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Article location:http://www.fastcompany.com/magazine/125/nings-infinite-ambition.html
April 11, 2008
Tags: Innovation, Technology, Gina Bianchini, Marc Andreessen
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Ning's Infinite Ambition

By Adam L. Penenberg

Here's something you probably don't know about the Internet: Simply by designing your product the right way, you can build a billion-dollar business from scratch. No advertising or marketing budget, no need for a sales force, and venture capitalists will kill for the chance to throw money at you.

The secret is what's called a "viral expansion loop," a concept little known outside of Silicon Valley (go ahead, Google it -- you won't find much). It's a type of engineering alchemy that, done right, almost guarantees a self-replicating, borglike growth: One user becomes two, then four, eight, to a million and beyond. It's not unlike taking a penny and doubling it daily for 30 days. By the end of a week, you'd have 64 cents; within two weeks, $81.92; by day 30, about $5.4 million.

Viral loops have emerged as perhaps the most significant business accelerant to hit Silicon Valley since the search engine. They power many of the icons of Web 2.0, including Google, PayPal, YouTube, eBay, Facebook, MySpace, Digg, LinkedIn, Twitter, and Flickr. But don't confuse a viral loop with viral advertising or videos such as *Saturday Night Live*'s "Lazy Sunday" or the Mentos-Diet Coke Bellagio fountain. Viral advertising can't be replicated; by definition, a viral loop must be.

If you really want to understand how the dynamic works, there's no better place to look than Ning, a startup in Palo Alto -- located across the street from Facebook and a few clicks down the road from Google -- that was designed specifically to exploit viral loops. The brainchild of former Goldman Sachs investment banker Gina Bianchini and celebrity geek Marc Andreessen, Ning has been growing *automagically* from the moment it launched its Social Networks for Everything -- a free platform for do-it-yourself social networks -- in February of last year. By June, there were 60,000 Ning nets and by August, 80,000. At year's end, there were 150,000, and today, more than 230,000. About 40% of Ning's social networks originate outside the United States, and members from 176 countries have signed up, with the service already available in several languages, including Chinese, Japanese, Spanish, and Dutch. The company estimates that, at this rate, by New Year's Eve 2010 it will host some 4 million social networks, with tens of millions of members, serving up billions of page views daily.

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Ning's social networks, where users post comments, questions, photos, and videos, run the gamut from porn to Pez dispensers, motorcycles to motherhood, TV shows to customized cars to Thai kickboxing. Show My Pony is for horse enthusiasts, GAX for gamers, and GYNite for "gay guys and their friends." One of the most popular Ning networks belongs to hip-hop mogul 50 Cent and has 107,000 members and counting. Chris "Broadway" Romero, creative director of new media for Fitty's site, describes it as "an entertainment-industry news/rumor/editorial blog in the vein of TMZ.com, combined with unparalleled access and interaction with the celebrity." Romero uses the site to cast parts for music videos and film projects, and one day, he hopes to release music and video directly to the public, bypassing record companies completely. To Romero, it's nothing less than "a new entertainment platform, period." A single Ning group can, in theory, serve as a platform for an entire business; collectively, the networks represent an ever-expanding commercial universe.

Bianchini, a 35-year-old northern California native, met Andreessen after receiving her MBA from Stanford and launching a software startup that tracked and measured advertising. Andreessen sat on the board of the company, which went under in the dotcom crash; he and Bianchini dated for a spell before becoming friends. Andreessen, of course, had built Netscape and off-loaded it to AOL for $4.2 billion in 1999. Even before he sold his next company, Opsware, an automated network and server company, to HP last year for $1.6 billion, he had begun casting about for his next act. He asked Bianchini to join him, and Ning ("peace" in Chinese), seeded with $15 million of his own money, was born.

They make an exquisitely odd pair: he the gangly 6-foot-4-inch former coder with the huge egg-shaped head, famous for having posed barefoot -- on a throne -- for the cover of *Time*; she the petite, charismatic woman from working-class roots anointed a "Web 2.0 Hottie" by Valleywag (a fact she concedes only reluctantly). He's the grand visionary, the company chairman whose speech unfurls in sheets of sound; she's the effervescent CEO, a social networker at heart who prefers roaming Ning's hallways to the isolation of working at home. He once won Customer of the Year at Hobee's, a local restaurant chain, for eating there every day for a year; she waitressed at one in high school.

They both use the same expression to describe Ning's business model: "incorporating virality into the functionality of the product." In English, that means Ning grows because each new user begets more users. Every time someone sets up a social network, he has no choice but to invite friends, family, colleagues, and like-minded strangers to sign on as well. The company calculates that each person signed up for a Ning group is worth, on average, 2 people, compounded daily: On day two, that individual brings in 4 group members and on day three, 8; within a week, she has brought in 128 people. Which is how Ning has been able to grow at a daily average of more than .4% and add 500 new groups a day, doubling roughly every 137 days. "It's the power of compounding, predictable growth rates," Bianchini says.

In the early days, not everyone knew what to make of Ning. The company spent three years building out the site's underlying platform; a year into that process, it released a couple dozen social applications in order to begin testing and refining what they had made. Those applications, which Bianchini readily admits were "very simple," led Michael Arrington to post an entry on his TechCrunch blog entitled "Ning RIP?": "The reality of Ning is that it has lost whatever coolness it had, no one uses it, and Ning is going to have a very hard time getting people's attention." But Arrington did an about-face 18 months later, after the company attracted 100,000 online groups in about six months and some $44 million in capital, mostly from Legg Mason and T. Rowe Price. "Everyone wants a social network of their own, and Ning is here to give them one," Arrington wrote. "The company sure has come a long way since I pronounced it dead in early 2006. Sometimes I like it when I'm wrong."

You might wonder how something as profound, powerful, and potentially profitable as a viral loop has remained under the radar for so long. Andrew Chen, a blogger and former advertising executive who worked with MySpace, Hi5, and other social sites, has a simple answer: This critical insight "is worth a lot of money," and the few people who understand it "are all doing their own companies."

No accident that venture funds are gravitating to companies with a viral loop baked into their business plans -- inspired, no doubt, by the success of Peter Thiel, whose $500,000 investment in Facebook is now worth roughly $750 million on paper. Andreessen himself has seeded 10 of them, including Digg. Sequoia Capital's Roelof Botha, an early YouTube backer, actively pursues viral-loop companies. And Fred Wilson, managing partner at Union Square Ventures, jokes that he's considered changing his firm's name to "Viral Ventures," since almost two-thirds of the $20 million his firm invested last year went to viral- loop companies such as Twitter.

Chen calls a viral loop the "most advanced direct-marketing strategy being developed in the world right now." And make no mistake: Viral expansion loops *are* about marketing, just not in the traditional sense. "Nothing can be truly viral unless it is good," Wilson allows. "You can create a crappy application, build viral hooks in it, but if it's bad, then nobody will follow the viral channel, and the company will go out of business." But if you create something people really want, need, or merely enjoy, then your customers will grow your business for you. Users, just by using a product, are, in essence, offering a testimonial. "When your currency is ideas, people become emotionally attached," Ning's Bianchini says. "Then you become a public utility like Blogger, YouTube, or Facebook."

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Mass audiences on that scale obviously carry the potential for serious money. At the very least, if your strategy is to get big and get bought, you can auction off yourself (and your millions of users) to the highest bidder -- and let the next guy worry about wringing revenue from your audience. This was the chosen route for MySpace (bought by News Corp. for $580 million) and YouTube (Google, $1.65 billion), as well as PayPal and Skype (eBay, $1.5 billion and $2.6 billion, respectively). Or you can try monetizing those bodies yourself: Lehman, in its latest report, predicts that the domestic online-ad market will grow 23.6% in 2008, to $26.2 billion. Ning's "billions" of predicted page views would leave it poised to claim a nice slice of that revenue.

Viral expansion loops have long existed in the offline world. Tupperware parties, in which each attendee was a potential salesperson, are a classic example. Amway's multilevel marketing strategy to sell personal-care products, jewelry, and household goods is another. And what are chain letters and pyramid schemes but viral loops with nefarious intent?

But viral loops are better suited to the frictionless environment of the Internet, where a message or idea can carry essentially forever. Andreessen himself created what is widely perceived as the first online viral loop when he and Eric Bina of the National Center for Supercomputing Applications unleashed the Mosaic browser, the precursor to Netscape Navigator, in April 1993. They shared it with 12 beta users, which blossomed to 100 users, then to 1,000, 10,000, and reaching 1 million in the first 12 months. There was no feature in the browser to make it spread, but its mere existence influenced people to create Web pages. That in turn gave incentive to others to get online, which acted as a catalyst for others to create more Web pages, and so on.

There are three categories of viral expansion loops -- let's call them "viral loops," "viral networks," and "double viral loops," the last a hybrid of the first two. To create a simple viral loop is relatively straightforward. In 1996, Hotmail placed a link in the body of every message, offering the recipient the ability to set up his own Webmail account, and within 30 months went from zero to 30 million members. YouTube deployed a viral mechanism by allowing anyone to embed a video link in his blog or MySpace page: The more who saw it, the more links were embedded, and soon, millions of users were funneled directly to YouTube. Also in this category are scads of widget makers creating the digital bling disseminated on Facebook, MySpace, and elsewhere -- the infamous "hatching egg," glitzy slide-show creation tools distributed by Slide and RockYou, the online Scrabble game Scrabulous, horoscopes, calendars, and so forth. These widgets are so contagious that Slide alone was able to raise $50 million in venture capital from Fidelity Investments and T. Rowe Price, giving it a $500 million valuation.

But it's on a viral network that scale and power really snowball. A destination such as Facebook grows via invitations, with each "friend" reaching out to her own set of contacts, which in turn do the same. More than half of the undergraduate population at Harvard joined within a month of Facebook's 2004 launch; four years later, it has 67 million active users. And at its current 3% weekly expansion rate, it will have 200 million users by the end of the year, equal to the population of the fifth-largest nation on earth.

Significantly, viral-loop networks don't create content -- they organize it. They provide an environment that is, in theory, almost infinitely scalable, and then rely on the wisdom of crowds to create or aggregate masses of material to fill it. The more people, the more content, the more powerful the lure for those sitting on the sidelines. "The viral adoption model" is the "cheapest way to grow an audience," says Union Square Ventures' Wilson. At no time in history has it been possible to market to so many by starting with so little.

Nicholas Economides, a professor of economics at New York University's Stern School of Business, characterizes this as "a network effect." "The more connections you have, the more nodes, the more people, the more valuable it will be," he says. Andreessen points out that "eventually, everyone tends to be on such a network, the way that everyone has a telephone and everyone has an email address, because the value to being on it is so huge as a result of everyone else being on it." The bigger a viral network gets, the faster it grows. Some of the biggest names on the Internet were built on this model. EBay went from online garage sale to megasite because sellers attracted buyers who attracted more sellers and buyers. Google pursued a similar strategy:

Under every set of ads it serves up sits a link to its AdSense program, which encourages more Web-site owners to join (and in Google's case, joining pays cash, which amplifies the viral network effect).

What's more, these viral networks spawn entire economies when they are stacked atop one another. PayPal came into being because buyers and sellers on eBay needed a way to complete transactions online, since most sellers without traditional storefronts couldn't process credit cards. YouTube took off by piggybacking on the success of MySpace, becoming the go-to site for video posters and watchers alike. Google's Gadget Ads was spun off as a mini viral network to serve ads on the tens of thousands of widgets created for Facebook, MySpace, and others.

This stackability will only increase as the walls between social networks and Web sites crumble, hastened by the creation of "OpenSocial," which provides a common programming standard so that applications can run across multiple Web sites. Ning is a member, along with Google, LinkedIn, and others; the coalition has taken the Facebook platform concept and applied it to the entire Web, meaning that a widget that works on one site will work on all the others. Think of it as the cyber equivalent of introducing standard railroad gauge during the industrial revolution, which helped spur America's economic development coast to coast.

Only Ning, Andreessen declares, benefits from a "double viral loop," which spreads two ways, because every network creator is a user and any user can become a network creator. Say someone sets up an Angelina Jolie net with 10 members, which grows as each person draws in others. Then an adoption site breaks off, a Jon Voight hate group rises up, and a Brad Pitt love club forms. Meanwhile, a *Lara Croft* nostalgia net launches, spawning a legion of soft-core cyberporn spin-offs. Soon you have 2, 3, 10 networks -- all expanding simultaneously. Meanwhile, the original group is attracting even more users. Ning swells like a river fed from an ever-growing number of tributaries.

Once this phantasmagorical growth kicks in, you can actually predict its rate with astonishing accuracy -- something Ning has been doing since the beginning. (Viral loops expand according to what's known as a Power Law Curve, which, for reasons no one can explain seem to accurately describe a dizzying array of natural and unnatural phenomena, from the size of planets to national income distribution to online commerce.) But another implication of viral expansion is that once a company attracts a certain number of users, it becomes all but unstoppable. After PayPal blossomed as an online transaction power, eBay launched a competing service -- and failed miserably (and eventually bought PayPal instead). To combat YouTube, Google and Yahoo launched rival sites, neither of which went anywhere. LinkedIn and Twitter have likewise become unassailable by aggregating huge pools of users. In only one instance, Friendster, has a company fallen apart after achieving this kind of reach, and it was largely done in by technical failures -- network meltdowns and outages -- that drove users into the embrace of MySpace and Facebook.

However, as NYU professor Economides reminds us, "being big doesn't necessarily mean you will make a profit." Just ask Twitter, LinkedIn, MySpace, Facebook, or Flickr: They may have huge paper valuations, but none has a revenue model embedded in its core business. That's where Ning is different. Ning isn't trying to create one gargantuan audience. (Indeed, nearly a third of its networks don't take off, but this mortality doesn't cost the company a cent, unlike unsold blenders at a

Wal-Mart.) Instead, Ning wants to foster millions of little networks with narrow channels, each delivering the kind of targeted advertising that Google rode to vast riches. Because in this new phase of Webonomics, it's not just the eyeballs, stupid, as it was before the dotcom crash. It's the kind of eyeballs you collect and how you can slice, dice, and model them.

That kind of parsing is difficult to do retroactively. Facebook got hammered when it tried to retrofit itself with a new ad-driven scheme called Beacon, which passed customer information on to more than 40 participating Web sites such as Blockbuster and Fandango -- and alerted users' Facebook friends about their purchases on those sites. To Facebook, it was harnessing the power of word-of-mouth advertising. To many Facebookers, it felt like a creepy intrusion. After apologizing, the company improved its opt-in/opt-out mechanism.

But Ning doesn't face that risk. It displays the kinds of ads Web surfers are accustomed to seeing on blogs, news sites, all over the Internet, especially tailored to their particular social-net niche. Extreme skiers see ads targeted to extreme skiing, and so on. Right now, Google places Ning's ads, but eventually, Bianchini and Andreessen plan to serve their own. And even today, if you want to control the ads on your Ning network, you can pay as you go for the infrastructure -- for a monthly fee of $20. About 3% of group leaders chose this option. Either way, Ning makes out.

"It would be very difficult for MySpace or Facebook to shift gears and directly offer a competing service to us," says Bianchini. "They have a huge set of technical challenges just scaling what they're already doing, and we have spent three years building a serious architecture and technology lead for what we do." She says one of her engineers compared that kind of course correction with "swapping out the engine of a 747 during midflight."

By the time Facebook -- or anyone else -- could do that, Ning may well have ridden its double viral loop to impregnability. Because once it hits critical mass, the road is paved.

Then no one can stop it.

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