Mark Perrett

is responsible for Customer Relationship Management within the retail business of E.ON UK, a post he has held for the past two and a half years. During this time, E.ON has developed its CRM capabilities to deliver improved customer value measurement, propensity modelling and measurement of ROI for marketing activity. This has required significant infrastructure development, including the development from scratch of a data warehouse, which provides the 'analytical engine' at the centre of CRM activity. Before joining E.ON, he spent 16 years at Barclays Bank, holding various roles in the areas of MI, Data Warehousing, Customer Value Measurement and CRM. E.ON is the world's largest investor owned power and gas company. It is one of the United Kingdom's largest energy suppliers, with around six million electricity and gas customers.

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Complaint reduction

Mark Perrett
E.ON UK
Newstead Court
Little Oak Drive
Annesley, Nottingham
NG15 0DR, UK
Tel: +44 2476 181009
E-mail: mark.perrett@eon-uk.com

Powergen: The journey to marketing optimisation

Mark Perrett

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Abstract

Use of propensity modelling to improve performance of direct marketing activity can be very effective on a campaign by campaign basis. Increasing sophistication in the way in which propensity models are applied can also demonstrate dramatic results. This article provides a case study to demonstrate the impact of applying different propensity models (value and channel propensity) within a service business, providing evidence of significant performance gains without any change to business processes.

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Introduction

Is Direct Marketing an art or a science? Probably both and it does not actually matter whether one favours the creative or the analytical facets — good practice requires strength in both areas. It is, however, clear that it is possible to bring a deeply analytical approach to direct marketing and achieve significant benefits in terms of effectiveness.

From an organisational perspective, increased campaign response and lower sales costs will always be desirable, no matter how 'customer centric' an organisation claims to be. It is also likely, however, that improved customer targeting will actually decrease customer complaints about direct marketing. If one is contacting those who are more likely to respond to a targeted and relevant offer, in a channel that they are likely to prefer, surely that is better than antagonising them with irrelevant offers in inappropriate channels at the wrong time.

This latter 'side effect' of better targeted direct marketing may well prove to be more value-enhancing in the long run than the obvious increases in response and conversion rates often cited as the 'return on investment' for propensity modelling and customer analytics. Customer contact is becoming a finite resource, and there are increasing numbers of consumers who are making significant efforts to opt out of direct marketing. Reference to Telephone Preference Service registrations over the past two years illustrates this point (Figure 1):

There are few large B2C organisations that do not practise some form of propensity modelling, either through in-house facilities or via one of the many marketing services organisations that provide some

degree of analytics services. Not that many organisations, however, appear to have continued to the next logical stage of full marketing optimisation, across multiple campaigns, over an extended (six to twelve month) timescale.

This paper presents a case study of how E.ON UK Retail has moved from more or less untargeted direct marketing to the verge of a full marketing optimisation pilot within just over three years.

Figure 1: Telephone preference registrations April 2004 — September 2006

Figure 2: Customer contribution by percentile

Optimisation components

First, it is necessary to have something to optimise. This may seem a trite statement, but an optimisation solution operates by optimising a target variable given a range of constraints. In most organisations, it is likely that the item to be optimised will be some kind of value measure. This does not necessarily have to be at the customer level, but in the case of E.ON, managing for value at the customer level is a key underpinning of the business strategy. Figure 2 illustrates why this is the case.

As can be seen from the above figure, the percentage of total contribution varies hugely by percentile — approximately 10 per cent of the customer base generates significant positive contribution, with a similar amount delivering a negative contribution. The vast bulk of customers (80 per cent) deliver a relatively equal level of contribution.

Historic approach

Historically, the value of customers was not considered when making basic business decisions. Acquisition activity did not target according to value — in 2003, a customer from the 98th percentile in Figure 1 would have been considered as ‘good’ as a customer from the 1st percentile. Value was not considered during retention activity either — equal resource would be assigned to any customer who was likely to leave regardless of whether they actually delivered a positive contribution or not.

From such simple observations, new business strategies can quickly result. For example, if one could predict the value of prospects as customers, one might focus acquisition efforts on those most likely to be higher value customers. Similarly, if faced with two customers who demonstrated an intention to leave, one might spend a significant amount attempting to retain a high-value customer and decide not to make any intervention to retain a loss-making customer.

Prerequisites

Having identified that a measure of value is the desired optimisation target, it is not possible to simply leap into full-scale marketing optimisation. The other fundamental component required to support this is an extensive, comprehensive and robust range of propensity models, which might include subject areas such as:

- value propensity
- proposition propensity
- channel propensity
- churn propensity
- risk propensity.

While building propensity models is not particularly difficult in principle, what they do require is a comprehensive set of historic data.

Organisations that do not have a detailed history of previous campaign performance and the ability to link that history to their current customer or prospect bases will struggle to develop robust models.

For many organisations, just the deployment of effective propensity models, on a campaign-by-campaign basis, can prove highly beneficial. By way of a simple example, E.ON developed a generic Direct Mail

Figure 3: Gains chart for direct mail model

model that was seeking to identify customers who were likely to respond to an offer via that channel. The ‘gains chart’ for the model is shown in Figure 3.

Given the generic nature of the model, the performance is strong — the top 50 per cent of scores would deliver nearly 80 per cent of the available response. Of potentially more significance, undertaking a campaign to the top 50 per cent but forgoing contact with the bottom 50 per cent would leave the latter available for more relevant contact. One of the biggest challenges to organisations trying to move from an untargeted direct mail regime to the effective deployment of propensity models is the constant temptation to chase incremental response — a quote from a colleague asks whether ‘we can’t just go to the top 70 per cent’. The issue clearly demonstrated by the Gains chart is that a 20 per cent increase in mailing volume only yields an additional 7 per cent of the available response.

Putting this model through two relatively small-scale tests, using different propositions, showed uplifts against unmodelled control groups of between 260 and 360 per cent.

Customer profiles

What is also interesting when developing propensity models is that although the focus tends to be on the benefits of analytics and the detail of the gains chart, there can be some useful support for the creative side of marketing. By definition, propensity modelling seeks to identify the specific attributes that separate responders from nonresponders and, therefore, the output from a propensity model expressed in ‘profiling’ terms can provide some very useful insights into the likely characteristics of the target customer group. Creative folk can use this information to change the images, the tone of voice, etc to appeal more to the likely responders. The profile of high DM responders is shown in Figure 4.

The final component required to support marketing optimisation is the ability to measure what happens to campaigns. This may seem

Region (post code derived)	Midlands, NE, NW, Yorkshire
Lifestyle	Less affluent, older families, Living in mixed housing areas, (suburban semis & Terraces)
Year of birth	Likely to have been before 1960
Economic situation	Employed, fulltime. Some part time and retired
Mail Order responder	Likely to have made other purchases through Mail Order campaigns and companies
Social Band	C1, C2, DE

Figure 4: Direct mail responder profile

obvious, but in many organisations can be complex — particularly as consumers become more sophisticated and transact across multiple channels — for E.ON, for example, if a customer receives a Direct Mail offer, there will typically be a dedicated response telephone number through which customers would ideally respond. There is, however, nothing to stop customers sending an e-mail, going to the website, telephoning the number on their electricity bill or indeed writing a letter. Tracking campaign responses that arrive through alternative channels can be particularly challenging.

From propensity modelling to optimisation

For many organisations, simple optimisation on a campaign-by-campaign basis using robust propensity models is sufficient. Significant incremental gains can, however, be made by relatively simple deployment of multiple models simultaneously. There can, however, be some interesting organisational corollaries of implementing this approach.

Consider again a real case study scenario from E.ON. Outbound Telemarketing (OBTM) is an important means of customer acquisition and, as already noted, prior to 2004 there had been no customer targeting in this channel — essentially any prospect with a telephone number was available for contact and was typically contacted on an approximately 12-week cycle. Thus, most householders in the UK would have received potentially four OBTM calls a year from Powergen. The experiences we ourselves might have as customers or prospects, together with some basic common sense, would suggest that, particularly for customers who are not generally disposed to buying from OBTM, this is more likely to result in a request not to call again than in a purchase. Again, the supplementary benefit of more targeted campaigning is likely to be a decrease in the negative feelings of customers who are not interested in the product or not disposed to purchase via particular channels. By way of example, a leading UK Financial Services organisation has demonstrated a ten-fold decrease in customer complaints associated with direct marketing activity as a result of the deployment of propensity models in campaign selection.

Because prospect value modelling was implemented as the first step in the programme to develop a comprehensive range of propensity

Two dimensional optimisation

models within E.ON, the initial impact on the OBTM channel was to seek to target only the higher value prospects. This strategy was implemented successfully, with no impact on response rates and no changes to operational processes — all that changed was the pool of prospects available for calling. The benefit of this approach is clear and resulted in a very significant uplift in the value of customers acquired via OBTM in 2006.

As suggested, however, a value-only approach does not address the issue of customers who are not disposed to purchase in response to OBTM. It was thus desirable to consider the impact not only of a value propensity model but also of an OBTM propensity model. The outcomes from the deployment of both these models onto the prospect population are particularly interesting, as they provide an excellent insight into the potential benefits of ‘two dimensional’ optimisation.

	H	OBTM Response Score		L	
		H-M	M		
Prospect Value Score	1	7,000	7,000	7,000	16,000
	2	13,000	8,000	6,000	10,000
	3	2	Value targeting only		11,000
	4	37,000	13,000	9,000	14,000

Figure 5: Weekly OBTM contacts by value and OBTM propensity score

	H	OBTM Response Score		L	
		H-M	M		
Prospect Value Score	1	£62 #1	£35 #4	£26 #6	£18 #10
	2	£48 #2	£28 #5	£21 #8	£14
	3	£35 #3	£20 #9	£15	£10
	4	£22 #7	£13	£9	£6

Figure 6: Expected return per 100 leads

Figure 5 summarises one week's potential OBTM contact volumes, split by OBTM Propensity (along the horizontal axis) and Prospect Value (on the vertical axis). Consideration of the Value dimension only would result in the shaded cells only being made available for contact.

This is fine as it stands, when pursuing a simple value-based optimisation strategy. If the impact of the OBTM propensity score is, however, factored into the matrix, some interesting opportunities present themselves. A simple method of integrating both of these models is to use a different measure for representing the cells above. Instead of simply reviewing the available contact volumes, the combination of value score and OBTM propensity allows for the calculation of a very useful measure — Return Per 100 Leads. This measure just multiplies out the potential value and the likely number of responses in each cell. Using this measure gives us the matrix in Figure 6.

This matrix demonstrates elegantly that pursuing the previous value-based approach is not optimal. The two 'Low OBTM Response Score' cells previously targeted for Prospect Value Scores 1 and 2 return £18 and £14 per 100 leads, because although the available value is high, the number of responses obtained is low.

The matrix further indicates that the cell of customers with the highest OBTM propensity score for Value Score 3 (marked #3 in the matrix) is actually the third best cell to target — again, the rationale is that although the individual value per customer is lower, the likelihood of response via OBTM is the highest, so the overall result for this cell, in value terms, is optimal.

In the example cited, the pursuit of this two-dimensional optimisation yielded an uplift of 20 per cent in terms of the value generated from the activity.

Organisational aspects

The interesting aspects of this approach from an organisational perspective are two-fold. First, as per the approach which sought to optimise by value score only, there is no need to change the operational processes — all that changes is the order in which leads are provided to the OBTM teams. The second aspect can, however, be more challenging — having successfully implemented a value targeting approach, this two-dimensional optimisation needs very careful explanation, because it clearly goes against the previous requirement to target only high value prospects. The jump that has to be made is the realisation that some high value prospects will never respond to OBTM and that the low cost of OBTM as an acquisition method justifies the 'lowering' of the value threshold for those customers who are most likely to respond to OBTM.

Multi-dimensional optimisation

Although the demonstrated approach of two-dimensional optimisation clearly delivered substantial benefit, it is a long way from true multi-dimensional optimisation.

Consider an organisation with, say, five million customers, 23 million prospects, ten propositions and four sales channels, which might run 20 campaigns per month. How can this activity be optimised over a 12-month period? Which customers would be withheld from Campaign A this month because they are likely to deliver more value in Campaign C next month?

Consider further some of the basic constraints that would need to be factored into the optimisation calculations — for example:

- value target of £200m
- acquisition volume target of 200k customers
- marketing budget of £10m
- maximum OBTM capacity of 10k calls per week
- a new product launch in April that needs to sell 50k units before August
- customer contact rules that preclude more than two contacts within a 60-day period.

In order to solve this optimisation problem, a specialised software solution is required. While it is ‘only’ a mathematical problem, this kind of marketing optimisation currently represents the limit of an analytical approach to direct marketing and has been successfully demonstrated by a relatively small number of organisations.

Changing the organisation

Finally, reflecting again on the issue of art or science, optimisation also introduces some very interesting issues for organisations that have developed traditional products and/or marketing functions. Rather than the supply of customer contact opportunities to a product manager or a marketing campaign manager being an internal service, true marketing optimisation reverses the roles — it becomes the role of product managers or campaign managers to provide a range of compelling and targeted offers for a diverse range of potential recipients. Instead of the traditional approach to campaigning, which tends to proceed along the lines of ‘here is an offer, give me all the customers who are eligible for it’, marketing optimisation is much more about ‘here are all the customers available for contact, now give me the best offer for each customer’.

Business planning

Another fascinating role for marketing optimisation is as a primary building block for the business planning process. Because it is a ‘bottom up’ methodology that is capable of accounting for a range of business constraints, marketing optimisation can provide key information for business planning. Beginning with constraints (‘targets’) around business performance (eg sales volumes or revenue targets), it is relatively easy to construct an optimisation scenario that will demonstrate whether the targets are actually achievable, given what is known about the propensities of the customer or prospect base. If the OBTM channel has a target of 100,000 sales but there are only 75,000 prospects worth approaching via OBTM, then optimisation can provide hard evidence in support of what might have previously been only a ‘gut feel’ that a target of 100,000 was unrealistic. Furthermore, optimisation should provide insights into how the additional 25,000 sales could be achieved.

Given the compelling evidence of a credible business case and potentially improved customer perceptions, it is suggested that within five years true marketing optimisation will become as common as ‘one off’ propensity modelling is today. Organisations that are able to utilise the capabilities offered by some of the emerging technological solutions will have successfully demonstrated very significant levels of customer understanding and will have come much closer to showing true customer level relationship management.