Best Practice

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Design and development of cahoot's CRM system

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Abstract

The interactive bank, cahoot, was launched to the public on 12 June 2000. This paper discusses the challenges facing an online bank, involved in bringing together data from the various source components and holding it at a customer level within the data warehouse. In addition, the paper looks at outputting the analytical work and customer decisions made using the warehouse data to all customer touch-points, including the Web, contact centre and within customer communications.

Keywords: online banking, CRM, data warehouse, campaign management, customer decisions, customer segmentation

Background

In 1998 Forrester, a leading research company for electronic commerce, predicted that within five years no traditional bank would survive without an effective answer to electronic commerce, because financial services, telecommunications and retailing were at the epicentre of a deep economic change.

The UK financial services market had gained a reputation for being 'over-banked', with many participants. However, UK banking still remained very profitable, even for smaller banks. Online banking seemed to fall into two camps — those that were merely additional channels for a mainstream bank (such as Barclays and Lloyds TSB), and those that had a separate online identity (such as Egg and First-e).

The Abbey National response to the challenge included the launch of Project Aquarius in September 1998; a small management team was formed from visionary Abbey National staff, and set out with the intention of leading the future of banking.

The new stand-alone bank would be targeted at the mass affluent actor — aged 25–54, with household incomes above £25,000, and technology-confident but time-poor. The proposition would be based on customer centricity and ease of use, while placing the customer more fully in control of his/her finances than was previously possible. Aquarius would be seen as an innovative and comprehensive solution to modern banking needs.

Project Aquarius was re-named cahoot, and opened for business on 12 June 2000. Since then, cahoot has gone on to win awards, including the Gomez Online Credit Card Autumn and Winter 2000 and IVCA Best Business to Consumer Transactional Website.

The beginnings of cahoot

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Channels

The primary access channel to cahoot is the Internet (see Figure 1), which will soon be complemented by digital television. Customers may also perform (limited) banking through their WAP 'phones and using Interactive Voice Response (IVR). A 24-hour contact centre supports IVR, calls to live agents, e-mail messaging and some fulfilment. In addition, cahoot offers services via automatic teller machines and The Post Office. The bank makes outbound communications through a variety of channels, including e-mail, SMS messaging, the telephone, and secure message boards (which customers may view on the cahoot banking site).

Products and pricing

When the bank was first launched it offered two products — a current account and a credit card. An unsecured flexible loan was added at a later date and structured savings products will be added to the portfolio in the near future. cahoot is committed to individual pricing, according to risk for new customers and to risk and value for its existing customers. As a low-cost bank, with customers visiting via the Internet and managing their accounts and transactions through automated processes, cahoot is able to offer market-leading rates to its customers. cahoot also offers products, such as insurance, provided by partner companies and links to other partner companies.

Architecture

The great challenge for Information Technology was to develop a robust solution in a timely manner, thus allowing cahoot to take early-mover advantage. The architecture is component based, with individual

Component-based architecture

Figure 1: Access to cahoot

components resting on flexible rules-based systems. The architecture was designed to allow the easy addition of new products and channels and for straightforward scalability.

cahoot's service is based on IBM's Corepoint Banking System solution, and integrated with back-end transaction processing systems — VisionPlus from Paysys and ICBS from Fiserv, and utilising Blaze Advisor, the front-end decisioning tool. Alliant, from Fiserv, provides the contact centre's channel integration and customer servicing solution. Analytical, reporting and campaign management tools work on the data warehouse, Fiserv's InformEnt.

The cahoot CRM strategy

The basic principle underpinning the cahoot CRM strategy is that customers will be managed in such a way as to maintain or increase their value to the bank. Customer relationships will be analysed and monitored from many perspectives, and strategies employed to manage individual customer values by leveraging behaviour, offering individual pricing and products, influencing channel usage etc.

The cahoot CRM system

Having made the decision, for sound business reasons, to build a component-based bank, the challenges ahead for CRM lay in bringing together data from the many source components, holding it at the customer level and offering one view of the customer at all touch-points.

Various data sources

Data warehouse

The data warehouse sits at the heart of the cahoot CRM strategy, and is updated every day from the source systems. Since the build first commenced, more and more data have been mapped into the warehouse, thus giving an ever more detailed picture of each customer relationship. The various data sources are described below.

Application database

Potential customers complete the online application form, and after a check with a credit reference agency, the decision engine will either conditionally accept or reject that application. The information held in the application database includes personal details, product selections, details about other financial relationships, given credit scores and advertising media source.

Product systems

The various product systems hold product details and transactional information at the product level. While most variables had been mapped at the time of the launch, a great deal of subsequent work has been done in capturing these variables at specified periods of time, rolling them up to customer level and mapping into trending tables within the warehouse; thus allowing an accessible, historical picture of each customer's banking behaviour.

Web logs

Both the public (marketing) and private (banking) sites have their own Web logs, joined by a cross-reference file. Each click that customers make online is captured by the Web logs, thus allowing cahoot to track their exact journeys. The challenge has been to cut through the mass of data and decide what elements will be of importance, and then to store them at the customer level in easily accessible tables.

Contact history

Every time a customer contacts the contact centre, perhaps by telephone, using IVR or by e-mail, certain elements of that communication will be captured within contact logs and subsequently stored within the warehouse. Likewise, details will be held about outbound communications sent either by the contact centre or the customer management system. It has been important to ensure that contact centre agents adhere strictly to the contact log completion processes so that the data allow an accurate analysis of contacts.

Channel usage

Customers may transact from their accounts through a variety of channels — perhaps the Web (including digital television in the near future), WAP 'phone or an ATM. Likewise, they may select a channel in order to change their personal details or make certain requests. It is important to understand which channels given customers are using for what actions.

External data

cahoot receives regular feeds of data about each customer from a credit risk agency. In addition, it has access to most of the popular geodemographic systems.

Statistical analysis and modelling

The complement of analytical and modelling tools has been enhanced since the bank first launched. During the early days, the emphasis was on straightforward business information, such as number of accounts and customers and the size of assets and liabilities. As time has passed and historical data have been generated, statistical analysis and modelling tools have come into their own. All such tools sit upon the data warehouse, and have been set up in such a way that they can easily access the full spectrum of customer data. Key staff may perform any modelling and analyses from their desktops or from anywhere else that they may choose to access the network from.

Business reporting

Most of cahoot's business reporting is generated by tools such as KnowledgeShare (also known as Brio), working on the data warehouse. Routine reports have been set up on a schedule for delivery to the business owners. In addition, most business users have easy access to the warehouse through KnowledgeShare and may build their own *ad hoc* reports as required.

Increased use of statistical analysis and modelling

Analysis and modelling

One of the key uses of the analytical tools will be to segment the customer base. The initial development of the customer behavioural segmentation will include some basic application and transactional data only. Once this is complete, further data will be added, bit by bit, to enrich the customer picture. At the same time, analysts are concentrating on trying to understand the value associated with customer behaviour, and will produce a value overlay to work with the customer segmentation.

The implementation of segmentation strategies will provide the framework for the management of customers and business decisions made across the bank — including new product development, channel development and decisions about the allocation of resources.

Campaign management

MarketShare (also known as Protagona) was selected as the campaign management tool for cahoot, and is used to generate most of the bank's automated communications. The campaign management staff have desktop access to MarketShare, and are able to build customer campaigns with little, or often no, support from their IT colleagues.

Automatic marketing communications

MarketShare is flexible enough to manage both operational and marketing communications (campaigns) for the bank. Once the campaigns have been built, they may be deployed manually or placed on a schedule to run automatically. The campaign management tool searches the data for instances where the campaign triggers have been met, and automatically sends the relevant message through the selected channel to the given customer. A variety of channels are available for message distribution, including personalised e-mail, SMS and customers' secure message boards. In addition, mailing or telephone call lists may be generated.

One of cahoot's most popular features is the trigger alerts (Figure 2). Customers may select to receive one or more of these five alerts through e-mail and/or SMS. The message will also be sent to their secure message board. These alerts have been built as campaigns in MarketShare, and run on a daily schedule. With message options such as 'please tell me when the balance on any of my current accounts is below this amount', customers are able to manage their finances with the minimum of hassle and worry.

Customer decisions

Rules for customer decisions

The bank will continually make decisions about its customers — perhaps who to offer a credit limit increase to and by how much, or which customers have above a given propensity to take a certain product and at what rate that should be offered. Decisions such as these are made at the back end by one or more of the modelling, analytical or campaign management tools. The front-end decision engine will use its rules to make decisions about applicants and customers while they are using the Web or other customer touch-points. One of the big challenges that cahoot faced was to ensure a seamless integration of the front- and back-

The screenshot shows a web browser window titled "Cahoot - your accounts - Microsoft Internet Explorer provided by abbey.net". The address bar shows "http://aquarius.marketing.co.uk/templates_r2/core_banking/index.html". The page has a dark header with the "cahoot" logo and navigation links: "log out", "personal homepage", "change personal details", "additional accounts", "activity summary", and "contact us". Below the header is a banner with "{ in control }". A secondary navigation bar contains links: "terms and conditions", "legal notices", "security and privacy", "rates and fees", and "cahoot extras". The main content area is titled "When would you like cahoot to notify you about your account activity?". It contains five sections, each with a checkbox and a text input field:

- ☐ **cahoot current account**: Please tell me when the balance on any of my current accounts is below this amount: £ [input field]
- ☐ **cahoot credit card**: Please tell me when my available credit on any of my cahoot credit cards is below this amount: £ [input field]
- ☐ **Payments**: Please tell me when a payment exceeding this amount is made from one of my current accounts: £ [input field]
- ☐ **Deposits**: Please tell me when a deposit exceeding this amount enters one of my current accounts: £ [input field]
- ☐ **Minimum payment**: Please give me this many calendar days notice for when my minimum credit card payment is due: [input field]

At the bottom of the form are "cancel" and "save" buttons.

Figure 2: cahoot's trigger alerts

end decisions, so that back-end decisions were available, in particular, to the Web and contact centre.

Customer segmentation

The implementation of customer segmentation will allow the business as a whole to treat different customers differently according to the segment strategy. The segment code (current and historical) will be stored in the warehouse at the customer level, and will thus be available to the analysis, modelling and campaign management tools. In this way, customer segment will influence all decisions about customers made at the back end. There is also a requirement to have the segment code available, in particular, to front-end decisioning at the Web and to the contact centre.

The future

Having gathered a critical mass of current and historical data, cahoot has started on the journey of interpreting the results of analyses and modelling work. The build of the required functionality to have the output available to all customer touch-points and to allow the bank to treat different customers differently is well under way. The business managers are united in the desire to ensure customer centricity and the development of a valuable customer base, and so will champion the use of the data and functionality as they become available.