Facebook

Flickr

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Second Life

Linux

YouTube

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Human Genome Project

WIKINOMICS

How Mass Collaboration Changes Everything

EXPANDED EDITION

Don Tapscott
Author of *The Digital Economy*

and Anthony D. Williams

Spine:

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PORTFOLIO

5. THE PROSUMERS
Hack This Product Please!

Our community is an opportunity to take a look at the rules that govern society, and to the extent that we are able, rewrite them as best seems to fit us," said Philip Linden to author and Stanford law professor Lawrence Lessig, as they sat down for a Q&A session in the amphitheater of a fascinating new settlement. Lessig nodded his head in agreement. A bit of a folk hero in these parts, Lessig was making a specially scheduled appearance to discuss his books, *Free Culture* and *The Future of Ideas*, with an ensemble of several hundred of its residents. Philip Linden, his host, was among the original homesteaders in this pioneer community.

"For those here who don't know, Lawrence has affected the history of our community already," said Linden, as he introduced Lessig to his compatriots. "We had a meeting in 2003 to think about our future, and Lawrence was kind enough to attend, and to give us his thoughts on IP, land, and how things should be. Shortly thereafter we gave IP rights to creators and switched to our system of land ownership."

"Bravo," replied Lessig, taking in the scenery.

"As every free society has discovered," said Linden, "we have realized, more and more over time, how much our community is a developing nation, and how, if we want to succeed, we must make the choices that advance us all."

"That's why the people here are so important to this debate," Lessig said encouragingly. "You have got to make the clueless politicians aware of what nineteenth-century law is doing to the twenty-first century," Lessig said, getting more animated. "They don't get it. They think they're stopping 'pirates' when they stop all sorts of creativity."

As interesting as Lessig's comments were, it was the venue in which he

made them that is truly remarkable. Despite appearances, Lessig and his host are not members of a cultlike hippy enclave in a remote part of New Mexico. Lessig was appearing, not in person, but as an avatar in a virtual stadium, and the hundred-plus residents who came to listen in were all virtual avatars as well. All of them were participating in a virtual world of their own making—a massively multiplayer online game (MMOG, for short) called Second Life, where over 325,000 participants socialize, entertain, and transact in a virtual environment fabricated almost entirely by its users.

In fact, Second Life residents are far more than just "users." They take on virtual identities, act out fictitious roles and activities, and even create virtual businesses that earn some 3,100 residents an *average* net profit of $20,000 a year. *BusinessWeek* writer Robert Hof aptly calls Second Life, "[T]he unholy offspring of the movie *The Matrix*, the social networking site MySpace.com, and the online marketplace eBay."[1]

One player, who goes by the pseudonym Anshe Chung, runs a virtual real estate development company and residents pay Linden dollars, the in-game currency, to buy or rent the ornate virtual homesteads her company designs. Even at three hundred Linden dollars to one buck, Chung does some brisk business. Chung's holdings of Linden currency and virtual real estate now surpass the equivalent of a quarter of a million dollars. She says, "This virtual role-playing economy is so strong that it now has to import skill and services from the real-world economy."[2]

Players like Anshe Chung, and indeed all players in Second Life, are not just consumers of game content; they are at once developers, community members, and entrepreneurs—and, like Chung, a growing number even make their living there. This means Second Life is no typical "product," and it's not even a typical video game. It's created almost entirely by its customers—you could say the "consumers" are also the producers, or the "prosumers." After all, they participate in the design, creation, and production of the product, while Linden Labs is content to manage the community and make sure the infrastructure is running.

In his 1996 book, *The Digital Economy*, Don introduced the term "prosumption" to describe how the gap between producers and consumers is blurring.[3] Though many now recognize the significance of this development, most still confuse prosumption with "customer centricity," where companies decide what the basics are and customers get to modify certain

elements, like customizing your vehicle on the showroom floor. Even TiVo, which makes you "the programmer" (i.e., the person who sets the TV schedule), is not as exciting as producing your own homegrown content. In our view, all this customer centricity is pretty much business as usual.[4]

This chapter describes a new model of prosumption, where customers participate in the creation of products in an active and ongoing way. As in Second Life, the consumer actually co-innovates and coproduces the products they consume. In other words, customers do more than customize or personalize their wares; they can self-organize to create their own. The most advanced users, in fact, no longer wait for an invitation to turn a product into a platform for their own innovations. They just form their own prosumer communities online, where they share product-related information, collaborate on customized projects, engage in commerce, and swap tips, tools, and product hacks.

By learning how to harness a prosumer community for competitive advantage, Second Life originator Linden Labs has broken most of the conventional rules for building a multiplayer video game and set the standard for customer innovation in all industries. It's not yet the largest MMOG, but it is growing fast. As of July 2006, Second Life was about the size of greater Boston and growing by 15 to 20 percent per month.

While most multiplayer games are themed and scripted by a handful of internal designers, Linden Labs has gone to the other extreme, opening up its gaming environment in radical new ways. Second Life has no preset script, and there are few limitations on what players can do. Residents create just about everything, from virtual storefronts and nightclubs to clothing, vehicles, and other items for use in the game. In fact, Linden Labs produces less than 1 percent of its content and now gets up to 23,000 hours of "free" development effort from its users every day.

Users don't give up all of this labor for nothing. In Second Life anything a resident creates is theirs. While some multiplayer games forbid real-world trades of virtual goods, the practice is sanctioned, even encouraged within Second Life. Industry powerhouses like Sony Online Entertainment president John Smedley say giving users IP rights would be like "getting a gym membership and saying you own the equipment." But for Linden Labs it's all about building a giant, freewheeling,

customer-driven economy that currently turns over an estimated $100 million per year.

Second Life's prosumptive approach to building a business offers advantages that tightly controlled business models can't replicate. It makes big impacts with fewer resources. It scales in ways that centrally designed systems cannot. It benefits from positive feedback loops that are difficult for competitors to reverse. It innovates more rapidly, and engages stakeholders in loyal communities, because the players create the rules of the game, own their IP, and even volunteer to provide customer support.

Companies should follow Linden Labs' lead in building a "product" that invites and enables customers to collaborate and add value on a massive scale. These opportunities to add value should extend throughout the product life cycle, starting with design and extending to aftermarket opportunities for customer-driven commerce and innovation. This chapter will explain the process with a series of cases that explore how self-organizing prosumer communities introduce both lucrative opportunities and grave new threats to companies.

For the managers who are wondering whether this is serious, Second Life also sends a warning. In the same way that Second Life is an infinite platform for customer innovation, not a product, this new generation of prosumers treats the world as a place for creation, not consumption. This new way of learning and interacting means they will treat the world as a stage for their own innovations. Just as you can twist and scramble a Rubik's Cube, prosumers will reconfigure products for their own ends. Static, immovable, noneditable items will be anathema, ripe for the dustbins of twentieth-century history.

CUSTOMERS AS CO-INNOVATORS

The idea that the people who use products should have input into their design and production is not entirely new. There have been many episodes of user-driven creativity in the history of invention as scholars such as MIT professor Eric von Hippel have pointed out. In early nineteenth-century England, Cornish steam-engine makers collaborated openly with mine owners to improve the efficiency of the steam engines used to pump water out of the coal mines. In the United States, the mass production of steel in

the 1870s and the invention of the personal computer in the 1970s were both preceded by long periods of open tinkering within the community of users and technicians. In those cases, technology was pushed into applications, and new industries emerged rapidly, because technical people openly discussed and shared what they were working on.

Other research has shown the great importance that hobbyists and "amateur" creators play in advancing technology. A casual look through the pages of a 1950s edition of *Popular Science* reveals a vast treasure trove of amateur innovation in fields ranging from electronics to scientific instruments and mechanics. Even the Model T (the car you could get in any color you wanted as long as it was black) was subject to intense customization by its customers—a trend that continues today in increasingly large communities of auto enthusiasts and aftermarket specialist shops, and of course, on MTV television shows like *Pimp My Ride*.

Despite this rich history of customer innovation, most companies consider the innovation and amateur creativity that takes place in communities of users and hobbyists a fringe phenomenon of little concern or value to their core markets. Firms often resist or ignore customer innovations. It took car manufacturers more than a decade to "invent" the pickup truck, after American farmers had spent years ripping the backseats out of their vehicles to make room for their goods and tools. Even when customer innovations look promising, most companies' internal processes have been too rigidly adapted to the manufacturer-centric paradigm to make use of them.

This reticence is set to change, however, as two forces converge to upset the status quo. One, as we have already explained, is that customers use the Web as a stage to create prosumer communities, so what was once fringe activity is increasingly out in the open. Second, companies are discovering that "lead users"—people who stretch the limits of existing technology and often create their own product prototypes in the process—often develop modifications and extensions to products that will eventually appeal to mainstream markets.[5] In other words, lead users serve as a beacon for where the mainstream market is headed. Companies that learn how to tap the insights of lead users can gain competitive advantage.

BMW, for example, employs thousands of R&D professionals and has an entire shop in Silicon Valley dedicated to producing software for its

cars. But when it came time to rethink the telematic features for future models (such as GPS navigation), the company released a digital design kit on its Web site to encourage interested customers to design them instead. Thousands responded and shared ideas with company engineers, many of which have since turned into valued initiatives. Now BMW hosts a "virtual innovation agency" on its Web site, where small and medium-size businesses can submit ideas in hopes of establishing an ongoing relationship.

While decidedly less high-tech than BMW, John Fluevog is a designer of high-end shoes. He may not compete with Nike, but his world-famous shoes have been selling reliably to an expanding customer base since 1980. Inspired by the Linux phenomenon, Fluevog has created open source footwear (though the process only loosely resembles those employed in the open source software community). Customers submit designs for consideration, and the best ones get put into production. While Fluevog isn't offering royalties or placing the designs back into hands of "the community," he has promised to adorn any shoe design he adopts with the name of the designer.[6]

These cases illustrate how smart companies are reaching out to involve customers and lead users directly in their product development processes. One of the important elements not captured by these examples, however, is the extent to which customer innovation is going self-serve with the rise of prosumer communities.

Customer Co-Innovation Goes Self-Serve

David Pescovitz, senior editor for *Make* (a magazine and blog devoted to the do-it-yourself [DIY] innovation scene), says the DIY phenomenon is exploding with prosumer communities that have formed around products ranging from the Toyota Prius to the Apple iPod: "Communities are forming every day in part because the technology enables it." There is no need for users to innovate in isolation or wait for the next monthly amateur electronics meeting to share their customized wares. Pescovitz also highlights the allure of prestige and the sense of social belonging that develops within prosumer communities. "People get big thrills from hacking a product, making something unique, showing it to their friends, and having other people adopt their ideas," he said.

Even Hollywood is getting involved. The 2006 cult movie *Snakes on a Plane* engaged its audience in many aspects of the film ranging from scripting to marketing. Fans of star Samuel L. Jackson convinced the producers to insert lines into the dialogue and could create a custom and personalized voice message from Jackson to send to their friends. This inspired one blogger to proclaim that we're seeing a shift from "heard the ad, seen the movie, bought the video, got the T-shirt, got the fridge magnet"; to "created the ad (co-) shot the movie, mashed the video, designed the T-shirt, made the fridge magnet."[7]

One of the earliest, and still most vibrant, prosumer communities has formed around Lego products. Lego itself has become a flagship for how to get your customers deeply involved in cocreating and co-innovating products. Though Lego is perhaps best known for making little interlocking plastic bricks, the company is increasingly focusing on high-tech toys. With Lego Mindstorms, for example, users build real robots out of programmable bricks that can be turned into two-legged walking machines, or into just about anything a teenage mind can envision. When the product first made its debut in 1998, marketing officials were surprised to discover that the robotic toys were popular not only with teenagers but with adult hobbyists eager to improve on them.

Within three weeks of its release, user groups had sprung up and tinkerers had reverse engineered and reprogrammed the sensors, motors, and controller devices at the heart of the Mindstorms robotic system. When users sent their suggestions to Lego, the company initially threatened lawsuits. When users rebelled, Lego finally came around, and ultimately incorporated user ideas. It even wrote a "right to hack" into the Mindstorms software license, giving hobbyists explicit permission to let their imaginations run wild.

Today Lego uses mindstorms.lego.com to encourage tinkering with its software. The Web site offers a free, downloadable software development kit; Lego's customers in turn use the site to post descriptions of their Mindstorms creations—and the software code, programming instructions, and Lego parts that the devices require. Indeed, Mindstorms enthusiasts are notoriously ambitious. At Lego World 2005 in the Netherlands, one participant revealed a full-size, fully functional pinball machine made from twenty thousand Lego blocks and thirteen programmable microchips.

THE PROSUMPTION DILEMMA: CONTROL VERSUS CUSTOMER HACKING

Prosumption sounds like a win-win proposition. Indeed, how could you possibly lose? Customers get more of what they want and companies get free R&D. But it's not all cut-and-dried. As prosumer communities proliferate, companies face increasingly tough choices about how to interact with them. Are customer innovations always good news? What happens when the modifications and extensions that customers develop conflict with a company's business imperatives? Should companies discourage, ignore, join, or even try to co-op prosumer communities? Lego has been fortunate. But for some companies these questions have become agonizing and perplexing.

Take Apple's iPod. The now ubiquitous music and media player is one of the most popular electronic devices to emerge in the last decade. Tens of millions of consumers around the world use the iconic device to bring their music and media with them wherever they go. It's been a tremendous success for Apple. Along with the complementary iTunes digital music service, the iPod has revitalized the company, while transforming both the music and consumer electronics industries single-handedly.

Perhaps not surprisingly in this day and age, Apple's customers are even more ambitious. Its lead users have always surmised that the iPod could be much more than a digital music player. The iPod, after all, is a brawny piece of hardware with a massive hard drive. Limiting it to playing music files would seem a shame, when so many other applications were possible. Why not transform the iPod into a general-purpose wearable computer that has everything from video games to Wikipedia?

All-purpose wearable computers may yet be in Apple's game plan (after all, Apple has partnered with Nike to integrate the iPod into the popular sports gear line). But the company is notoriously tight-lipped about its product road map, and is understandably riding the success of its music applications. Some users became impatient and endeavored to use the iPod as a platform for their own innovations. The problem for adventurous users is that the iPod is a closed system. There is no documentation for the software or tools to help developers turn it into something else. Of course, this has never stopped users before and, quite predictably, users have taken

matters into their own hands, quite literally. Whether it's modifying the casing, installing custom software, or tearing it up and doubling the memory, users are transforming the ubiquitous music and media player into something unique. Tens of thousands of users gather at online forums to swap ideas and coordinate their actions. Of the hundreds of customer-inspired hacks that have emerged, the most powerful is a program called Podzilla—essentially a bare-bones version of Linux with a graphical user interface that runs on the iPod's tiny screens.[8]

Once users install the hack, they can either boot their iPod as usual, or fire up Podzilla for a pocket Linux environment. Podzilla utterly transforms the iPod, allowing users to view pictures, play several games, and record audio at full CD-quality by plugging in a microphone (Apple cripples the iPod so that it can record audio at 8kHz only). Add a keyboard that can be plugged into the headphone jack, and it could become a fully functional PDA, capable of editing calendars, address books, and e-mails. Arguably the project's most notable accomplishment is its DIY video player—released months before rumors about Apple's Video iPod had even begun to spread.

With Podzilla users get applications galore. In addition to enabling games such as Othello, Pong, Tetris, or Asteroids, hackers have reworked Doom so that it will play on the device, albeit at an agonizingly slow 3 to 4 frames per second frame rate. Another application, called PodQuest, allows you to download driving directions from Google Maps, MapQuest, Yahoo Maps, and others. Everybody loves Wikipedia. Now with Encyclopodia you can get it on your iPod and carry Wikipedia with you everywhere you go. Bold hackers have even figured out how to double the 4-gigabyte memory in the stingy iPod Nano. Just buy a broken Nano from eBay, pop out its memory chip, solder it into the empty slot in your working Nano, and hit reboot—this hack is for advanced users only!

So far Apple has stayed largely silent on its customers' transgressions—they don't explicitly condemn product hacking, but they don't condone it either. Apple has refused to release a developer kit that would make it both legitimate and easy for users to modify or build on the iPod platform. But Apple CEO Steve Jobs has yet to unleash his lawyers or publicly denounce his customers.

Jobs knows the company walks a very fine line. Apple's iTunes/iPod

business model is built on its very lack of interoperability with other devices and services. For example, Apple's digital rights management software—euphemistically called FairPlay—prevents consumers from making unlimited copies of iTunes songs and ensures that the iPod doesn't work with any other copy-protected formats. This means customers are forced to buy their music through iTunes. Likewise, competitors like Real Networks can't legitimately sell music through their own online services that will play on Apple's iPod. As Steve Jobs himself said: "With iTunes, we decided to work with the most popular music player—and that's by far the iPod. Rather than support all these other guys, we'd rather use the engineering to innovate."

But what happens when "the other guys" are not just competitors but your most loyal and engaged customers? The iPod's closed architecture is good at keeping competitors at bay, but it also limits what users can do with the device. That may prop up Apple's business model. It may even allow Apple to add new features and capabilities incrementally in order to keep customers coming back for more. But is a business model that locks in customers and discourages user innovation genuinely sustainable?

Only Steve Jobs knows for sure where Apple wants to take the iPod next. The company has already entered the portable video market in a big way. Analysts speculate that Apple may use upcoming generations of the iPod to move into the mobile phone market as well. As Apple plans its next move, there is little doubt that the company is watching its lead user communities closely and taking cues from what they do with the device.

At the same time, Apple executives must worry that if users can reengineer the product to add a seemingly unlimited array of new features and capabilities, there will be little incentive for customers to spend more money at the Apple store to upgrade to new iPod versions. Any move to open up the iPod's closed architecture ends up threatening both the viability of its current business model and Apple's future product strategy.

Customer Hacking and Home-Brew Applications

Apple is not alone in its muddling efforts to figure out how to deal with increasingly savvy, impatient, youthful, and technically sophisticated customers who insist on taking their technology to the limits. Sony's popular PlayStation Portable (PSP) has also become a platform for a wide range of

customer hacks that precociously extend the capabilities of the portable video game player.

Like iPod and Lego Mindstorms enthusiasts, Sony's customers were quick to rip into the system. Within days of hitting the shelves, PSP fanatics were adding new unauthorized capabilities and features. Now PSP customers go online in vast numbers to swap home-brew applications and games on a variety of user-developed Web sites. Some of the more ingenious user-engineered hacks have turned the PSP into a streaming music player, a WiFi device, and a Web browser. Even relative novices can enjoy these clever extensions by following carefully prepared instructions.

Sony goes further than Apple in explicitly denouncing its customers' ingenuity. The company has even taken steps to retroactively lock up its PSP platform. Before users can load Sony's latest games and peripherals, for example, they must upgrade the PSP's firmware (the operating software that runs the PSP). Frustrated customers learn after the fact that Sony's new firmware disables all of the home-brew games and applications that they worked hard to develop on previous versions. Inevitably it has been a losing battle—hackers crack the new firmware versions just as fast as Sony can release them. But when questioned by the media about why the company repeatedly cripples features that make the PSP more attractive to customers, a Sony rep could only stutter: "Consumers should be aware that any hacking or home-brew applications may cause damage to the PSP unit and may void the warranty."

Of course, Sony's war on product hackers has little to do with warranties and much more to do with its business model. Like Apple, Sony's business model is tied not just to device sales, but to complementary sales of PSP content and peripherals—notably, in Sony's case, the lucrative gaming market for its console. Allowing users to develop their own sources of entertainment for the PSP is tantamount to cannibalizing its offering. And, like Apple, Sony fears it could lose control of its platforms and perhaps even create opportunities for new competitors.

Embracing Consumer Power

So here's the prosumption dilemma: A company that gives its customers free reign to hack risks cannibalizing its business model and losing control

of its platform. A company that fights its users soils its reputation and shuts out a potentially valuable source of innovation. Apple and Sony may feel the latter option is an acceptable risk so long as hacking remains at the fringes. After all, product hackers are still a small minority of their customers, and there is little evidence yet that product hacks and home-brew applications are leaking out into the mainstream. Any company that believes that the status quo will hold for long, however, is mistaken. Product hacking is just getting started.

Customers with the skills and inclination to hack their products may be in the minority today, but what about in five or ten years, as increasingly technology-savvy kids become the norm? Will companies choose to fight all of their customers then? How will they cope with the proliferation of tools and Web sites that enable prosumer communities to flourish? Will they unleash the lawyers and risk driving their customers to alternative platforms? Indeed, how will they compete with the inevitable rise of hacker-friendly platforms that let customers do whatever they want and in return tap unlimited pools of free innovation? The answer is they can't and won't fight their customers for long. Customer hacking will live on.

Smart companies will bring customers into their business webs and give them lead roles in developing next-generation products and services. This may mean adjusting business models and revamping internal processes to enable better collaboration with users. It certainly means avoiding Sony's practice of disabling customer innovations. That is a small price to pay, however, to keep customers loyal to your business.[9] In fact, the opportunity to generate vibrant customer ecosystems where users help advance, implement, and even market new product features represents a largely untapped frontier for farsighted companies to exploit. We will return to flesh out some of these ideas in the conclusion to this chapter. For now, we turn to the rise of listener-artists and the Cambrian explosion of creativity on the Web.

LISTENER-ARTISTS AND THE CAMBRIAN EXPLOSION OF CREATIVITY

Lego hobbyists and iPod hackers give us a taste of this new prosumer ethic, and of both the challenges and opportunities it raises in various industries. Perhaps the most exciting and broadest frontier of user creativity,

however, is happening on the Web where amateur artwork, music, photos, stories, and videos comprise an explosion of cultural innovation that is flowing through blogs, wikis, podcasts, Internet television sites, and a variety of peer-to-peer distribution channels.

This rich, diverse outpouring of creativity is driven by a convergence of peer-to-peer networks, inexpensive digital devices, open source software, user-friendly editing tools, cheap storage, and reasonably affordable bandwidth. The result is that users can create and share content to amuse themselves; individuals with a point of view can influence the media agenda; and community sites with advertising can cut deeply into revenue that normally would go to media conglomerates.

This has put media companies at odds with their customers. Indeed, in no other industry is the tension between the preexisting power of producers and the increasing power of self-organized customer communities so pronounced. Nothing illustrates the opportunities and trade-offs of prosumption better than the growing propensity of young people to weave fluid and participatory tapestries of music content into their own unique and inviting creations. Call it "the remix culture."

Remix Culture

Lawrence Lessig likes to remind people that cultural remixing is nothing new. "Since time immemorial people have been engaged in the act of remixing their culture," says Lessig. "They would do it in obvious simple ways like watch a movie and retell the story to their friends, or they would use a sitcom as a basis for a cultural reference or a joke, but the point is that they are constantly using this culture in their ordinary life and sharing it with others in day-to-day conversation."

Of course, the difference today is that technology makes it easy for people to remix culture and share it on a much larger scale. Not only can people share their remixes with three or four best friends, they can now share them with thousands, and perhaps millions, on the Web.

Though Hollywood argues otherwise, remixing music is not about copying artistic works; it's about modifying, embellishing, appending, reinventing, and mashing them together with other elements. Most of all, remixing music is about being a producer, participating in the creative

enterprise, and sharing your creations with others. "That is what digital technology is doing," says Lessig. "It is infinitely expanding the technological capacity for participation in this kind of creative work." Even the great Italian Renaissance of the fifteenth century will pale by comparison if these creative energies are allowed to flower.

Where did this remix culture come from? Its modern incarnation arguably begins with hip-hop. Starting in the early 1970s, hip-hop artists began mixing and matching beats from various sources, and then layering their own rhythmic vocals on top. This new art form proved highly popular with young people, and now constitutes one of the industry's most lucrative genres.

Despite, or perhaps because of, its growing popularity, this fresh approach to making music attracted its fair share of critics—not least of which were the artists and record companies who didn't like hip-hop acts "sampling" their work. As Public Enemy producer Hank Shocklee recently explained, "We were taking a horn hit here, a guitar riff there, we might take a little speech, a kicking snare from somewhere else. It was all bits and pieces."[10]

Hip-hop artists claimed fair use, while record companies cried that two-second samples of a catchy rhythm, melody, or sound infringed their copyrights. The record companies won in court, and today samples of any length or description (not just recognizable samples) have to be cleared legally with copyright owners before a song or album can be released.

Many in the industry fear that legal encumbrances are chilling musical innovation. In hip-hop's heyday innovative producers literally layered hundreds of samples and snippets to create a collage of sound fashioned into a new song. Today the cost of clearing samples and producing albums is rising so quickly that the most creative works will never be heard.[11]

Bedroom DJs

But like most forms of popular culture that encounter official condemnation, hip-hop continues to grow more popular, and its derivatives are popping up in new places all the time. In fact, as the software to manipulate and remix music proliferates, hundreds of bedroom DJs and songwriters have emerged to make their own "bastard pop" confections. "You don't need

a distributor," says Mark Vidler, known professionally as Go Home Pro-
ductions, "because your distribution is the Internet." "You don't need a
record label," he continues, "because it's your bedroom, and you don't need
a recording studio, because that's your computer. You do it all yourself."[12]

The most popular form of DIY creativity is what participants call
"mashups," "bootlegging," "bastard pop," and a variety of other labels. The
common theme is that aspiring artists fuse songs digitally from completely
different genres to produce hybrid singles and, increasingly, full-length
mashup albums.

Want a new twist on your well-worn Beatles collection? Try DJ Dan-
ger Mouse's *Grey Album*, which consists entirely of contorted samples
from the Beatles' *White Album* mashed together with vocals from Jay-Z's
smash hit *The Black Album*. Or how about bacchanalian rapper Missy
Elliott combined with the gloomy melodies of English rock band Joy Di-
vision, or Madonna's elated voice layered over a grinding Sex Pistols track.

Unorthodox? Yes. Illegal piracy? Perhaps. Innovative and enjoyable?
Most definitely. In fact, a growing number of music lovers are convinced
that this is the future of participatory music. Even music critics agree that
many mashups more than exceed the sum of their parts. And as the phe-
nomenon has slowly gained acceptance, large communities of mashup
makers have been coming out of the shadows. They congregate on the
Web in growing numbers, where they eagerly offer critiques of new songs,
tips for newbies, pointers on where to find a cappellas, legal advice, public-
ity for mashup events, and general discussion of issues surrounding the
mashup phenomenon.

Now, if the record companies would only wake up to the opportunity,
they would be falling over backward to create platforms to encourage cre-
ative remixing—perhaps offering subscriptions for access to the best tools
and tracks. But like hip-hop artists before them, lawyers have gone after
mashup artists like a pack of rabid dogs.

"The problem," says Lawrence Lessig, "is that according to copyright
law mashups are illegal, and increasingly, as record labels learn about
mashup artists they are doing what their lawyers say that they have to do,
which is to stop it and shut it down." Mashup artists typically spend an
extraordinary amount of time producing extremely creative stuff that has
one effect, and that is to promote the underlying music. Though the

original artists, the fans, the creators, and ultimately the labels stand to benefit, the labels won't sanction it unless they themselves control it. "The people producing mashups are furious," says Lessig, "and the mashups themselves no longer promote the work of the artist. Yet the existing regime of copyright says that this is absolutely obvious, that this is what you should do, and the claim of 'they have a right to do this' turns out to be very, very weak."

The Latter-Day Aristocracy of Creativity

The labels' logic is flawed. When Danger Mouse's *Grey Album* was released on the Web it was an overnight sensation. But within weeks of its catching on, EMI had issued cease-and-desist letters to every Internet distributor it could uncover. But as blogger and copyright activist Cory Doctorow put it, "No one who listens to *Grey Album* will shrug her shoulders and say, 'Well, heck, now that I've heard that, who needs to buy the Beatles album, or Jay-Z's album?'" On the contrary, it makes the Beatles and Jay-Z more popular by exposing their work to new audiences. Ironically, Danger Mouse was later hired by EMI to produce mashups legally for the company.

But this is hardly a coup for mashup artists. Doctorow points out that copyright lawyers like to contrast copyright with the old system of patronage, when you could only make art if you could convince the pope or a duke or a king that your art was worthy. Patronage distorted creative expression, and copyright did much to decentralize authority over artistic acts. Part of what makes mashups great—and what makes the revolution in user creativity on the Web important generally—is the completely decentralized, spontaneous, and unimpeded way in which new content is produced. At least until the recording industry started cracking down, creators felt free to let expression, creativity, and audience responses—not legal concerns—guide their creations, just like the early days of hip-hop and other user-controlled frontiers.

EMI's answer to the *Grey Album* sounds a lot like the old patronage system. "If you work for one of a few big record companies," says Doctorow, "you can use their legal apparatus to clear the material you want to use in a mashup. Otherwise, your art is illegal."

The ability to continue to produce art without permission from the

latter-day aristocracy of creativity is central to both cultural and economic progress. Whether it's bedroom DJs, garage innovators, or scientists in an advanced research laboratory, we don't want them to be consulting with attorneys all of the time about the legality of what they're doing. Nor do we want them asking technologists for the encryption keys before they can even begin to engage in an act of creative enterprise. So much of what makes a free society and free economy healthy and vibrant is that we have limited the control points in a way that permits creation and experimentation in a largely anarchistic fashion.

The Open Hand

Fortunately, in the case of copyright there are alternatives, but it's no surprise that they come from grassroots movements and not the recording industry. Consider the Creative Commons, an initiative launched in 2002 that offers content creators flexible licenses for managing their creative rights. For most artistic types, licensing work can be a nightmare, and an expensive one at that. The basic default rule of copyright, says Creative Commons architect Lawrence Lessig, is that all rights are reserved, and the basic infrastructure of copyright is, "Talk to my lawyer if you want something less than that." That means that the cost of actually negotiating around the default is very high.

Creative Commons (www.creativecommons.org) provides licenses that allow you to protect your copyright ownership while allowing others to make derivative works, and stipulating whether you only want to allow non-commercial or commercial use, among many other options. If you have an audio track you'd like to let other people post freely or sample, for example, just affix a CC license, and the world is now free to use it. A growing number of artists, writers, musicians, photographers, and other creators are seeing the benefits of this more flexible and hassle-free option.[13]

The Creative Commons has even spawned a new mashup platform called "ccmixter.org" where participants can remix CC-licensed content and share it with the community. "It's a community of people that just couldn't exist if it weren't for this kind of licensing," says Lessig. "In the past, if you put all this material on the Web and said, 'Hey, come remix this stuff,' it would take a week before you got a cease-and-desist notice from

the RIAA [Recording Industry Association of America]. So this is effectively creating a possibility for a kind of creativity that otherwise would just not have been allowed."

It's not just amateur artists who are getting in on the action. Major artists such as David Byrne, the Beastie Boys, Nine Inch Nails, and many others are getting involved. These bands see fan-created remixes as a way to connect with their audience, and they in turn help bands extend their reach and musical repertoire.

The Beastie Boys, for example, has been posting a cappella versions of their songs and encouraging fans to mash them up with their own music tracks for years. Remixes can be used for noncommercial purposes, and are available for download on www.beastieboys.com.

In October 2004, the band took it a step further and decided to get their fans to help make a documentary film of an upcoming concert. So the group recruited fifty fans on the Internet, equipped them with Hi8 video cameras, and set them loose in Madison Square Garden. The fans' only instructions for documenting the concert: Start filming when the Beastie Boys hit the stage and don't stop filming until it's over.

The end product—a kaleidoscopic collage of amateur video called *Awesome: I Fuckin' Shot That!*—was cobbled together by band member Adam Yauch (aka MCA or Nathaniel Hornblower) from over sixty angles and one hundred hours of footage.[14] The film's coproducer, Jon Doran, calls it "the democratization of filmmaking."

Of course, democratization is a scary word for those accustomed to ironclad control over the creation and distribution of music. "But at some point," says Jim Griffin, the former head of technology at Geffen Records, "the music industry must come to a realization that they can hold a great deal more in an open hand than they can in a closed fist."

Digital music provides the occasion for this realization. It offers a historic opportunity to place artists and consumers at the center of a vast web of value creation. But these novel dynamics have turned the record industry on its head. Rather than build bold new business models around digital entertainment the industry has built a business model around suing its customers. With artists now increasingly turning against the record industry's lawsuits, however, momentum may be shifting in favor of a better way forward.

In fact, the music industry saga serves to illustrate a fundamental principle: Customer value, not control, is the answer in the digital economy. The music industry—and all industries for that matter—must resist the temptation to impose their will on consumers as a matter of convenience, or worse, as a result of a lack of ingenuity and agility. Rather, music labels should develop Internet business models and offerings with the right combination of "free" goods, consumer control, versioning, and ancillary products and services. This includes new platforms for fan remixes and other forms of customer participation in music creation and distribution.

WE ARE THE MEDIA

The rise of citizen journalism and consumer-controlled media provides yet another example of how mass collaboration and cocreation are erasing the previous boundaries between companies and consumers. In a world where all one needs is a camera phone to report on one's surroundings, it is no longer as straightforward to pigeonhole a person's role. In the emerging prosumption paradigm, a person can seamlessly shift from consumer to contributor and creator. Consider these examples.

YouTube is the latest in a string of Internet-TV offerings that makes it ludicrously easy to publish, play, and share video clips on the Web. Anyone can upload a video to the site, and millions of members relish the opportunity to heap praise on the clever videos, while the less clever get seriously flamed. Really popular videos spread with viral intensity, attracting millions of viewers who clamor to see what all the hype is about. It all comes together in a slightly anarchic and unceremonious fashion. But with a global audience providing all of the programming, scheduling, and commentary, the experience of just browsing YouTube is novel entertainment in itself.

At the time of writing, YouTube was offering a motley collection of home movies, independent films, and pirated video content. Users can see everything ranging from clips of their favorite soccer players to U.S. soldiers capturing scenes of combat in Iraq. Though much of the original content is amateurish, it can make for surprisingly captivating viewing. Of course, the Net Geners are all over it, and many use it to share their home

videos with friends (or anyone else who's interested). Budding deals with Hollywood could make the service even more popular, and turn YouTube into a major distribution hub. With over one hundred million plays a day and growing, it seems likely to be a force to reckon with.

Another early and important example of how consumers are redefining the media experience is Slashdot, where a quarter of a million people upload news items of interest to a global audience of techies and programmers. The value of any particular news item is determined by the ratings of readers and moderators on the site. Site traffic is so great that the term "to be slashdotted" has entered the lexicon, meaning your own site got an overwhelming amount of hits based on a single mention on Slashdot.

If Slashdot is the grandfather of reader-compiled technology news sites, digg is the prodigy child. It's a lot like Slashdot, except digg is more egalitarian. Slashdot has a top-down editorial structure. Only editors can select user-submitted news items to display on the home page. Visitors can't see all the stories users submit. Nor can they vote on them.

By contrast, digg is refreshingly simple and democratic. Members recommend interesting stories to one another by posting links to the digg site. Healthy competition to discover great stories makes digg a vibrant source for timely tech news. "The members get credit for being the first to find stories," says Jeff Jarvis, a media consultant, blogger, and avid digg participant, "which means that you have over 150,000 editors competing to find the good stuff fast."[15]

Once the articles appear on digg, members click to check them out, sending a tsunami of traffic to each article. One link on the front page can cripple a server for days. It's just like being "slashdotted," except members call this "the digg effect."

Users exert editorial control by clicking on the digg button for each story they like. Articles that receive the most diggs are promoted to the home page. And so the community collectively updates the front page. You could say the community is the editor.

Jarvis says his fourteen-year-old son is also "addicted to digg." Jarvis thinks that's great. "It proves that young people do care about news," he says. "You can go to digg.com/spy and watch the public swarming around stories they like," says Jarvis. "My son can see the stories his friends like.

I can subscribe to a feed of the stories he likes. The news is a community activity again."[16]

Why is this happening on digg and not CNN or the New York Times? It's simple. Digg's creators have learned how to make news a social pastime. And, like all other facets of their lives, prosumers want in on the conversation.

Techies like to squabble over whether Slashdot or digg has the better model. Slashdot is renowned for quality and highly technical discussions. Digg is known for its immediacy and the sheer volume of aggregated stories (thousands every day). Regardless of their differences, both sites make most traditional news outlets look like archaic relics of a bygone era, especially when it comes to the way these sites interact with and relate to their audiences.

Perhaps it's because the mainstream media just don't get it yet. Jarvis says mainstream news editors look at sites like digg and worry that second-rate stories will make it onto the front page. But are editors really in a position to best the collective judgment of their audience? Maybe they're worried that it will go a step further. We'll let journalists post their stories directly and let the community decide which stories are newsworthy and important. After all, if the community is the best arbiter of relevance, do we really need editors?

In truth, serious news organizations will always require great reporters, writers, and editors to deliver top-notch content. Above all, they need individuals with the skills and experience to ferret out great stories and editors with the authority to uphold standards of independence, professionalism, and accuracy. Digg and Slashdot have the easy job by comparison—they aggregate, rate, and comment on the news, they don't do the hard-core reporting.

Democratizing the Media

Nevertheless, there is a lot to learn from these examples. If mainstream outlets were to engage and cocreate with their audiences in a more profound way, surely this could only accentuate positive attributes such as balance, fairness, and accuracy, while making the media experience more dynamic.

For example, any serious news organization today should also allow its community of readers to join in the editorial conversation. The fact that all major media properties don't already offer a parallel front page edited by readers is troubling. The technology has been available for a decade. A cynic might call it contempt for the collective intelligence of media consumers. In some cases, the cynics may be right. But in most cases the sclerotic pace of change reflects the cultural inertia of institutions steeped in the journalistic traditions of mass media.

The new Web challenges the assumption that information must move from credentialed producers to passive consumers. "The mainstream media people define themselves as the arbiters of taste," says Judy Rebick, founder of Rabble, a thriving community-driven news media and discussion forum in Canada. "As long as the media thinks they know what's right," she continues, "they'll never be in a position to harness people's collective intelligence. It's a completely different culture and a completely different way of thinking about knowledge."

The democratization of the media publishing tools, however, is rapidly transforming our notions of how expertise, relevance, and professionalism develop in the media. "The old way of thinking," says Rebick, "is that the cream rises to the top. . . . [Y]ou have hierarchical structures that cut people out at each level." On sites like Rabble, the users, not managers, make those decisions. "Instead of cutting people out, we bring them in, and people can pick and choose what they want to read or hear. They don't have to listen to all the podcasts or read all of the blog posts. But there's something there for everybody, and it allows for people to come in and do their thing and get noticed."

There are small signs that the mainstream media is changing. A recent poll asked media executives for ideas as to how big media firms could respond to the new "threats" posed by user-generated content. Their responses read like a prosumption playbook.

Suggestions included:

- Give users access to raw content such as interviews as a means of providing greater transparency and accountability.
- Provide tools and become a platform for user-generated rather than firm-generated content.

- Redesign all content to be a conversation rather than a corporate monologue.
- Treat advertising as content too.
- Use new distribution forms, including peer-to-peer networks.
- Adapt content forms and schedules to user demands.

Actions speak louder than words, however, and few of these ideas have been championed. A continued lack of responsiveness will be their ultimate downfall. Media organizations that fail to see the writing on the wall will be bypassed by a new generation of media-savvy prosumers who increasingly trust the insights of their peers over the authority of CNN or the *Wall Street Journal*.

HARNESSING PROSUMER COMMUNITIES

Prosumption is becoming one of the most powerful engines of change and innovation that the business world has ever seen. Cocreating with customers is like tapping the most uniquely qualified pool of intellectual capital ever assembled, a reservoir of talent that is as keenly and uniquely enthusiastic about creating a great product or service as you are. But it comes with new rules of engagement and tough challenges to existing business models. Anyone who tells you different has not fully grasped the implications of the impending prosumer revolution.

More than customization

Just as prosumption is more than marketing disguised as customer advocacy, it goes way beyond product customization. Customization occurs when a customer gets an off-the-shelf product adjusted to his or her specification. There is nothing wrong with mass customization: Customers get to tailor products to specific uses while companies get to maintain the economies of large-scale production.

The problem is that mass customization generally entails mixing and matching prespecified components, which significantly limits flexibility and innovation for users. When you order a Dell computer, for instance, you can slot in any DVD drive you want, but it's still a DVD drive. True prosumption entails deeper and earlier engagement in design processes

(i.e., Lego's next-generation Mindstorms) and products that facilitate customer hacking and remixing (mashups).

Losing control

Customers will increasingly treat your product as a platform for their own innovations, whether you grant them permission to or not. As both the iPod and PSP cases illustrate, they invent new ways to create extra value by collaborating and sharing information. Over time value migrates from your product or service to what customers do with the information. If you do not stay current with customers, they invent around you, creating opportunities for competitors. Inevitably, it is preferable to sacrifice some control than it is to cede the game completely to a more adept, prosumer-friendly competitor.

Customer tool kits and context orchestration

Forget about static, immovable products. If your customers are going to treat products as platforms anyway, then you may as well get ahead of the game. Make your products modular, reconfigurable, and editable. Set the context for customer innovation and collaboration. Provide venues. Build user-friendly customer tool kits. Supply the raw materials that customers need to add value to your product. Make it easy to remix and share. We call this designing for prosumption.

Becoming a peer

After gaining some experience with this new world of prosumption you'll realize that your real business is not creating finished products but innovation ecosystems. Companies will participate in these ecosystems in the same way that IBM participates in open source—it harvests value from Linux, but it does not own or control the Linux ecosystem. Similarly, Second Life creates an environment in which customers do 99 percent of value creation. As prosumption matures, expect to treat customers like peers, not patrons.

Sharing the fruits

Customers will expect to share in the ownership and fruits of their creations. If you make it profitable for customers to get involved, you will always be able to count on a dynamic and fertile ecosystem for growth and innovation.

Don't think communism. Think of the eBay microeconomy instead. Hundreds of thousands of eBay's customers make their living there, while eBay takes a cut of their transactions. Indeed, with Second Life's customers creating so much of the game content, it only seems right that they should own all of the IP rights to their creations and make real money by selling in-game assets. IP rights spur prolific rates of customer cocreation and make Second Life's thriving virtual economy a source of real-world income for customers. Why couldn't your products and services support similar kinds of value-added activities?

The Future of Prosumption

The old customer cocreation idea was simple: Collaborate with your customers to create or customize goods, services, and experiences, all while generating a built-in market for your wares. Listen to your customers and run design contests or other such promotional schemes—basically anything that will get your most loyal and engaged customers to share their intellectual capital for free. In exchange, customers with the best ideas get a direct say in what actually gets produced. Maybe, if they are lucky, they get a small cash or in-kind bonus too.

This is the company-centric view of cocreation. *We'll* set the parameters by telling you when and on which products to innovate. *You'll* give us your ideas for free, but *we'll* choose the best of them—and keep all of the rewards and IP. Sound like a good deal?

Let's just say that most customers—especially those of the Net Generation—don't think so. In the new prosumer-centric paradigm, customers want a genuine role in designing the products of the future. It's just that they will do it on their own terms, in their own networks, and for their own ends. In fact, they will do so increasingly without you even knowing about it. Products that don't enable and invite customer participation will be anathema—staid, old-fashioned remnants of a less customer-friendly era.

If you expect to be around in the next decade, your organization will need to find ways to join and lead prosumer communities. Just remember: Customers won't care whether their activities make *you* more money (that's your job)—they'll just want a superior product and experience, and perhaps even a cut of the revenue. But just as IBM and other tech firms

create billions of dollars of revenue by collaborating with the open source community, consumer product companies can find ways to monetize customer-led ecosystems.

And think about the possibilities for you as an individual. You're no longer just a passive recipient of products and services. You can participate in the economy as an equal, cocreating value with your peers and favorite companies to meet your very personal needs, to engage in fulfilling communities, to change the world, or just to have fun! Prosumption comes full circle.