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Today, from a business and marketing perspective, vast numbers of customers and potential customers interact with one another through electronic and online channels that range from emails to social media hubs such as Facebook, MySpace and Twitter.

Understanding the nature of these communications networks, and their value in marketing, is increasingly important for organisations. This is especially so as marketers have less control over these channels than they do over the traditional mass media of TV, newspapers and magazines.

As part of their overall marketing strategies, many major companies such as Microsoft, Philips, Sony, Ford, BMW, and Procter and Gamble, have used these electronic channels for viral marketing purposes, some to better effect than others.

In viral marketing campaigns, organisations develop an online marketing message, typically in the form of an email. This is seeded to a contact database and is designed to stimulate customers or potential customers to a) interact with it, and b) forward it on to members of their social network with the purpose that they might do the same, and so on.

Because word-of-mouth communiqués from friends and peer networks have more impact than those from organisations, and information spreads rapidly over the internet, viral marketing is a powerful communications tool that can reach many customers and potential customers in very short periods of time.

Furthermore, the nature of the internet allows marketers to use many different forms of communication, such as videos, games and interactive websites, in their viral campaigns. Whilst the term viral marketing may suggest that information spreads automatically, marketers need to actively manage the viral process in order to facilitate and encourage the spread of information.

Being able to utilise such communications channels effectively for marketing purposes offers many
advantages for organisations. One significant and immediate benefit is that marketing budgets may be sizeably reduced: organisations will be able to lessen their dependence on expensive TV and mainstream media advertising.

However, viral marketing is not as simple as it might sound and just sending out masses of emails is not going to bring success. There are many considerations and factors to be planned for.

Controlling how, where and when your marketing message is delivered becomes much more difficult as the population is entirely responsible for its spread. This is why, as researchers, we sought to develop a mathematical model, one that could predict very early on in the life of a viral campaign how it would spread, and thus enable us to forecast its effectiveness.

Creating a viral model

In looking to develop a model, we collaborated with a Netherlands marketing agency specialised in online and viral campaigns (and set up by an alumnus of RSM). They had gathered banks of raw data from previous campaigns, but did not have sufficiently sophisticated analytical tools to predict the viral effect of future peer-to-peer marketing communications. To approach the task of analysing the data and creating a predictive model, the first step is to assess existing models.

This included exploring epidemiological models that use the branching process to describe the spread of real-world viruses. These we applied to electronic viruses, as there are very close parallels between what happens to a viral infection in nature and how electronic forms behave. Although these models proved promising, they could not cover all scenarios and needed to be adapted.

A key difference between the spread of an electronic virus and a biological one is that with the latter the recipient may not know that they are infected or are infecting others. With viral messages people consciously choose to be 'infected' by participating in an online game or by viewing a specified website promotion. Participants also deliberately choose whom to pass on a viral message to.

In our research, when working to develop the model, the purpose of the marketing campaign was to increase awareness of specific financial products for a bank. The campaign targeted younger adults at the beginning of the customer lifecycle. The viral aspect of the campaign consisted of an online game, which the target audience was encouraged to play. Through participation players were informed of the product.

Those who did well in the game were invited to visit the bricks and mortar outlets of the bank where more information would be provided and the opportunity to sign them up for products or services existed. Viral marketing thus played a critical part in a much bigger marketing campaign in which the primary goal was to create prospects that were highly likely to become new customers.

Predicting success

What we learned from creating the model and applying it through this real campaign is that, in comparison with existing models, ours is very accurate. Just seven days into a six-week campaign, which is very early, it accurately forecast how response rates
would develop overall, and thus the expected success.

Because of the volume of individual-level data available we were also able to use our model to observe stable patterns in the early stages of the campaign. These allowed us to anticipate results such as how many people would open the initial email; how many would visit the associated website and forward the email on to their network; how many contacts they would forward the email on to, and how likely the subsequent tiers of contacts would respond to the same stimuli.

Through the application of our modelling research in their own marketing efforts, organisations can now predict the progress and effectiveness of campaigns that are spread by electronic word-of-mouth. As we have developed a certain structure, marketers can also use our model to identify critical parameters, analyse the relevant data, and make modifications to improve interaction rates and overall effectiveness of campaigns.

Because viral marketing is still a relatively new concept, marketers sometimes feel that using it is a bit of a gamble: it’s going to be hit-and-miss. However, what our research and the statistical model we have developed clearly shows is that it is a wholly manageable, quantifiable and thus valuable marketing process. Organisations therefore no longer have to consider viral campaigns as being the product of some kind of marketing black magic.

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Ralf van der Lans is Associate Professor of Marketing, Rotterdam School of Management, Erasmus University. Email: rlans@rsm.nl

Gerrit van Bruggen is Professor of Marketing, Rotterdam School of Management, Erasmus University. Email: gbruggen@rsm.nl

Jehoshua Eliashberg is Sebastian S. Kresge Professor of Marketing and Professor of Operations and Information Management, Wharton School, University of Pennsylvania. Email: eliashberg@wharton.upenn.edu

Berend Wierenga is Professor of Marketing, Rotterdam School of Management, Erasmus University. Email: bwierenga@rsm.nl