Software review

Real-time technologies in marketing – Interaction management

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Abstract This paper provides a high level description of the 'real-time marketing solutions' to enable readers to discern the differences between different offerings. It discusses the advantages and disadvantages of these technologies and looks at some typical business applications.

INTRODUCTION

Definition

The label 'real-time marketing solutions' is being used by vendors to describe a wide range of technologies. The term has become popular as vendors try and ride organisations' current interest in all things in real time; it does not really provide a good descriptor for this emerging class of software applications, however. The term 'interaction management technologies' is preferred by the author, as it better describes the business focus of these technologies:

Interaction management technologies deliver marketing offers to customers or prospects in real time through one or more communications channels and then monitor the effectiveness of these activities. In most cases these technologies have embedded or

associated analytics that drive the offer decision-making process.

Perhaps the most common business use of interaction management technologies is to drive cross-sell marketing offers to a call centre representative (CSR) while he/she is engaged in dialogue with a customer. The process of deciding to move the offer may involve data from the touchpoint and/or data that is held on the customer database.

The performance of these types of marketing offers is normally good, with response rates commonly in the 20–30 per cent range. The reason for this above-average performance is the timely and relevant nature of the marketing offer. The contact point (eg call centre dialogue) often provides valuable contextual data to input into the offer decisioning process.

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Many of these interaction management technologies have been developed for use within one specific channel, eg a call centre or a website, but over the last few years they have been enhanced to address the cross-sell and up-sell requirements of today's multiple channel business environments.

The vision of interaction management technologies is to make personalised marketing offers across all channels in real time; however, few vendors get anywhere near this target without a significant bespoke development effort. Vendors are struggling to cope with both the rapid emergence of new communications channels such as instant messaging, multi-media messaging, and the slow adoption rate of interaction management technologies in client organisations. In the author's opinion, however, this class of technologies and this approach to marketing will become important foci for marketing teams in tomorrow's organisations. The high yield and the ability to automate the process with self-learning tools will ensure that interaction management technologies see high adoption rates across the finance, telecommunications, media and retailing sectors over the next two to three years.

BUSINESS APPLICATIONS

The primary business application for interaction management technologies is the delivery of offers at the point of customer contact. The following marketing business objectives have been supported using these technologies:

- Cross-sell communications — a customer is presented with a personalised offer on a website. This asks the customer to take out a personal loan product; the decision to offer the customer the product was based on current credit card product involvement, product propensity and pattern of usage of the website.
- Up-sell communications — a customer is presented with a personalised offer on a website. This asks the customer to take out an enhanced subscription to an information service; again, the decision to offer the customer the product is based on current subscription and usage levels.
- Retention communications — a customer is sent an SMS message suggesting that she visits the cosmetics department of a retail store to get a special offer. The offer decision was based on churn propensity score and location within the store.
- Recovery communications — a customer is sent a multi-media message suggesting that he/she renews a service based on previous product involvement and a recent visit to the company website for sports news three months after a subscription to the standard automated service had been cancelled.

The key business driver in most organisations is cross-selling, but there have been some interesting case studies in the use of interaction management technologies to support customer recovery. In addition, interaction management technologies are now being used to drive other business objectives including:

- Customer service communications — answers to key questions put during the initial part of an inbound call are used to prequalify the customer for an opportunity and he/she is passed to the relevant sales team.
- Customer surveys — a customer receives a pop-up window on a website asking them to complete a

Table 1: Types of communications channels addressed by vendors of interaction management technologies

Channel	Method/technologies used
Call centres	Inbound Outbound
Websites	Salesperson/teller in branch/ATM/Kiosks
Retail touchpoints	SMS messaging
Mobile communication devices	Multi-media messaging
Instant messaging	Real-time video

survey after visiting the site three times in one month.

- Data validation — a customer is asked to validate data held by the organisation as part of the close on a customer support call.
- Management of opt-in status on websites — a customer receives a pop-up window on a website asking them to confirm opt-in status for a newsletter after they have received four copies.

Channels addressed by one or more vendors are listed in Table 1.

The channels that saw early adoption of these technologies — and which in reality drove the development of this technology class — were the call centres closely followed by the internet. Most of the heavy analytics and self-learning intelligence were developed for use on the internet.

KEY COMPONENTS OF THE TECHNOLOGY

This section of the paper describes the key components of interaction management technologies.

Data management

This is a key component of interaction management technologies. In order to make effective decisions about what offer

to make to a customer, the decision engine needs to get access to a range of data. These data sources may include:

- Data warehouse
- Product management systems
- Billing systems
- Service provisioning systems
- CRM systems

The ability to get access to multiple sources of data in real time is one of the key requirements that differentiates this class of technology. In some cases this functionality is provided by other third-party middleware applications, in which case purchasers should make sure the vendor has a proven track record or that the solution is thoroughly tested before purchase. Key features required include: the ability to access a wide range of data storage types including relational database management systems (RDMS); the ability to access a wide range of hardware environments; the ability to read source application meta data (data about data); the ability to map different data sources into the interaction management technology; the ability to manage security between the various data sources; and the ability to access source data within the required timeframes.

In some cases, vendors or client organisations have chosen to copy the required data into a separate database; this provides a lower risk solution (less

dependency on network and source system performance) but does have associated storage overheads and issues with data synchronisation.

This whole area of data management should receive the most scrutiny as this is the area where most project failures occur.

Decision engine

This component is concerned with making the decision on which offer(s) should be presented to the customer or prospect. It is in this area where most vendors have tried to differentiate their solutions.

The following are examples of some of the approaches that have been adopted by vendors:

- Rules engines-based solutions: these technologies allow a marketing user to create business rules that can be applied to data to determine which offer is most appropriate for a customer during a customer interaction. They have the advantage of being easy to deploy, simple to understand and mature technology. Disadvantages include that they are limited to simple rules and that combining rules leads to difficult-to-predict outcomes. Examples include Blaze Advisor and Actimize.
- Real-time scoring: as part of the customer interaction, an individual customer's data are scored and a decision tree based on score bands is used to determine the most appropriate offer. This has the advantage of allowing model scores to be used to drive the offer decision process, allowing models to be very complex and that marketing performance is normally better than with rules engines. Disadvantages are that real-time scoring tends to require technical skills to implement and that integration can be difficult. Examples include SASC and J. Scores.
- Real-time modelling: this allows a marketing user to embed a modelling process into touchpoint technology, eg in a call centre. In this case, the solution takes data inputs and either recalibrates or rebuilds a predictive model. It then scores the individual customer data and a decision tree based on score band is used to determine the most appropriate offer. Advantages are that the technology: rebuilds or recalibrates the model in an automatic or semi-automatic manner, includes 'self-learning' technology; and that marketing performance is normally better than for scoring engines. Disadvantages are that it requires large volumes of input data, so tends, only to be used with websites; is generally not a mature technology area; and that the model 'follows its tail'. Examples include SPSS Data Distilleries and SAS Enterprise Miner.
- Optimisation-based solutions: these technologies allow a marketing user to apply a set of business constraints to a number of campaigns or communications within a campaign and determine the optimal customer/channel/offer/mix. They have tended to be deployed in a batch mode, but are starting to be used in a real-time context. Advantages are that it takes into account business constraints when making the offer decision; it uses a statistical basis for the optimisation; and that marketing performance is normally better than rules or scoring engines. On the downside, it is not really used for real-time decisioning and that there are few vendors in the market. Examples include SAS

Marketing Optimization, Affinium Campaign Optimize, and Market Switch (Experian).

- Trigger-based solutions: these technologies allow marketing users to create sets of rules that filter transactional type data and look for abnormal transactions for an individual. They then use these triggers as inputs into the offer management process. The user is normally able to set thresholds for 'abnormal' behaviour.

Trigger-based solutions have the advantage of being very good at handling large volumes of transactional type data, such as website traffic and of having a flexible definition of abnormal behaviour. Disadvantages are that they require transactional type data and that performance can be an issue. Examples include SAS Interaction Management and Actimize.

- Hybrid solutions: these technologies use one or more of the previous methods. The most common combination is a rule engine plus another technique, but they are also being combined with scoring engines.

Advantages of hybrid solutions are that they claim to have the best results (not proven in all cases) and that they get round some of the real world issues associated with individual techniques, eg business constraints with a rules engine or scoring process. Disadvantages are that there are few vendors, in some cases the technologies are immature and that they may be based on profiles and not customer level data. Examples include Epiphany and NCR Relationship optimizer.

As can be seen, all of the above approaches have been used with different degrees of success. They all have

advantages and disadvantages. When reviewing these solutions, purchasers should look for benchmark data for their industry and/or look to do comparative testing based on their organisation's data and channel requirements.

Although the offer decision-making component is at the heart of the interaction management technology, purchasers not ignore the other components.

Channel integration

A key component of interaction management technologies is channel integration. Having decided which offer is to be made to the customer or prospect, the solution should allow the offer to be surfaced to the relevant channel. This will mean integration with a range of technologies in call centres, on websites, in branch systems, in ATMs and in Kiosks. In many cases, an organisation may have more than one type of technology covering a channel, eg multiple call centre systems.

In addition, this integration has to take place real time. In order for this to happen the following key features are required:

- Ability to integrate with channel technology
 - Hardware
 - Software
- Ability to work alongside the channel technology (overlay existing screens)
- Ability to map different target systems into the interaction management technology
- Ability to manage security between the various data sources
- Ability to capture offer status and outcome data

In order that a customer does not

repeatedly get exposed to the same offer, there needs to be a real-time feedback loop between the channel and the offer decision engine.

Reporting

A key component of interaction management technologies that is often ignored is reporting, this is because most vendors assume that the client organisation will use existing enterprise reporting technologies. This is not always the case.

Key features required

In order to exploit other enterprise reporting tools it is essential that the following data types can be shared with the reporting applications:

- Interaction management application reference data
- Offer data
- Communication status data
- Outcome data
- Product purchase data

The reporting technology should support fixed reports, parameter driven reports, dynamic reporting and user defined reporting and these reports should be surfaced through a portal environment that supports the concept of 'publish and subscribe'. This allows the user to control which reports they subscribe to. In addition, the solution should provide access to a range of reports that monitor the performance of any analytical processes used by the solution.

RECOMMENDATIONS

When evaluating these technologies, purchasers should follow the usual rules:

- Understand the organisation's business requirements
- Understand the technical requirements
- Ensure the technical evaluation process is rigorous, particularly in data management and integration
- Obtain a complete vendor profile
- Use vendor blind (organised by client organisation, without any vendor involvement) reference sites to validate vendor's claims and understand delivery requirements
- Understand the implementation approach and internal resource requirements

SUMMARY

The term 'real-time marketing solutions' commonly used by vendors, is not a very good description for these technologies. The author prefers the term 'interaction management technologies' as it better describes the business focus of these technologies. Their primary focus is to deliver marketing offers to customers or prospects in real time through one or more communications channels and then monitor the effectiveness of these activities.

The performance of these real-time marketing offers is normally good, with response rates in the 20–30 per cent range common.

Given the high performance of interaction marketing technologies, their timely and relevant nature and the fact that they allow the marketing processes to be automated, these real-time marketing offerings will become important foci for marketing teams and will see high adoption rates, particularly in the finance, telecommunications, media and retailing sectors, in the near future.

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**APPENDIX: COMPANIES
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