OF THE DOWNTURN

wired business trends 2009

BUYING OPEN SOURCE FIRMS

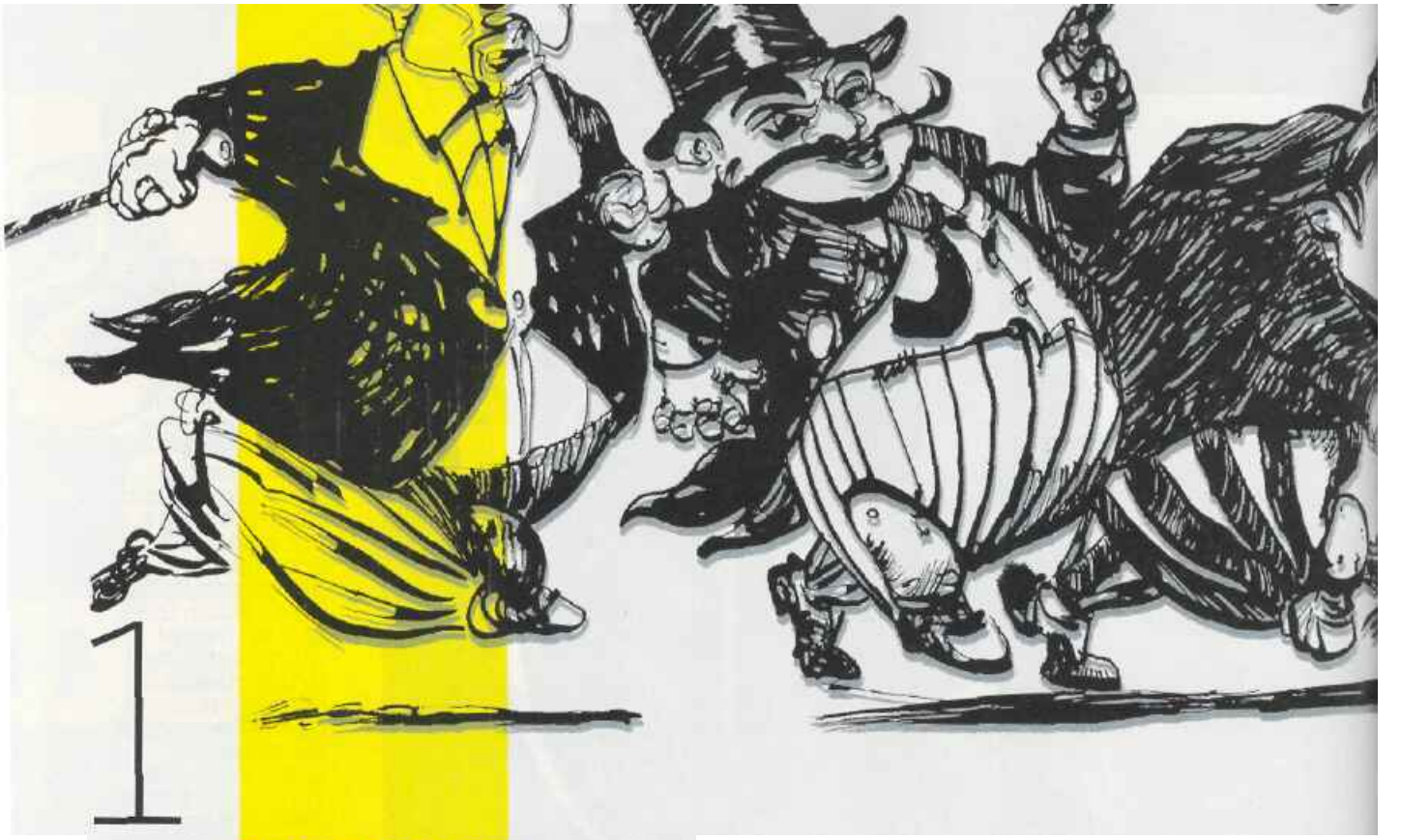
THE EVIL GENIUS OF APPLE

GREEN ON THE OUTSIDE

THE INVISIBLE INTERNET

THE NEXT GLOBAL INNOVATOR: CHINA

Sure, there's bad news out there, what with the subprime meltdown and the panicky Fed and people whispering the R-word. But somehow, the WIRED world continues to churn out smart, useful, occasionally game-changing ideas. From the rise in instant manufacturing to the growth of open-source business models, these trends show that innovation can bloom even in a grim economic climate. If anything, the slowdown may foster creativity: Web 2.0 grew out of the dotcom implosion, and companies are always hungry for cheaper, better ways to work. Here's a look at nine trends driving business in 2008—and a deeper explanation of the surprising secrets to Apple's success.



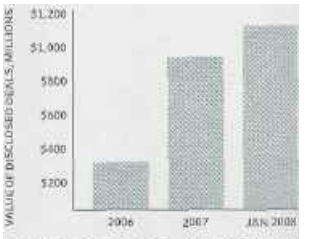
1 OPEN SOURCE TYCOONS

THE SOFTWARE THAT MADE DEVELOPERS COOL CAN NOW MAKE THEM RICH.

Last spring, marketer andblogger Hugh MacLeod posted a question on his site: If open source is such a phenomenon, where are all the open source billionaires? His audience wasn't amused. Open source software relies on a community of volunteer developers who tinker on, write for, or amend a program, then give it away free. MacLeod's site filled up with complaints that even to look for billionaires violated the spirit of the open source movement. "There have to be rewards," one commenter wrote, "but they don't have to be financial." Another simply recommended that MacLeod "shut the fuck up' adding: "You don't know what you're talking about."

But not every open-sourcer has proven so averse to filthy lucre. A number of open source companies have recently attracted investments and merger interest: Whether they like it or not—and let's face it, they probably do—more and more open source creators are striking it rich.

In 2007, some 30 open source software companies were purchased for more than $1 billion—double the number of sales in 2005, according to consulting firm 451 Group. And 2008 is proving to be even more frenetic. In January alone, Sun Microsystems announced the purchase of open source pioneer MySQL for $1 billion; open source development players Covalent and SpringSource merged; and Nokia agreed to pay $153 million for the open source mobile-software maker Trolltech. On Wall Street, bankers are rooting around for a good open source company to take public. "People call us all the time," says John Lilly, CEO of Mozilla, which oversees the open source Firefox browser and Thunderbird mail application. "We're a valuable thing." On his Silicon Alley Insider site, defrocked Wall Street analyst Henry Blodgett recently estimated that the for-profit arm of Mozilla was worth between $1.5 billion and $4 billion. Lilly says the estimate is about right but that Mozilla is staying private. "As long as we can pay the bills, we can take a long view of the world that we couldn't if we had shareholders and quarterly reporting."



OPEN SOURCE ACQUISITIONS IN JANUARY BEAT ALL OF 2007

Which is not to say that open source companies can't hold their own in the business world. The software is penetrating realms that few thought it ever would. It's being used to create trading platforms for hedge funds—which are notoriously insistent on

ILLUSTRATION BvRiDcardo Vecchio

proprietary systems—and Wal-Mart is deploying an open source-based system for its workers to track their health care records. The cost savings come from not having to hire engineers to write code in-house or pay costly per-seat licensing fees. "I think the software-license business model is archaic," says Kevin Harvey, a venture capitalist at Benchmark Capital, which recently cashed in on its investments in MySQL and the open source mail-client firm Zimbra, which Yahoo picked up in late 2007 for $350 million. "I wouldn't fund a company with that model, and I don't think anyone else would, either." --

How can you build a business by giving away the store? The money comes from selling add-ons, service contracts, and hardware to go with the software. But that model works only if you master a couple of basics. Open source software makers have to win enough users that even the small percentage of customers who pay will generate a torrent of dollars. (Mozilla gets most of its money from Google, which pays to be the browser's default search provider—something Google is willing to do because Firefox has so many users.) More important, software makers depend on the goodwill of outside developers, whom they rely on to keep updating their products. So the new open source billionaires might want to think twice about going 767 for 767 with the Google guys. For the coder drones, accustomed to being paid in warm feelings, such displays might make them take their coding skills elsewhere.—DANIEL ROTH

2

SOCIAL NETWORKS GROW UP

MYSPACE AND FRIENDS NEED TO MAKE MONEY. AND FAST.

THE NUMBERS ARE AMAZING. MySpace's membership has ballooned from 20 million people in 2005 to 225 million today, an average annual growth rate of 513 percent. Rival Facebook grew at 550 percent a year during the same period. LinkedIn's rate was 182 percent.

Yet one social networking metric is distinctly underwhelming: the one with a dollar sign. Lookery, artad network specializing in social media, offers display ads on MySpace, Facebook, and Bebo for only 13 cents per thousand times the ad is served (CPM); Yahoo's average CPM is estimated at $13. Video ads on MySpace reportedly fetch just $25 per thousand showings; CBS charges $50 on affiliated sites, NBC as much as $75.

Social networking was supposed to be the Nef s next rocket to riches. But many social sites are having trouble capitalizing on their audiences, and it's looking like the convivial atmosphere that promised to boost the value of commercial messages may actually diminish it. Even the big brains at Google are stumped. The search king, which pays a special rate to place ads on MySpace, has suggested that it may be paying too much. "I don't think we have the killer best way to advertise and monetize the social networks yet," Sergey Erin admitted during a January conference call with analysts.

Some smaller competitors are doing better. LinkedIn,for example, has a CPM as high as $75. The difference: The site caters to professionals, making it easier to target ads. (It helps that the company also charges for premium features and job listings.)

For sites with broader audiences, the key may be to give advertising a social dimension. Facebook tried to do just that with Beacon and Social Ads. These formats send users an alert or display ad when one of their pals patronizes an advertiser. But Facebook has yet to gauge the effectiveness of these programs because online privacy watchdogs pounced, and the site moved quickly to let members opt out.

Still, the idea that ads can be a social experience is the industry's best hope. Social Vibe encourages members to choose brands to endorse on their pages. AdRoll shares ads across related niche sites, turning a blogroll into an ad network. But it may take time to work out the business ramifications of online friendship. Thefirst site to meld commercial messaging gracefully into these new group dynamics will have advertisers poking them to be friends. —Kevin Kelleher

1

ILLUSTRATION SY Nate Williams

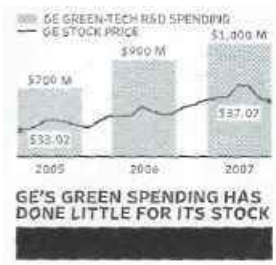
3 GREEN ON THE OUTSIDE

SAVING THE EARTH? GOOD FOR YOU—JUST BE SURE TO DO IT ON THE CHEAP.

Few companies represent the emerging ethos of green business better than Toyota, the acknowledged innovator in fuel-efficient hybrid vehicles. But sales of its flagship Prius model were slow to catch up to the car's enormous development cost. For profits, the Japanese automaker relies on conventional trucks, including its popular Tundra pickup. And to protect its cash cow, the company has strayed more than once from the path of environmental virtue.

In 2006, when Ford's F-Series pickup outsold the Tundra by 670,000 units, Toyota beefed up the truck's engine from a modest 4.7 liters to a gas-guzzling 5.7 liters. The result? Tundra sales jumped 58 percent in 2007. To maintain that momentum, the company then joined eight other automanufacturers lobbying Congress against higher fuel-economy standards. Environmentalists understandably felt betrayed. "For those customers who bought the Prius long before it was 'cool'... this latest move is insulting," wrote Laurie David, a producer of *An Inconvenient Truth*, in the Huffington Post. -

Toyota is caught in a bind that will increasingly affect other companies hoping to reap the benefits of going green. While cutting energy use and rolling out earth-friendly products may attract a growing environmentally conscious custor.'er base, corporate profits still come largely from doing business the old, dirty way. And the shift to environmentally sustainable methods and products can disrupt established ways of making money. "Kerrnit was right," says Daniel Esty, director of the Yale Center for Environmental Law and Policy. "It's not easy being green." -



GE'S GREEN SPENDING HAS DONE LITTLE FOR ITS STOCK

Profits are one stumbling block; stock price is another. The market hasn't rushed to reward firms that are preparing for a future of Kyoto targets and carbon taxes. In 2005, General Electric CEO Jeffrey Immelt stunned corporate America by endorsing federal limits on carbon emissions. He committed to spending $1.5 billion on clean-tech R&D by 2010 and trimmed $100 million in internal energy costs. Noble moves—but GE's stock price barely budged. Now Immelt is defending his older, browner ways. *"I* don't want to change the economic flow of the company," he told *The Wall Street Journal* last year. Since then, GE has put more than *$2* billion into the petroleum industry and continues to invest in coal-fired power plants. —

Green pressures are perhaps most complex in retailing, where big-box chains are rallying suppliers to clean up their act. In January, Wal-Mart began pushing manufacturers to improve the energy efficiency of their products by 25 percent in three years. But there's a hitch: Wal-Mart buys much of its stock from China, where standards are notoriously lax. As Joseph Romm, a senior fellow at the Center for American Progress, notes, the company's very business model is probably incompatible with top-to-bottom greening. -

Some businesses will come up with deft ways of turning green policies into profits. German industrial conglomerate Siemens, for instance, has seen its share price triple in the past five years, thanks in part to strong sales growth in energy-saving LED lights and wind turbines. Others will have to walk the line between doing good and doing well as best they can. Washington may help: Congress is poised to create a cap-and-trade market for carbon emissions, which will better align the moral impulse to go green with the corporate imperative to satisfy Wall Street. In the meantime, there are two types of green in business—and no CEO can afford to ignore the kind in the cash register.

—GABRIEL SHEKMAH

ILLUSTRATION *B'I*

4

INVISIBLE INTERNET

THESE GIZMOS CONNECT TO THE NET, BUT YOU'D NEVER KNOW IT.

ELECTRONICS MAKERS love to shoehorn the Internet into any device with an LCD, but it´s rarely worth the effort. Even the best Web-enabled gadgets, like the Treo, can't make browsing as comfortable as on a conventional computer. Lately, though, a growing number of products exhibit a distinctly new approach—call it the invisible Internet. These devices don't necessarily provide full-fledged Web access. Instead they tap the Net selectively to power particular, predetermined functions.

Consider Nintendo's Wi-Fi-equipped Wii. It offers news and weather channels—but instead of browsing to name-brand sites, the Wii pulls online feeds into its own nifty spinning-giobe interface. Maybe the gaming company took its cue from TiVo's DVR, which repackages a handful of customized online services like weather, podcasts, and movie tickets. TiVo didn't bother with a Web browser at all, even though it would be easy to add one to the Linux-based machines. Likewise, the Apple TV downloads movies and plays podcasts but doesn't surf the Web.

Handhelds, like the Kindle ebook reader, are similarly selective: Amazon .corn's marketing and the device's anemic HTML browser leave no doubt that the Kindle's 3G link is

PHOTOGRAPH BvMauricio Alejo

5 RISE OF THE INSTAPRENEUR

MANUFACTURE AND SELL ANYTHING. IN MINUTES.

Jeffrey Wegesin is a furniture maker. His most popular creation is a curvaceous side table, and even though he has sold only two copies of it, he has already turned a profit. He did it without so much as setting foot in a wood shop. And he is not alone. Wegesin is one of 5,000 merchants who have established accounts with Ponoko, a year-old on-demand manufacturing service in New Zealand. Designers upload their blueprints to Ponoko's servers; when a customer places an order, Ponoko's laser cutters automatically trim wood and plastic to create the product on the spot. Wegesin, a Web designer, sells the tables through the site for $250, not including shipping. He then pays Ponoko $124 for each table to cover the cost of materials and cutting fees. The $252 he's brought in so far may not be much, but because he incurred no up-front costs it comes as pure profit. —

Welcome to the age of the instapreneur. With nothing more than a design, amateurs can manufacture jewelry, robots, T-shirts, furniture—anything. No warehouses. No minimum orders. And no money down. The digital economy isn't just digital; the same market forces that allowed midlist musicians to make a living distributing their songs online now give amateur clothiers the chance to sell their wares without having to persuade Barney's buyers to carry them.

Thousands are launching instant businesses. Zazzle, of Redwood City, California, offers a dizzying array of user-designed products from posters to tennis shoes. StyleShake, a custom-clothing site in London, received 25,000 dress designs in its first three months. Spreadshirt, founded in Leipzig, Germany, hosts 500,000 individual T-shirt shops. "These companies significantly lower the threshold for someone to bring anything to market," says Neil Gershenfeld, director of MIT's Center for Bits and Atoms. "There's an industrial-age bias that you need volume to support a factory; but with this, much-more-creative low-volume businesses become viable."

These are not just CafePress-style in-jokes—T-shirts and mugs meant to appeal to a small circle of friends. According to Spreadshirt CEO Jana Eggers, her site saw a 30 percent increase last year in the number of North American shop partners that sold more than 1,000 shirts annually. Even CafePress has become a bona fide business platform. Jim Gamble, a Bay Area entrepreneur, uses the site to sell 50,000 of his T-shirts and bumper stickers—all emblazoned with conservative political slogans—every year, giving him an income "well into the six figures," he says.

Large brands are starting to see the appeal of manufacturing-as-a-service, **too.** Lexus recently used Blurb, an on-demand publisher, to print 1,800 copies of a book promoting the automaker's green practices. Franchises *from Dilbert* to the Discovery Channel sell licensed merchandise on CafePress. Disney has uploaded more than 3,500 of its designs to Zazzle, allowing the company to sell a wider range of products than just the blockbuster Mickey Mouse T-shirts favored by conventional retailers. The sen/ice also gives the Disney machine unprecedented agility. "Here, 1 can see that Hannah Montana is taking off, we can upload a design right into Zazzle's system, and in a day or two it's a product," says Patrick Haley, senior manager of customization for DisneyShopping.com.

As everyone gains the ability to create and sell anything, the long tail will apply to making things as well as to selling them. Amazon .com may be able to offer near-infinite inventory, but only as long as the products exist. On-demand manufacturing could eliminate that constraint, leading to a world where products are always available, nothing ever gets discontinued, and the virtual shelves are always stocked. —IAN MOUNT

intended for downloading books and magazines, not for surfing.

At first glance, the iPhone seems to contradict this trend. Apple didn't just add a browser to a mobile phone; its support of Web 2.0 standards makes Safari-fueled browsing a breeze. But the iPhone is still better for flipping through the *Times* than for serious work like, say, comparison shopping. That's why Apple also made it easy to access certain types of Web-based information with specialized, single-purpose widgets. Push a button and up pops the weather; push another and you get the latest stock prices. The coolest things about the iPhone depend on the Internet, but going online fades into the background, like electricity.

A quarter century has passed since Sun Microsystems declared that "the network is the computer," and it's tempting to view these devices as the latest manifestation of this venerable precept. But that vision was about using cheap, generic devices to tap the Net. Today's gadgets are specialized devices that sell at a premium—not because they do everything, but because they do what you want them to and they do it with panache. Saying that they connect to the Internet is beside the point. —Lucas Graves

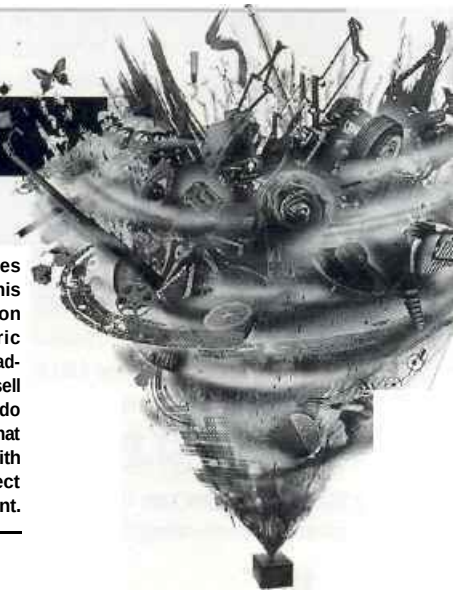


ILLUSTRATION r:• Tetsuya Hagato

6 BUILDING A BETTER BANNER

GOOGLE RULES TEXT ADS. GOOD THING MICROSOFT'S BID FOR YAHOO IS ALL ABOUT BIG-BUDGET BRAND ADVERTISING.

The search wars are over, and Google has won. Despite years of effort, Microsoft and Yahoo together account for just a third of US Internet searches and even less of the $8 billion market for search-related advertising. But the good news for all of Google's rivals is that online advertising is about much more than search. The new battleground is display—the kind of graphics-intensive spots that were left for dead after the Internet bust—and the emerging category of video. And the latest salvo in that war was Microsoft's $45 billion bid for Yahoo.

There are other reasons to buy Yahoo-its wealth of top-notch Web services, for example—but ultimately it comes down to advertising. Web advertising is in the midst of a metamorphosis. As television implodes, marketing chiefs are turning to the Net to create branding initiatives. They know you can't build a brand with little text ads that pop up next to search results. But you can with video and display, especially now that display has moved beyond static banner ads to include Flash animation and sound. Web advertising, which passed $20 billion last year in the US, is expected to surpass $60 billion in four years, and display and video ads will account for more than a third of the total. That means there's an opportunity to make money by dominating those categories the same way Google dominates the search market. "The race is on," says Mark Kingdon, CEO of digital ad agency Organic. -

Google is already off and running. In February it rolled out AdSense for Video—an early attempt to bring video advertising to the thousands of sites it now delivers text ads to. What Yahoo brings to the table is numbers: It is the world's most popular Internet publisher, delivering Web pages to nearly 140 million people a month in the US alone. Yahoo also delivers ads to a vast network of independent sites, increasing its advertising reach to 85 percent of US Internet users, according to comScore. Microsoft reaches 56 percent of the US Internet population through MSN and Windows Live, but it still lacks credibility with Madison Avenue. Put it together with Yahoo, however, and you have a scale that even Google can't match.

WEB DISPLAY AND VIDEO AD REVENUE WILL **TAKE OFF**

Even if the Yahoo purchase goes through, a company like Microsoft needs more than reach. It also needs the technology to deliver the right ads to the right eyeballs at the right time and come back with a precise measurement of the results. But as Tim Hanlon of digital consultancy Denuo observes, "The best stuff is not coming from the leviathan players." One of the biggest advances in advertising technology, behavioral targeting, was pioneered by little firms like Tacoda (before it was bought by AOL) and the Drivepm unit of a Quantive (before it was bought by Microsoft). Behavioral targeting tracks surfers as they traverse the Web, making it feasible to deliver automobile ads. say, not just on auto-related homepages but on other sites visited by someone who's shown an interest in buying a car. That has opened up vast new quantities of inventory—Web pages that previously would have been a tough sell to advertisers but now make sense. "There's a lot more innovation to come," Hanlon says. The irony is that it probably won't be delivered by Yahoo, whether or not it's acquired by Microsoft. After all, this is a company that fumbled every opportunity in search. "It's a classic case," Hanlon adds. "Do two wrongs make a right?"—FRANK ROSE

Brian Rea

7 INVENTED IN CHINA

BAIDU, ALIBABA, TENCENT: ONCE THE WORLD'S FACTORY, CHINA IS THE NEXT GREAT INNOVATOR.

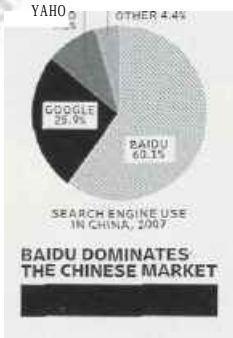
The GE China Technology Center in suburban Shanghai is one of the industrial giant's premier R&D showcases. There, 600 engineers from around the world beaver away on next-gen products, everything from cleaner coal to high tech manufacturing. But GE's pride is just another boomtown office building compared with its new neighbor across the street, a stadium-sized saucer that looks like it escaped from Beijing's Olympic Park. Constructed by the Chinese Academy of Sciences, the gleaming behemoth is an electron-smashing particle accelerator, and by next year it will be drilling into world-class problems of microelectronics and Pharmaceuticals.

Everyone knows about China's emergence as a global manufacturing power. Well, guess what: the People's Capitalist Republic isn't just emerging or ascending—it's exploding. And not only with boatloads of flatscreen TVs and great gusts of atmospheric carbon. The world's go-to source for low-cost labor is generating mountains of capital, squads of hot new companies, and—surprise!—glimmers of innovation.

The country's hottest export is actually cold cash. Until recently, China's pinstripe brigades were happy to stash the national hoard—$1.5 trillion in foreign exchange reserves, and counting—in US T-bills and other financial no-brainers. Now they're buying resources to feed their global ambition: raw materials (Sudanese oil, Australian iron), international capitalist bastions (billion-dollar stakes in Morgan Stanley and the Blackstone Group), and technology (a bid by router maker Huawei and others for 3Com, derailed by US security concerns).

Meanwhile, the world's biggest digital hothouse teems with exotic fruit. With more than 700 million registered users, Tencent Holding's QQ messaging platform is the largest online community on earth. Baidu handles 60 percent of Chinese Web searches, dwarfing Google's role in the vast national market. In video sharing, Tudou and 56.com offer licensed programming, supplanting broadcast TV for millions of users; YouTube is barely a blip. Hulu, the $100 million video-streaming venture from News Corp. and NBC, has its headquarters in Hollywood—and engineers in Beijing.

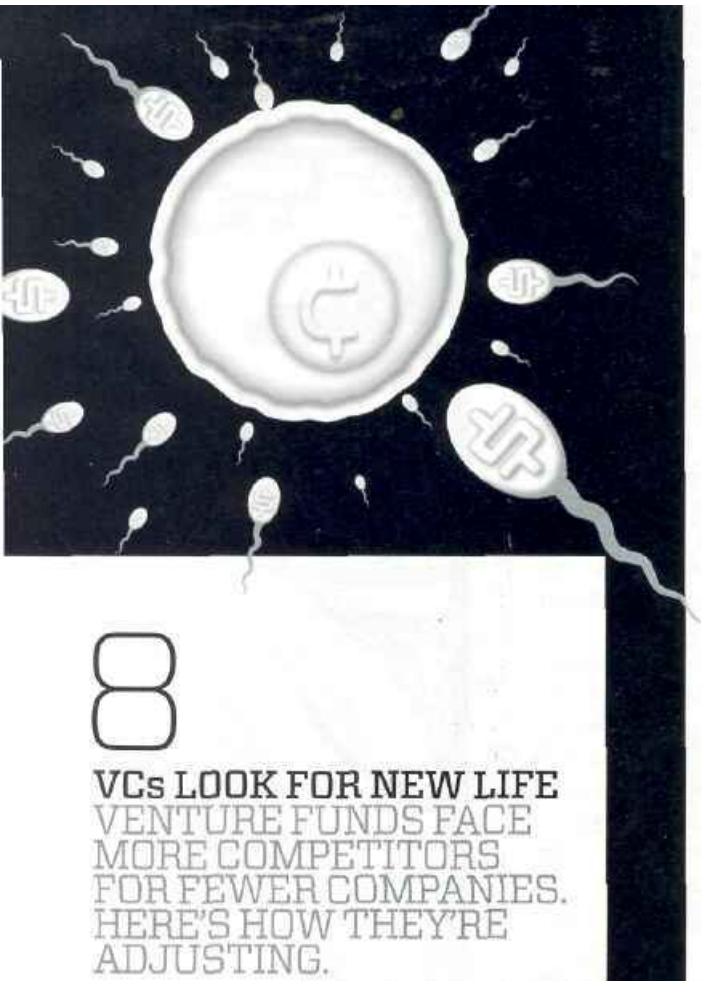
Aren't these just ideas cribbed from abroad? Perhaps. But the pieces are now in place for a great leap forward from "made in China" to invented there. US venture capitalists committed $1.4 billion to Chinese companies last year. Among their favorite targets are returning emigres and young professionals trained at places like GE's Shanghai facility and the Beijing outposts of Google, Microsoft, and Yahoo. For inspiration, would-be entrepreneurs can look to home-grown rock-star CEOs like Alibaba Group's Jack Ma (age 43), Tencent's Pony Ma (36), and Baidu's US-schooled Robin Li (39).



Even China's notorious environmental meltdown has an upside: It's both a sharp spur to innovation and the driver of a huge homegrown market for green technologies. The country will soon be the number one maker of windmills and solar cells. Broad Air Conditioning is the global leader in super-efficient cooling systems that can be powered by waste heat—an unmistakable growth opportunity in a power-short, warming world. Shenzhen-based BYD Company, a leading manufacturer of rechargeable batteries, showed up at the Detroit Auto Show earlier this year with a slick plug-in hybrid sedan, scheduled to roll out of Chinese showrooms in time for the summer Olympics.

Not long ago, China had neither the skills nor the spare cash to fuel amazing greatness. Now it has both. How about a BYD Technology Center in Detroit?—SPENCER RE1SS

ATICNB Ronald Gala



8

VCs LOOK FOR NEW LIFE

VENTURE FUNDS FACE MORE COMPETITORS FOR FEWER COMPANIES. HERE'S HOW THEY'RE ADJUSTING.

BY SOME MEASURES, 2007 was a great year to be a venture capitalist. VCs raised $35 billion in new funds, invested nearly $30 billion, and best of all cashed in a tidy $53 billion.

Those are good numbers, but they hide the fact that when it comes to the Internet, venture capitalists are facing the toughest investing environment in recent history. As companies become cheaper to launch, fewer entrepreneurs need the kind of cash infusions that VCs provide. And angel investors are encroaching on VCs' turf by throwing more money at early-stage companies; in 2006, angels pumped a total of $26 billion into 51,000 startups, up from $18 billion in 2003. At the same time, large companies are snapping up Web businesses before these startups ever see a second or third round of funding.

"Right now, honestly? This time sucks for us," says Paul Kedrosky, a partner with Ventures West. "It's a bad time."

Savvy VCs are finding ways to compete. One gambit: doling out perks to entrepreneurs. San Francisco-based Founders Fund, started by ex-PayPal CEO Peter Thiel, lets entrepreneurs trade some of their equity for cash, something they usually can't do until their companies are purchased or go public. Other VCs are competing with angels by investing like them—with small amounts and at early stages. In 2007, the average VC-led seed round was less than $1 million. "Half of the deals we do are either seed or A round," says Roger Lee, a general partner at Battery Ventures. "The companies VCs are putting $500,000 into this year we might have been putting $20 million into 2000."

Meanwhile, the grim economy is an unlikely source of solace. Venture firms usually have 10 years to invest the money they raise, making them better prepared than angels to weather market dips. And as the bad economy starts to cut into startups' growth, entrepreneurs will need to raise more funding at lower valuations. Best of all for VCs, a coming wave of tech layoffs may yield more investing opportunities than ever: "Economic slowdowns tend to coincide with bright people leaving big companies to do their own thing," says Stu Phillips, managing partner of Ridgelift Ventures. "For early-stage investors, a recession can be a great time." —Josh McHugh

ILLUSTRATION BV Christoph Niemann

9

THE HUMAN TOUCH

ALGORITHMS ARE TERRIFIC. BUT TO SEARCH SMARTER, FIND A PERSON.

When he returned home from a long day at the office, Jeremy Brosowsky would glance ruefully at his coffee table. It was always covered with magazines he knew he'd never crack open. *"TheEconomist jdst* ended up being a $100-a-year paperweight," says Brosowsky, founder of the now-defunct *Washington Business Forward magazine.*

In 2006, Brosowsky realized that this "coffee table problem" wasn't confined to meatspace. He was similarly unable to keep track of all the information that poured into his RSS reader, to say nothing of the online versions of *The New York Times, The Wall Street Journal,* and dozens of other publications. Brosowsky wished he had a way to manage the deluge and zero in on the few must-read articles.

His solution was to create Brijit, a Washington, DC-based startup launched in late 2007 that produces 100-word abstracts of both online and offline content. Every day, Brijit publishes around 125 concise summaries of newspaper and magazine articles, as well as audio and video programs, rating each on a scale of 0 ("actively avoid") to 3 ("a must read") so readers can decide whether it's worth their time to click through. "What we've created with Brijit is your well-read friend," says Brosowsky, whose eight employees sift through

ILLUSTRATION E'

more than 100 sources, *from AARP the Magazine to XXL.*

Brijit joins a growing number of ventures that are using people, rather than algorithms, to filter the Internet's wealth of information. Veteran entrepreneur Jason Calacanis has launched Mahalo, a "human-powered search engine" that uses freelancers and volunteers, overseen by editors, to compile results. ChaCha, another nascent search engine—whose investors include Amazon.com CEO Jeff Bezos—offers live guides to assist users with their queries via a chat window. And Squidoo, founded by marketing blogger Seth Godin, pays users to build link-rich "lenses" on topics of interest.

These ventures have a common goal: to enhance the Web with the kind of critical thinking that's alien to software but that comes naturally to humans. As Calacanis told a conference audience: "Google's mission is to index the world's information; our mission is to curate that wonderful index."

The vogue for human curation reflects the growing frustration Net users have with the limits of algorithms. Unhelpful detritus often clutters search results, thanks to online publishers who have learned how to game the system. Users have tired of clicking through to adware-laden splogs posing as legitimate resources. And unless you get your keywords just right, services like Google Alerts spew out either too much relevant content—or not enough.

Even with armies of paid contributors, however, the curators can't cover Google-scale territory. They've had to make tough choices about resource allocation, opting to focus on topics and sources with the most mainstream appeal. Mahalo, for example, has plenty of curated listings dedicated to videogame cheats or Page Six celebrities, but it defaults to Google search results for topics like UAVs or Russian nesting dolls.

Despite its absence of long-tail fodder, Mahalo's traffic has grown steadily since it launched last June. After just seven months, the site tallied 3.3 million unique visitors in January. That's less than 0.2 percent of the search market, according to Nielsen. A startup able to capture just 1 percent would enjoy annual revenue of around $100 million, reckons Don Dodge, a director of business development at Microsoft. Considering that Mahalo was launched for roughly $20 million, it could be headed for an impressive return on investment. -

But watch out for the King Kong of search. In December, Google announced that it was developing knol, a tool that will allow experts to write authoritative introductions—knols—about a vast range of subjects. "A knol on a particular topic is meant to be the first thing someone who searches for this topic for the first time will want to read," wrote Udi Manber, a vice president of engineering at Google. In other words, after spending untold millions refining its proprietary algorithms, the titans of the Web are starting to realize there's no substitute for the human touch.—BRENDAN I. KOERNER

Fonte: Wired, a. 16, n. 4, p. 120-135, Apr. 2008.