discounted on the back end, in which case the customer would not qualify for the campaign.

Previously the one-off campaign required specialized IT resources to write SQL statements to make the selections. One SAS analyst was also required to validate and process contact files on a daily basis. This was not only labor-intensive, but also prone to failure and error.

This year the campaign was repeated by British Airways on TCRM. Due to the errors and resource requirements of the prior year, the campaign would not have been run without the TCRM solution.

The campaign was mailed, awarded, and followed-up using the TCRM application, and a number of benefits were realized as a result. After only 1 week of initial set-up, one analyst manages the entire campaign using only half a day per week. The de-duping and audience management is also low risk. So, fewer resources are required to manage the campaign and the skills and learning can be easily captured, passed on and used in similar campaigns in the future.

Case Study 3: Gold Upgrade for Two

This campaign targets a relatively small number of high-value customers. Prior to TCRM, it was necessary for a specific IT resource to conduct the contact analysis and organize the contact feeds through to the fulfilment center.

After the implementation of TCRM, some IT resource was required initially to set up the contact identification process, but once this was defined within the application it was relatively easy to replicate. Also, all of the outbound email communications and feeds have now been built on TCRM.

TCRM has enabled the Campaign Operations Team to control the campaign process, plus given them visibility of the audience without requiring reports from IT. The application has enabled the

development of lower-cost channels, significantly reducing communication costs as an unexpected benefit.

Other Campaigns:

With the TCRM solution, BA Marketing has been able to automate a number of ongoing campaigns and customer communications. This frees up resources to handle more complex campaigns as they are requested from the Marketing group. Although most of these campaigns are ones that could have been organized in the past and were; they would have required more overhead in the areas of resources, time and effort.

With the TCRM solution, BA is able to re-allocate personnel to create, run and manage their customer communications based on different required skill sets. Rather than using highly skilled SQL and SAS programmers to run and reconcile list pulls, the automated campaigns are managed by the analysts within Marketing. The automation facilitated by the TCRM solution also allows them to run the campaigns more frequently and to keep in touch with their customers on a more timely basis.

All of the following campaigns are built and running, or shortly to go live on TCRM.

- Tier End Notification

Objective: communicate with Executive Club members who will not or will nearly miss tier qualification for the following year; stimulate activity to ensure that tier status will be reached.

- Marketing and Servicing
- Should generate incremental revenue
- Customer Loyalty with timely and relevant messages

- E-Statements

Benefit – Executive Club members who received e-statements were directed to www.britishairways.com to review the current mileage levels. This enabled BA to reinforce the brand as well as the Web site when communicating with their relevant customers.

- Servicing
- Cost saving
- Does generate customer interest

- Mileage Expiry

Objective: communicate with Executive Club members whose mileage is nearing expiration to keep their mileage current through account activity.

- Marketing and Servicing
- Could generate incremental revenue
- Protect BA from adverse customer relations

- Customer Activation (“Resume Campaign”)

Objective: campaign to encourage inactive Executive Club members to travel once again on BA.

- Marketing
- Should generate incremental revenue
- Part of communication strategy
- Around a 4% response rate was achieved.

- New Members

Benefit: segmentation tree used to set up business rules in TCRM which should decrease the time between enrollment and first communication.

- Marketing
- Should generate incremental revenue
- Use some modeling to set up segmentation rules

- Terminal Changes for Future Flyers

Objective: To inform customers booked on flights in the next 3 days if there has been a terminal change.

- Servicing
- Customer loyalty through relevant and timely messages
- Potential to save costs in operation, as service centers could focus on customers not contacted by email.

6.0 Future Plans

BA are currently using the Teradata CRM Communications Module, Segmentation Module, and Customer Lookup module.

In the near future, it is planned to implement BA's Leisure database on TCRM and ICW, and thus realise the communication plan for the Leisure side of the business also. BA also plans to further develop and automate their multi-step communications. For example, the following process could be automated through Teradata CRM:

Step 1: outbound communication sent to customers.

Step 2: customer responds via pre-registration.

Step 3: TCRM identifies those customers who qualify for reward.

Step 4: TCRM executes targeted and relevant follow-up communications, notifying reward recipients directly via TCRM.

The functionality available through TCRM version 5 will enable BA to create more complex mappings against the ICW database. It will also give BA the ability to test new segmentation ideas with the customer SQL feature. Once the Communications Plan with the series of recurring communications has bedded in, BA will have increased ability to measure ROI and incremental benefit of marketing activities.

It is likely that the next steps will involve the implementation of the TCRM Analysis Module, possible use of Teraminer, and the Personalization Module.

Reference

MyCustomer. (2004). British Airways CRM Case Study. [online] Available at: <http://www.mycustomer.com/marketing/strategy/british-airways-crm-case-study>.