What exactly is viral marketing?

By Steve Jurvetson

THE VIRAL MARKETING meme is hitting us from all directions. Hardly a business plan comes through Draper Fisher Jurvetson's door without some mention of a viral marketing strategy. This spring San Francisco alone will see three conferences titled "Viral Marketing," and that's not to mention the handful of books being written on the topic.

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So what is viral marketing? In 1997, when we first coined the term in a Netscape newsletter (www.dfj.com/viralmarketing), we used several examples to illustrate the phenomenon, defined loosely as "network-enhanced word of mouth." Its original inspiration came from the adoption pattern of Hotmail, the Web-based email service that launched in 1996. Tim Draper persuaded Hotmail to include a promotional pitch with a clickable URL in every message sent by a Hotmail user. Therein lay one of the critical elements of viral marketing: every customer becomes an involuntary salesperson simply by using the product.

Viral marketing is more powerful than third-party advertising because it conveys an implied endorsement from a friend. Although it is clearly delineated as an advertisement, the spillover marketing benefits are powerful—much like the efficacy of radio commercials read by your favorite DJ. The recipients of a Hotmail message learn not only that the product works but also that their friend is a user. A key element of consumer branding is usage affiliation: do I want to be a member of the group—the group being, in this case, my friends—that uses the product?

We were amazed at how quickly Hotmail spread over the global network. The rapid adoption pattern was that of a network virus. We would notice the first user from an overseas university town, and then the number of subscribers from that region would rapidly proliferate. From an epidemiological perspective, it was as if Zeus sneezed over the planet.

Hotmail's subscriber base grew from zero to 12 million users in 18 months, more rapidly than any company in any media in the history of the world. And it did so with an advertising budget of $50,000—about enough for some college newspaper ads and a billboard. Nonviral competitors like Juno spent $20 million on traditional marketing in the same time period, with less effect. What's more, Hotmail became the largest email provider in several countries, including Sweden and India, where it had done *no* marketing whatsoever.

Hotmail is not an isolated incident; the instant messenger service ICQ experienced a nearly identical rate of growth. What do Hotmail and ICQ have in common? Hotmail is typically used as a secondary or personal account for communication with a close coterie of friends—much like ICQ's buddy lists. There appears to be a mathematical elegance to their smooth, exponential growth curves, which can be summarized as:

$$\text{cumulative users} = (1 + \text{fan-out})^{\text{cycles}}$$

In this model, "cycles" is the number of times the product is used in the time period since launch (or frequency multiplied by time). In the early days, Hotmail and ICQ fanned out to about two new users every month. Those users each told two friends, and so on, and so on. So 1 seed user grew to 3 users at the end of the first cycle, 9 by the end of the second cycle, 27 by the third, etc. Companies with larger fan-outs, such as the free email list managers, have grown more quickly than Hotmail. Those that have provided an economic incentive to spam large groups, like AllAdvantage (which pays users to view advertising), have grown faster still, going from zero to 750,000 users in two weeks. The same formula would apply to traditional word-of-mouth marketing (like MCI Friends & Family discount plans and Tupperware parties), but the average fan-out and frequency are much lower since they lack the involuntary coupling to patterns of communication.

For a bit more accuracy, we can factor in the variables that describe the success of the recruiting message and the retention rate as percentages:

$$\text{cumulative users} =$$
$$[(1 + \text{fan-out} * \text{conversion rate}) * \text{retention rate}]^{\text{frequency} * \text{time}}$$

Working through the variables, the ideal viral product is used to communicate with many people, converts a high percentage of them to new users, and retains a high percentage of those new users. It also is used quite frequently.

A more accurate model would include decay functions for each variable, reflecting novelty and saturation effects. For example, Hotmail's variables are tapering as it reaches saturation. It now has more than 60 million active users, or one out of every four people on the Web.

Given Draper Fisher Jurvetson's excitement about the power of viral marketing, we have funded several companies that are pushing viral marketing in new directions and have suggested the addition of a viral element to otherwise non-communicative products. For example, the vector of spread for NetZero's email is very similar to that of Hotmail, but it has higher retention and conversion rates. Free Internet access is a more compelling proposition than free email, and so NetZero has grown faster than Hotmail in the United States. It has also grown ten times faster than AOL, becoming the second largest ISP in America.

Companies as diverse as Inforocket (a marketplace for questions and answers), Third Voice (a pan-Web community and information service), SeeUthere.com (event RSVP automation), and Homestead (a personal Web page service) have found ways to amplify their growth through viral spread. Inforocket encourages users to forward a question to a friend who is likely to know the answer, and in return, the forwarder gets a cut of the lifetime economics of the new recruit. Third Voice encourages users to share their commentary with friends and colleagues over email, thereby upgrading each recipient's browser with Third Voice. Homestead facilitates the recruitment of coauthors to a family or group Web site, eventually bringing the community of users to Homestead.

In the e-commerce world, online retailers have adopted some viral characteristics through gift packaging and refer-a-friend programs. Mimeo.com has taken it a step further by applying viral marketing to every package it delivers. Mimeo offers Web-initiated printing, copying, binding, and delivery—a substitute for waiting in line at Kinko's. Since each sender is a Mimeo user but the multiple recipients are not, the FedEx-like package is covered with Mimeo evangelism.

Meanwhile, Vivaldi Networks offers viral marketing programs to brick-and-mortar retailers through a computerized feedback loop between cash registers and the Web. By knowing what and when customers are buying, Vivaldi lets retailers offer powerful promotions like frequent-shopper discounts, refer-a-friend bonuses, and new-product notifications. For the first time, offline retailers can offer loyalty and recruitment programs that are common on the Web but difficult to implement at a traditional store.

And this is just the beginning. NetMind offers a free Web-site update notification service as a presale pilot for enterprise server sales. The free voice mail, fax, and telephony companies use aural marketing to recruit new users. Palm users are even beaming viral applications over their infrared ports.

From a memetic engineering perspective, the *idea* of viral marketing spreads like an adaptive virus. And the idea itself evolves as it is retold.

STEVE JURVETSON *is a managing director of Draper Fisher Jurvetson* (www.dfj.com), *a venture capital firm that invests in early-stage technology companies. Write to* mail@dfj.com.