FORRESTER BIG IDEA

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Social Computing

by Chris Charron, Jaap Favier, and Charlene Li

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How Networks Erode Institutional Power, And What to Do About It

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EXECUTIVE SUMMARY

Easy connections brought about by cheap devices, modular content, and shared computing resources are having a profound impact on our global economy and social structure. Individuals increasingly take cues from one another rather than from institutional sources like corporations, media outlets, religions, and political bodies. To thrive in an era of Social Computing, companies must abandon top-down management and communication tactics, weave communities into their products and services, use employees and partners as marketers, and become part of a living fabric of brand loyalists.

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NOTES & RESOURCES

For this report, we analyzed the past seven years of Forrester's Consumer Technographics® data in an effort to discern key trends.

Related Research Documents

"Social Computing Takes A Step Forward"
December 14, 2005, Trends

"How Firms Should Work With The Open Source Ecosystem"
October 4, 2005 Market Overview

"Social Networking Redefines Self-Service Options"
August 16, 2005, Best Practices

"Podcasting For Marketers"
July 5, 2005, Trends

"Identifying The Emotive Consumer"
March 30, 2005, Trends

"Consumer-Focused Innovation"
March 16, 2005, Forrester Big Idea

"Blogging: Bubble Or Big Deal?"
November 5, 2004 Best Practices

"Emotive Networks Connect Consumers"
September 24, 2002, Report

TECHNOLOGY EMBEDS ITSELF IN SOCIAL BEHAVIOR

On October 4, 2005, the Associated Press reported the following:

> "NEW YORK (AP) — The avalanche of high quality video, photos, and emailed news material from citizens following the July 7 bombings in London marked a turning point for the British Broadcasting Corporation, the head of its global news division said Wednesday. Richard Sambrook, director of the BBC World Service and Global News Division, told a conference the broadcaster's prominent use of video and other material contributed by ordinary citizens signaled that the BBC was evolving from being a broadcaster to a facilitator of news.
>
> "'We don't own the news any more,' Sambrook said. 'This is a fundamental realignment of the relationship between large media companies and the public.' Sambrook likened the increasing use of user-generated news material to a sports game in which *the crowd was not only invading the field but also seeking to participate in the game, fundamentally changing the sport.*" (emphasis added)

Are user-generated content and communication fundamentally changing the rules of business? At Forrester, we think they are — and in a big way. Technology and social changes are creating a potent mix of forces that will transform the way all businesses — not just media firms — operate, create products, and relate to customers (see Figure 1). Forrester calls this shift Social Computing, which we define as:

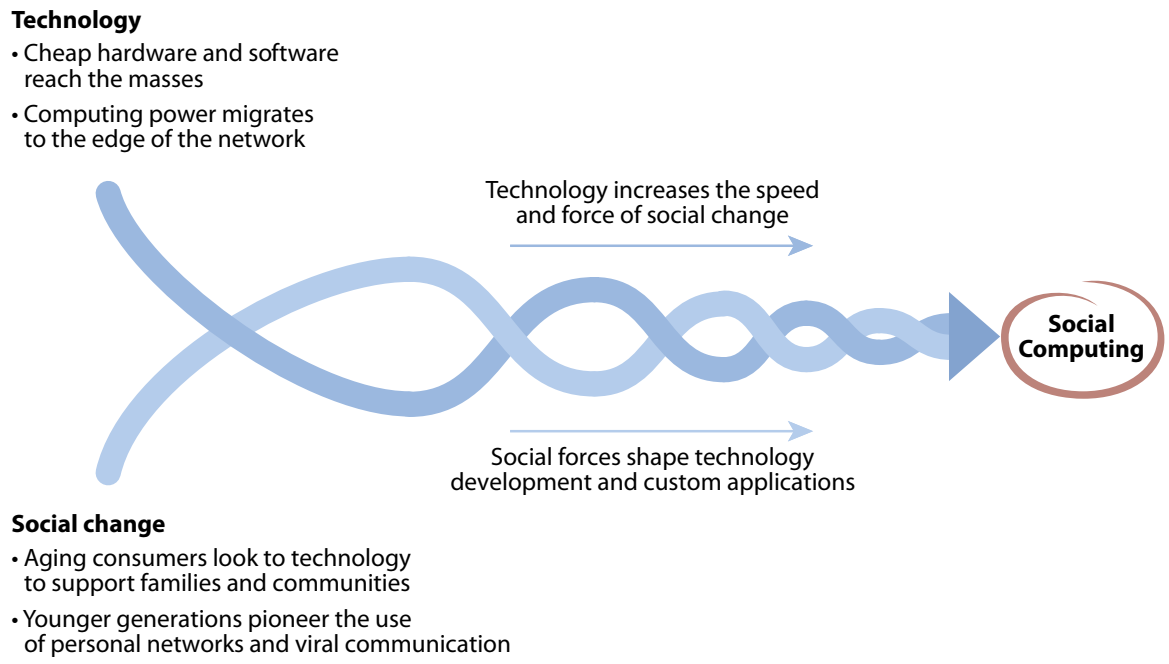
> *A social structure in which technology puts power in communities, not institutions.*

Technology Brings Power To The Masses

Social Computing encompasses fast-growing peer-to-peer (P2P) activities like blogging, RSS, file sharing, open source software, podcasting, search engines, and user-generated content (see Figure 2).[1] Important technology changes underpin these Social Computing activities — each one acting as an impetus for new forms of individual behavior.

- **Storage and processors push power to the edge of the network.** The exponential growth of processing power and storage capacity puts unprecedented computing power into the hands of users. With this power, not only can individuals do more for themselves — they can also do more to support one another. *The social impact: Sharing resources via file exchanges like BitTorrent, VoIP networks like Skype, and content networks like Kontiki allows nodes in the network —individuals — to sustain one another and rely less on institutional support.*

Figure 1 Technology And Social Factors Converge To Create Social Computing



Source: Forrester Research, Inc.

- **Cheap hardware makes power accessible to the masses.** Falling component prices and the wide availability of new and used hardware ensures that technology's impact on social behavior is not confined to technology optimists. Today, almost 80% of Europeans have a mobile phone.[2] 43 million US households have digital cameras. Sub-$100 hand-cranked PCs will soon bring Social Computing power to areas like Brazil, China, Egypt, Nigeria, and Thailand.[3] *The social impact: The mainstream populace, not just the wealthy or educated, can tap into technology's power to change social mores.*

- **Connective software accelerates social change.** Powered by the growing use of open protocols like XML and RSS, new applications like instant messaging, widgets, voice over IP, and blogs make user-to-user connections smarter and more frequent. One important example of a "smarter" connective technology: presence, the ability to see the online status of a person or thing. By knowing who and what can collaborate in real time, consumers spend 26% more time on communications like instant messaging each year.[4] *The social impact: By eliminating the drag on communications velocity, social forces move more quickly.*

Figure 2 The Many Forms Of Social Computing

Social technology	Examples	Current usage
Social networks *Technology that allows users to leverage personal connections.*		• 6% of North American online consumers use social networking sites weekly, up from 4% in 2004.
RSS *An XML standard that lets users collect and read content feeds.*		• 6% of North American online consumers use RSS weekly. • 47% of marketers use or plan to use RSS feeds.
Open source software *Publicly available software that can be copied or modified without payment.*		• 56% of US firms use open source software; 19% plan to use it. • 39% of European firms use open source software; 29% plan to.
Blogs *Online diaries of text, photos, or other media.*		• 10% of North American online consumers visit blogs weekly. • 51% of marketers use or plan to use blogs in some way.
Search engines *Services that find Web content based on user-specified criteria.*		• 79% of US online consumers use a search engine weekly in 2005. • 79% of marketers use or plan to use search marketing.
User review portals *Web portals that allow users to search for peer reviews on a product or service.*		• 12% of North American and 21% of European online consumers visit ratings sites.
P2P file sharing *Sharing media files over a network powered by users who act as both client and server.*		• 6% of North American and 5% of European online consumers use P2P networks.
C2C eCommerce *Buying and selling among consumers via the Net.*		• 27% of North American and 21% of European online consumers bid or sell in online auctions.
Comparison shopping sites *Sites that allow consumers to compare products or services.*		• 24% of North American online consumers visit comparison shopping sites.
Podcasts *Online audio or video that users can download to a device.*		• 1% of North American online consumers listen to podcasts today, but 24% are interested in it.
Wikis/Collaboration software *Shared publishing software or site that allows users to edit content.*		• Wikipedia, a collaborative encyclopedia, has more than 3 million pages, in almost 200 languages.
Tagging *Metadata assigned to items like photos or Web pages to facilitate searching and sharing.*		• According to the *Wall Street Journal*, tagging sites garner less than 1% of Google's traffic, but they are growing rapidly.

Source: Forrester Research, Inc.

Social Trends Fuel Technology's Changing Role

Concurrent with key technologies hitting stride with the mainstream population, important social changes also are adding fuel to the fire of the Social Computing movement.

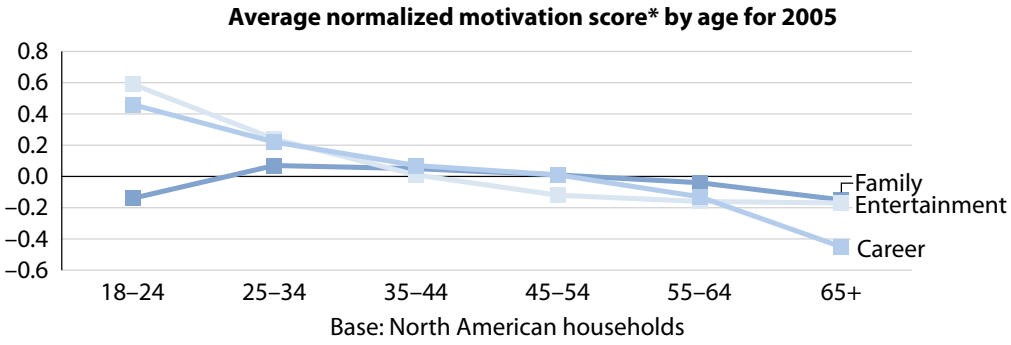
- **An aging, more socially motivated population.** As people age, their primary motivation for using technology is driven more by family and social factors, and less by entertainment and career objectives — both in the US and Western Europe (see Figure 3-1). This social use of technology will only rise further as the population ages.[5] In addition, Forrester has seen a fundamental shift in the elevation of family and entertainment motivations as they relate to technology use in the US after 2001 (see Figure 3-2). Whether this trend is due to the disillusion of a bursting Internet bubble or a stronger sense of community following the 9/11 attacks, the shift is clear: more people are looking to technology for social purposes. The growth in photo sharing and various forms of messaging — IM, MMS, SMS — illustrates this trend.

- **Internalization of technology among youth.** For today's youth, technology is not a nice-to-have — it's a part of life. Twelve- to 17-year-olds in the US spend 17% more time online than adults for personal reasons and 155% more time instant messaging.[6] And each year technology penetrates younger age groups: 58% of 12- to 14-year-olds, for example, own a mobile phone.[7] As these people age, their always-connected behavior will remain with them. Multitasking, instant messaging, multiple email addresses, and thousand-member networks will be the norm — even as these youth settle down, have families, and pursue careers.

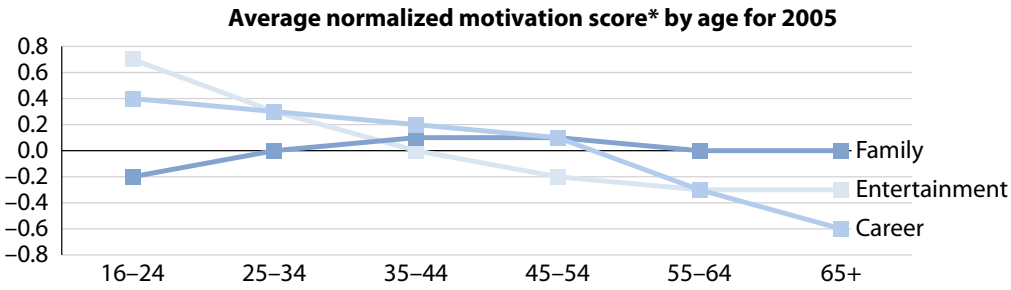
- **A globally defined society.** Budweiser's "Wassup" screensaver reached millions of PCs across the globe in less than a week — and so did the ILOVEYOU virus. As more individuals come online — by 2010, there will be more Asians with a PC than North Americans and Europeans with a PC combined — and as more sites attract a worldwide audience, global networks will be common.[8] Witness Jainworld.com, a site for an India-based religion, which gets 62,000 hits per day from 143 countries, or Google, which draws over 50% of its audience from outside the US.[9]

Figure 3 An Aging Population Is More Socially Motivated

3-1 As consumers age, they adopt socially fueled motivations



Base: North American households

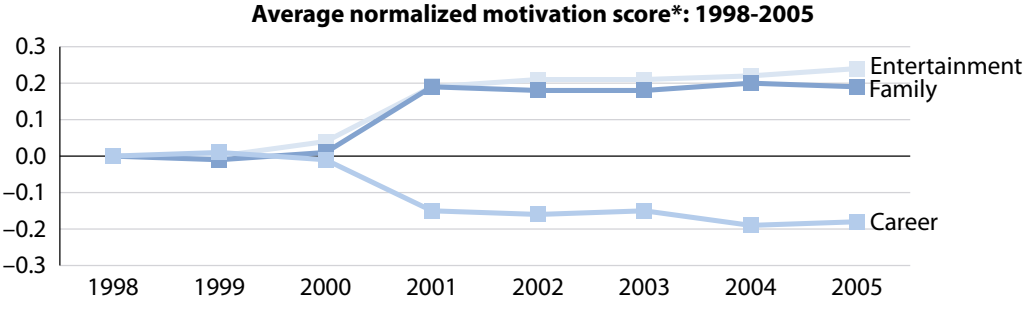


Base: European households from France, Germany, Italy, the Netherlands, Spain, and the UK

Source: Forrester's Consumer Technographics® 2005 North American Benchmark Study and Consumer Technographics® Q2 2005 European Study

*Note: The motivation score applies the 2005 Consumer Technographics algorithm consistently. We normalized the score to a mean of 0 and standard deviation of 1 and then further normalized it so that the average across age groups was 0.

3-2 Socially fueled motivations (entertainment, family) are on the rise



Base: North American households

Source: Forrester's Consumer Technographics® 1998-2005 North American Benchmark Studies

*Note: The motivation score applies the 2005 Consumer Technographics algorithm consistently. We normalized the score to a mean of 0 and standard deviation of 1 and then further normalized it so that so that all 1998 values equal zero.

Source: Forrester Research, Inc.

Why You Should Care About Social Computing

Social Computing is just beginning to impact the way many businesses operate. Today's more socially connected buyers are already showing signs that they are:

- **Less brand-loyal.** Since 2000, consumers are increasingly likely to say that price is more important than brand, and are less likely to stick with a brand, even one they like (see Figure 4-1). This data does not say that brand is unimportant. It simply indicates that brands have to meet higher standards in order to ensure customer loyalty. In the words of NewsCorp President and COO Peter Chernin, "mediocrity is dead" for the typical brand today.[10]

- **Less trusting.** Most individuals do not trust any form of traditional media — and trust levels in all mass media are dropping (see Figure 4-2). The Internet, on the other hand, is the only form of media in which trust is rising — albeit from a smaller base. It gets worse: The percentage of people who say "companies generally tell the truth in ads" has dropped from 13% to 7% over the past two years (see Figure 4-3). Dropping levels of trust across industries and institutions, accompanied by higher levels of trust for P2P information sources like the Net, inhibit companies' ability to form and maintain relationships with new and existing customers.

- **More independent.** Across media, financial services, healthcare, IT, retail, or travel, consumers show clear signs of becoming more self-reliant and less dependent on so-called "experts." Buoyed by the power of online information, users act as their own journalists, healthcare advisors, product experts, installers, repairers, financial advisors, and even online security guards. They also create their own products: By some accounts, 10% to 40% of customers customize products or services for their own use.[11]

THE TENETS OF SOCIAL COMPUTING

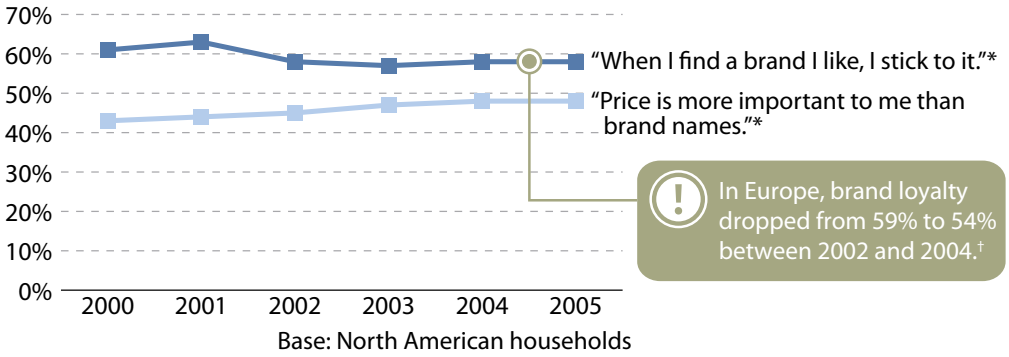
Individually, these first signs of P2P behavior have been painful, though isolated, headaches for many a CEO. But taken as a whole, these trends mark the beginning of a fundamental shift in social and capitalistic behavior: Social Computing. Three tenets will define Social Computing: 1) innovation will shift from top-down to bottom-up; 2) value will shift from ownership to experience; and 3) power will shift from institutions to communities (see Figure 5).

Innovation Will Shift From Top-Down To Bottom-Up

Traditionally, institutions like governments, media outlets, retailers, and manufacturers have been the primary drivers of societal change, information dissemination, and new products. Institutions can and will play a role going forward. However, in an era of Social Computing, users will provide more input into the innovation process — in a more spontaneous, real-time, and participatory way (see Figure 6).

Figure 4 Why You Should Care About Social Computing

4-1 More consumers value price over brand

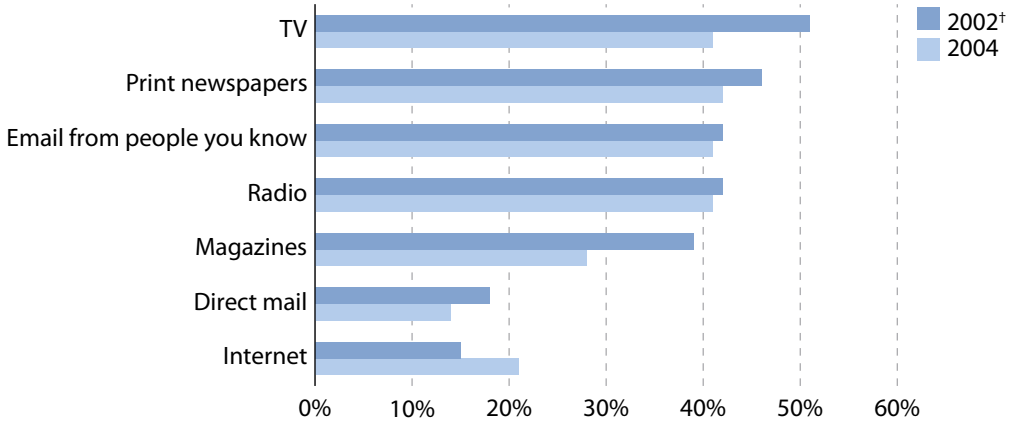


Base: North American households

*Percentages represent those who responded that they "somewhat" or "completely" agree.
Source: Forrester's Consumer Technographics® 2000-2005 North American Benchmark Studies
†Source: Forrester's Consumer Technographics® 2002 and 2004 European Studies

4-2 Consumers have less trust in media . . .

"Do you trust content from each of the following sources?"*

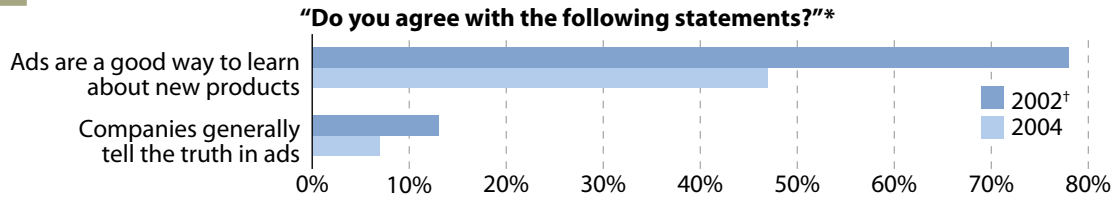


Base: North American households

*Percentages represent those who responded "trust a lot" and "trust somewhat."
Source: Forrester's Consumer Technographics® June 2004 North American Study
†Source: Forrester's Consumer Technographics® October 2002 North American Retail & Media Study

4-3 . . . and have lost faith in advertising

"Do you agree with the following statements?"*

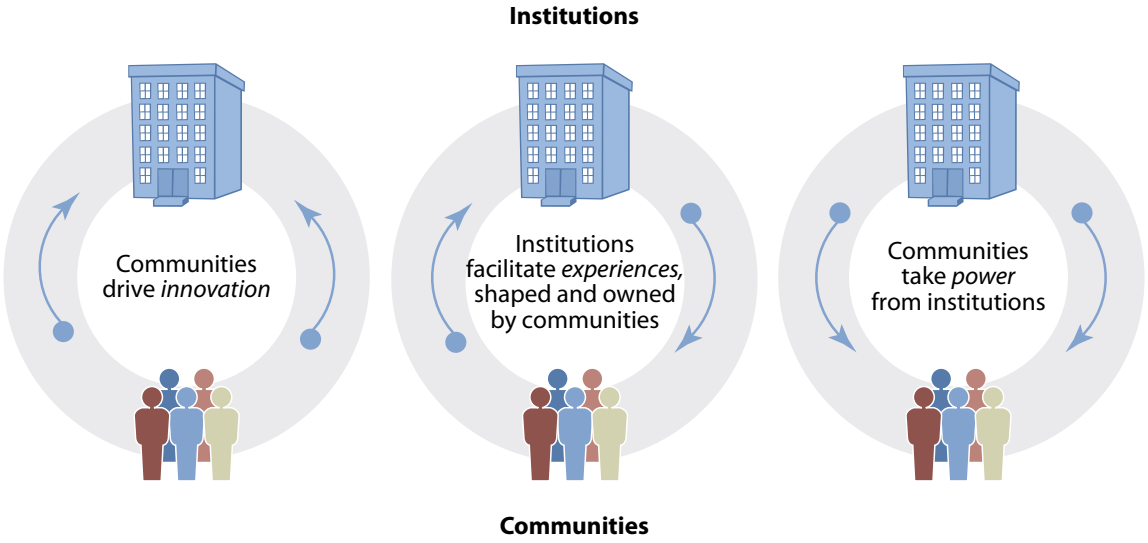


Base: North American households

*Percentages represent those who responded that they "somewhat" or "completely" agree.
Source: Forrester's Consumer Technographics® June 2004 North American Study
†Source: Forrester's Consumer Technographics® September 2002 North American Devices & Access Study

Source: Forrester Research, Inc.

Figure 5 The Three Tenets Of Social Computing



Source: Forrester Research, Inc.

Figure 6 Moving From Top-Down To Bottom-Up Innovation

	Traditional innovation	**Customer-driven innovation**
Source of inspiration	Executives	Customers
Key drivers	Existing assets, products, and positioning	Deep observation of customer needs
Customer involvement	Structured	Spontaneous
Process	Linear, structures	Controlled chaos
Corporate posture	Go out to customer	Invite customer in
Needs assessment	Explicit	Explicit and latent
Tools	Surveys, focus groups, storyboards	Search, email, blogs, smart POS, and intranets

Source: Forrester Research, Inc.

- **User-generated content will provide buzz and insight.** As more people walk around with Net-enabled camera phones, and install Webcams and microphones at home, user-generated content will offer great insight to companies. The *Bakersfield Californian* hosts blogs and prints a selection of posts every week. CNN broadcast the tsunami images tourists made with their camcorders. US Cellular launched their "Unlimited Call Me Minutes" program after blog monitoring revealed that teens felt ambushed by incoming calls that pushed them over their time limits.

- **Peer-to-peer trading networks will push the pace of innovation.** Apple Computer is selling 500 million songs a year via iTunes — but this is just a fraction of what consumers trade using tools like Kazaa. The Net also supercharges the trading of physical goods — eBay Germany sold 240,000 cars in 2004, representing $1.7 billion.[12] Weavers in Lesotho offer their crafts directly at africancraft.com. Users trade free goods at Freecycle. Millions have built an eCommerce site in the last five years — and with simple tools from vendors like eBay and Amazon.com millions more will do so without needing any training or a large technology budget. Community-driven trading customs will force individual firms to upgrade their own marketplaces.

- **Everyone will collaborate on product development.** Soliciting user input is cheaper, better, and faster than more structured, top-down methods of product development. Cheap communication and storage enabled complete strangers to co-develop open source software and the information bank Wikipedia. Without any central command, these initiatives rival the richness and quality of best-of-breed products built by Microsoft and Encyclopædia Britannica. Mars tapped into social networks by letting people vote on its next M&M color — and received 10 million ballots.

Value Will Shift From Ownership To Experience

Once communities drive innovation, firms will respond by offering fuller-fledged experiences — blurring classic product and industry boundaries. We still live in a material world — consumers seek the latest fashions and happily purchase zero-finance cars. But in a wired, Social Computing world:

- **Many individuals will move beyond basic needs.** As technology has made ever more products available to a wider audience at lower cost, many Europeans, Americans, and Japanese already meet their needs for food, shelter, and safety. They are now striving to fulfill the higher needs in Maslow's scheme: love and belonging; esteem; and self-actualization. The latter includes personal creativity, problem-solving, and independence from authority. Self-actualization doesn't require another cereal or the latest TV laden with superfluous, engineering-driven features. With the first baby boomers retiring, and more young couples choosing not to have children, more people will have the time to develop themselves.[13]

- **Products will seek to fulfill higher-end goals.** To appeal to consumers, brands like Sony and Gucci started concept stores, in which they treat the entrants to an experience — an escape into a dream world. High-end brands Maybach and Vertu don't just sell luxury cars or mobile phones — they give buyers perks like 24x7 butler service. Ford has a special site for its Fusion launch, which glues young consumers to the brand with promised announcements of exclusive "flash" concerts. All are examples of firms realizing that a single-function product, independent of a broader experience, is not enough in today's competitive environment.

- **Experiences will take center stage.** With Disney World-style merchandising, many media companies have successfully extended their media brands into experiences for decades. But technology is allowing many non-media businesses — in both the B2C and B2B arenas — to create broader experiences (see Figure 7). Industry boundaries will blur as companies partner to create experiences, like Nike and Philips did when they offered a special music player for runners. These experiences often include a broader portfolio of products and services, both online and offline, that create stronger bonds with brand evangelists.

Figure 7 Experiences Span Product And Industry Boundaries

B2C experiences	B2B experiences
Apple iPod/iTunes **Type of experience:** Portable audio service **What?** Device, online store, software **Why successful?** Puts all pieces together (content, downloading, personalization, payment) in a single, easy-to-use value proposition **How successful?** 600 million downloads; 10 million accounts; $400 million revenue in two years	**Microsoft Channel 9** **Type of experience:** Developer network **What?** Video blogs, wikis, user profiles, discussion boards **Why successful?** Leverages knowledge, style, and interests of a developer community **How successful?** Puts a human face on Microsoft; 3,800 registered users; 25,000 views of Microsoft executive interviews
Lego **Type of experience:** Toy community **What?** News, features, message boards, online polls, comics, movies, uploads of consumer designs, contests, sales, auctions **Why successful?** Draws in users to share with one another and influence the direction of the company **How successful?** Input on product development recouped the investment 10 times over in 18 months	**Philips Senseo** **Type of experience:** Co-design partnership **What?** Sara Lee and Philips jointly developing new coffee experience, including Web site **Why successful?** Parallel interests and complementary expertise **How successful?** Sold more than 10 million coffee machines in a saturated market; keeps buyers loyal via exclusive coffee pods and integrated user content

Source: Forrester Research, Inc.

Power Will Shift From Institutions To Communities

As more companies facilitate experiences to satisfy customers, the result is inevitable: Power will migrate from institutional authorities to the communities they serve. Brand loyalists will exert more control over many facets of institutional strategy — from an entity's mission and corporate values to its products and marketing to its sourcing and outsourcing policies. As these communities gain power, they will challenge the authority of traditional institutions, including:

- **Brands.** Firms like Nestlé and Volkswagen are accustomed to buying consumer mindshare through advertising. But media fragmentation, ad skipping, an abundance of Web content, and low switching costs on the Net have created a level playing field where brands are less powerful than they once were.[14] This decline in brand cachet manifests itself in numerous forms — both specific and general: 1) a results page on Google that lists brands independent of offline awareness; 2) the sharp growth in private-label products in US and Europe, where one in five products sold are private-label brands; and 3) the increase in exclusive products sold by retailers.[15]

- **Governments.** Governments have always tried to control the media — China uses censorship to keep Social Computing outside its borders today — but how do you stop a story from leaking with thousands of amateur home reporters? This dam will burst as millions gain online access. In other nations, dissidents have already broken the communications clamp — witness satellite dishes in Iran, blogs in prewar Iraq, and the use of SMSes to oust a Philippine leader.[16]

- **Borders.** The forces of Social Computing are pushing enterprises — with their networked workforces and partners — and the communities they serve across national borders. Multinational organizations of all stripes use the World Wide Web to spread their message, recruit followers, and focus action. Shell management knows this well, having faced a viral campaign against their sinking of an oil rig. At the same time, firms are going global: An AMEX agent, from Bangalore but with a Southern drawl, will contact a customer from Atlanta.

THE ECONOMIC VALUE OF SOCIAL COMPUTING

No doubt about it: Social Computing, like the Internet itself, will yield a lot of junk. That will be part and parcel of opening the floodgates to user-created content. But Social Computing will also create direct value for companies if exploited properly (see Figure 8). Here are five value-generating areas:

- **Lower product development costs.** In CPG, 80% of new products fail within the first three years.[17] Media firms have a similar hit rate. But if more firms had continuous discussions with communities and influencers, sharing online prototypes or previews, they would feel the pulse of the market and increase their hit rate. Production will incur less waste as they better predict product demand — using Web site interactions as a proxy for planning or analyzing data from Web intermediaries like Yahoo! or brand monitors like MetricsLab.

Figure 8 The Economic Value Of Social Computing

Sources of economic value	Firms that *do not* adopt Social Computing	Firms that *do* adopt Social Computing	Industries most affected
Community	No user content or interaction	User content, forums, add value to brand	Media, retail, telecom
Customer service	No follow-up to user suggestions	Community self-help reduces service costs	High-tech, automotive
Sales	Lower loyalty erodes prices	Community loyalty reduces commissions	CPG, finance, telecom, travel
Marketing	Bad targeting and no use of WOM	WOM and better targeting raise ROI	CPG, automotive
Production	Products don't meet user demand	Co-design reduces waste	CPG, media, high-tech
R&D	No use of user intelligence	Community input raises success rate	Healthcare, high-tech

Source: Forrester Research, Inc.

- **Lower marketing costs.** By shifting marketing from traditional media outlets like TV, newspapers, and magazines to user-driven marketing efforts tied to communities, firms can eliminate the proverbial 50% of marketing waste that is associated with bad targeting and mistrust of ads. Using word of mouth, marketing gets customers to do its job — for free. Customer service also benefits — by capturing client input from blogs or community forums, service designers can reduce complaints and collectively develop solutions with their customers.

- **Higher margins — derived from a community's intrinsic value.** Apple's iPod isn't just a cool product, but an entry point to a community service — to peer content. Harley-Davidson isn't just a bike, but a key to a community in which consumers add value to the brand experience — for free. Ultimately, firms that embrace Social Computing offset thin margins on commodity-driven products, with revenues derived from members wanting to be associated with the community. Communities like eBay, MySpace.com, and Ancestry.com thrive on this kind of value today.

- **Lower research costs.** Customers that provide input are often either mavens or connectors. Mavens are product experts who take pride in their knowledge and can help firms locate improvements; connectors like to spread a useful message and are critical for word-of-mouth (WOM) marketing. By offering these two groups product content and a communication platform, firms will tap into free expert reviews as a powerful extension of their research department. Cheaper, instant, competitive intelligence is another source of value. Brand

monitoring services like Intelliseek help companies like Procter & Gamble and the BBC monitor the natural buzz of their own brands, as well as competing brands.

- **Higher sales — or fewer lost sales.** In a world of Social Computing, failure to recognize and respond to dissatisfaction quickly can cost millions in legal costs, public relations, and lost sales. Case in point: Kraft. Online communities and discussions about trans fats — amounting to 2.6 million comments from 120,000 consumers according to WOM marketing vendor BuzzMetrics — contributed at least in part to the linking of the Oreo brand to the trans fats issue, creating a PR crisis, lawsuits, and lost sales for Kraft, as well as the industry as a whole.[18]

Creating Value Means Relinquishing Control

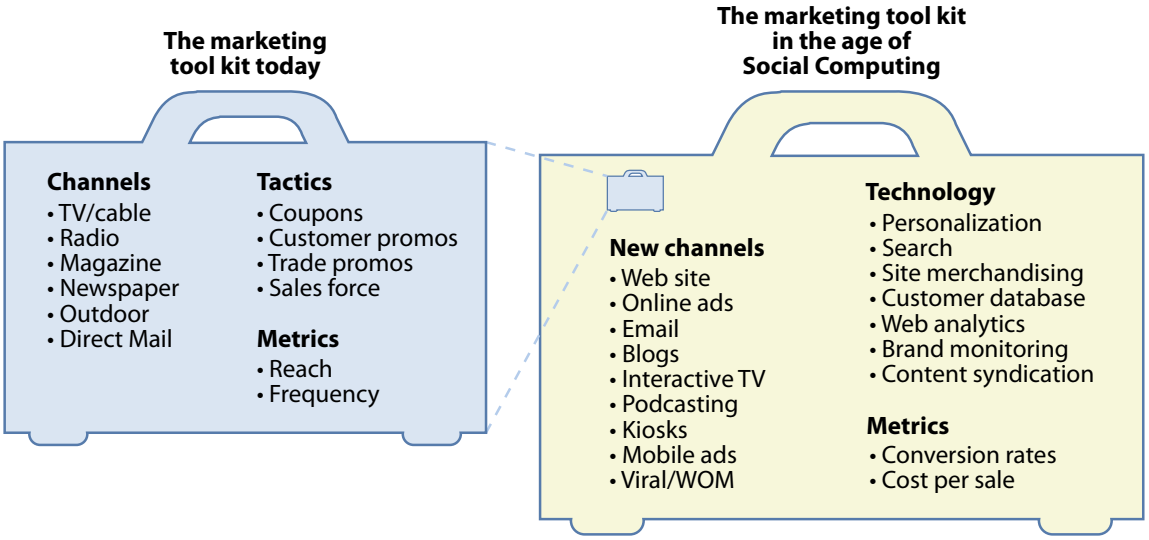
To capture the value of Social Computing, CEOs and managers must respond by ceding control: offering communities a platform to discuss and decide what they want, and then providing it. Putting customers in the driver's seat means:

- **Letting customers become the brand.** Today, brands like adidas, Bloomingdale's, and MTV poll consumers and adjust their products based on the results. In the future, empowered communities will not wait for the right proposition, but will set their own criteria and filter out brands that don't meet them. Online global "gated communities" of environmentalists will use wikis to agree on standards for sustainable growth and post these as requests for proposals to manufacturers. The result: Brands will be defined by the communities they serve.

- **Sharing assets.** As more people participate and add value to an open community, companies will have to open up their offerings so that they point users to content and assets other than their own. For example, CNET points consumers to gadget articles not created by their own reporters. In time, technology will allow users to perform this aggregation automatically. Example: Centralized CRM systems that push messages will give way to distributed applications that sift, sort, and analyze information on their own — what Forrester calls the X Internet.[19] Consumers' mobile phones will poll a range of banks for credit card offers, make selections, and filter out the attached ads — all based on user preferences stored in the phone.

- **Sharing responsibilities.** How will firms handle disgruntled customers writing unfounded damaging reviews, or competitors stealing co-developed product design? How will they pair strict Sarbanes-Oxley information requirements with transparency for communities? The problem isn't as bad as it seems: Wikipedia and open source show that communities filter out most of the extremes themselves. But to stay on the safe side, firms will develop a multilayered security policy, keeping the sensitive data in-house and prescribing communications policies for blogging employees. They'll open the door — but not the vault.

Figure 9 Social Computing Requires A New Marketing Tool Kit



Source: Forrester Research, Inc.

RECOMMENDATIONS

WHAT SOCIAL COMPUTING MEANS FOR YOU

Social Computing is not a fad. Nor is it something that will pass you or your company by. Gradually, Social Computing will impact almost every role, at every kind of company, in all parts of the world. Firms should approach Social Computing as an ongoing learning process, using some of the best practices of firms that have successfully taken the first steps.

Marketers And Strategists: Listen More, Talk Less

Those who sell products in a Social Computing environment will need to learn an additional set of tools and strategies to harvest insight from an active community of buyers (see Figure 9). Beyond these tools, marketers will also need to change their approach to customer relationships by:

- **Becoming part of the community.** eBay and craigslist thrive on communities trading and chatting internally. But traditional firms can do the same: motorcycle maker Ducati helps fans organize local motorsport events; Heineken organized a "become a star reporter" contest for consumers. Procter & Gamble gave the 200,000 moms that registered at moms.tremor.com the power to define new products. These firms don't push ads, but pull customers by offering the opportunity to express themselves and communicate with peers.[20]
- **Using peer relations to raise loyalty and stickiness.** TV shows like *American Idol* and the *MTV Music Awards* use SMS voting to enhance the excitement for all viewers. French

newspaper *Le Monde* organizes online discussions between prominent people in the news and its readers, and prints the outcome — using consumer input across channels. Unilever adds to its consumer experience by organizing local online discussions for consumers around its "real women, real curves" motto. With Nespresso, Nestlé stays in constant touch with its consumers, and can immediately respond to changes in their preferences.

- **Avoiding an exploitation-only approach.** Insurer USAA generates trust with transparency and benevolence, and 90% of its customers say they want to expand the relationship with the firm.[21] At blogs like drizzten.com, consumers rave about USAA's service and openness, and convince other consumers to switch to the firm. Paramount Pictures, on the other hand, only goes halfway toward sharing control, exploiting consumers for marketing but little else. It spurs peer endorsements with a contest to produce an *Elizabethtown* spot, but it will filter out any negative consumer opinion — at, for instance, its *Beowulf* blog.

IT: Make Social Computing A Strategic Asset

IT will find itself in the crossfire of Social Computing for two reasons: 1) they will need to create new tools to encourage and support customer communities; and 2) they will need to create new tools to attract employees with high Social Computing needs. IT will need to:

- **Focus on value, not risk.** A little paranoia is always helpful, but it shouldn't stop IT from leveraging Social Computing technology to cut support costs and build customer loyalty. Case in point: eService. Despite the professed paranoia of some companies to give up control in such venues as technical support forums, these community forums bring value for both internal purposes (Canon uses it for field service techs to share repair tips and tricks) and external purposes (the Oracle Customer Advisory Board). B2B firms like Teradata and B2C companies like Palm and TiVo also utilize these forums).[22]
- **Don't go too far with corporate oversight.** As collaboration tools proliferate, companies will face the urge to make sure that the tools they offer support corporate purposes — and consider investments like message archiving to ensure compliance with company policy and government regulations. But given the increasing overlap between work and home behaviors, going too far with compliance — such as shutting off instant messaging altogether — may be unwise. The cost of excessive governance — both in direct technology costs as well as the indirect costs of alienating employees — may not be worth the effort.
- **Make Social Computing a recruiting differentiator.** Today, many IT departments see Social Computing as another support headache. Should we support IM or not? Should we censor file-sharing or not? While clear governance policies are critical, smart IT departments will accept the fact that Social Computing is a trend that is critical to recruiting and employee productivity. Develop a concrete plan to develop a suite of tools that make the company an attractive place to work and thrive for the growing base of Social Computing workers.

- **Track younger employees.** IT departments that want to get a clear picture of the future of Social Computing would do well to interview and track younger employees. The new generation of Millenials — those born between 1980 and 2000 — are entering the workforce and are notably different than their predecessors.[23] Millenials are independent, less impressed with authority, interested in working in peer groups, prefer visual and kinesthetic learning, and assemble their knowledge from experiences — ideal Social Computing guinea pigs. Today, many IT departments do not provide the workplace tools required to satisfy them.

Vendors: Build Communities Into Your Product

Most enterprise technology vendors already have user groups. The Social Computing fabric will empower those user groups even more and change vendors value proposition. Our advice:

- **Don't build your own collaboration tools and technologies.** For vendors to embed their own proprietary messaging, RSS, blogs, calendaring, or other collaboration tools into their own applications makes little sense. Few companies will have the appetite for training their organizations in a separate set of Social Computing tools. Instead, vendors should focus on hooking into enterprise collaboration platforms from the likes of IBM, Oracle, and Microsoft — the latter of which has been scooping up collaboration software like Groove for some time now.[24]
- **Learn from open source communities.** Just as open source added value to software development, so can product-specific forums add value for technology vendors. The benefits are many: lower marketing costs; improved alignment between products and customers; a source of innovation ideas; and improved technical support. Electronic support channels will become more important as software pricing shifts toward all-you-can-drink service models — giving vendors a way to offset low margins and high support costs by leveraging user input.[25]
- **Prepare for custom applications.** As users gain control over their online experience, merely creating content on fixed platforms will no longer satisfy them. Instead, they will want to customize and create their own applications — like mashup housingmaps.com, which combines craigslist's house listings and Google Maps. No need to know Java: Customers will simply drag, drop, and add functionality in the same way that blogs make online publishing easy. These new platforms will resemble Ning, which takes a page from open source and allows users to create derivative works from original applications.
- **Use employees and partners as marketers.** A company like Hewlett-Packard has 150,000 employees and thousands more resellers who can kick-start any viral marketing effort. Smart vendors are wise to use these employees and partners as a strong marketing voice. Equip these evangelists with Social Computing tools, track what portion of them are strong advocates, and incent them to build a network of followers — as long as they have influence over products, services, and the direction of the company.

WHAT IT MEANS

THE POLLUTION OF THE COMMONS

Truth, Identity, And Reality Are Tough To Find

As Churchill once said, "The price of power is responsibility." As institutions lose the power to shape information, markets, and behavior, that responsibility will fall to communities. But fast-changing technologies and volatile social forces will make the creation of new social control mechanisms a challenge. As individual self-interest collides with community-owned assets, a "pollution of the commons" (of the sort we've seen with spam email) will threaten the progress of Social Computing. This pollution will blur some accepted elements of daily life, like:

- **Truth.** Say what you want about big media. But, in an age of mass audiences, media outlets led by the likes of Walter Cronkite took it upon themselves to have high content standards and remain objective. In the cable TV and Internet eras, media audiences have fragmented and objectivity waned as outlets have been forced to serve — or lose — their audience. CNN has moved left, Fox has moved right. As Social Computing takes hold and user-generated content rises, expect more outlets to take a biased view. The result: Truth will be harder to find. Individuals will have to act as their own journalists, separating truth from propaganda in an age of a flood of content.
- **Reality.** What is real? What is virtual? Not easy questions to answer in a world where objects will become "animated" with embedded technology like sensors or RFID chips. The onslaught of things communicating with other things — not just people communicating with each other — has strong social implications. Realities like the window of demand for a product in which there is a supply imbalance, or alternate realities like those created by users in myspace.com, become more numerous, ethereal, and powerful in their ability to cause positive or negative outcomes.
- **Identity.** In a physical world, tools to discern personal identity are reasonably accurate — a driver's license, a unique voice or face, a single name or street address. And if certain individuals violate a public trust or cause destruction, tracking down identities and holding them accountable is relatively easy. In a socially connected world, as users create multiple realities with tools that are derivatives of one another, identifying individuals is much more difficult. The key dilemma: *What happens when identity is divorced from behavior?* Communities will lose value if it is impossible to police behaviors by linking them to individuals. For example, a poorly-rated individual may create a new online identity to wipe clean a spotty track record. Sites like eBay combat these fraudulent activities by linking accounts with information like email addresses and credit cards to identify suspicious account creation and behavior.

ENDNOTES

[1] These technologies are often associated with the term "Web 2.0." Forrester's research on Social Computing incorporates many of the ideas defined in Tim O'Reilly's piece "What is Web 2.0," available at http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html. The major difference is a matter of focus — Web 2.0 is a general approach to and description of the Internet's evolution, while Social Computing looks specifically at the impact of power shifting from institutions to communities. Note: the BitTorrent logo in Figure 2 is a trademark of BitTorrent.

[2] More than two-thirds of US households have mobile phones — and 58% have two or more handsets, and almost 80% of Europeans have mobile phones. See the July 29, 2005, Data Overview "The State of Consumers and Technology: Benchmark 2005" and see the December 23, 2005, Trends "European Mobile Forecast: 2005 To 2010."

[3] In late 2006, a nonprofit organization led by MIT Media Lab Chairman and Founder Nicholas Negroponte expects to begin distributing small, hand-cranked PCs to countries like Brazil, China, Egypt, Nigeria, South Africa, and Thailand in order to bring the power of computing to areas without reliable electricity. The PCs will be sold to governments for $100 each (for distribution to schoolchildren) or $200 (for the general public). The PCs are expected to be outfitted with a 500 MHz processor, flash drive, dual-mode color display, and the capacity to set up their own wireless networks. As a partner in the initiative, Google is working on thin clients for these devices. See http://laptop.media.mit.edu for more information.

[4] In 2004, North American online consumers spent 6.1 minutes per day actively using instant messaging. This daily IM use grew to 7.6 minutes per day in 2005, a rate of 26% growth. Sources: Forrester's Consumer Technographics June 2004 North American Study and Consumer Technographics Q2 2005 North American Survey.

[5] The percentage of US population age 45 and over will balloon from 34% to 42% over the next 25 years. Source: US Census Bureau, "U.S. Interim Projections by Age, Sex, Race, and Hispanic Origin," 2004. See http://www.census.gov/ipc/www/usinterimproj/ for more information.

[6] Online consumers between the ages of 12 and 17 spend an average of 10.9 hours per week online for personal reasons, compared with 9.3 hours per week for online adults. Source: Forrester's Consumer Technographics Q1 2005 North American Youth Devices and Access and Finance Online Study and Forrester's Consumer Technographics 2005 North American Benchmark Study. Also, 12- to 17-year-olds who are online spend 60.8 minutes per day using instant messaging, compared with only 23.8 minutes per day for North American online adults who use IM. These numbers can be used for directional comparisons only, as the survey question differed between the adult survey and the youth survey. In our adult survey, we asked respondents "On average, how much time each day do you spend actively instant messaging?" with the following choices: no time spent doing this; less than one minute; 1–10 minutes; 11–30 minutes; 31–60 minutes; 61–120 minutes; and more than 120 minutes. In the youth survey, we asked respondents, "How much time do you spend each week actively using instant messaging?" with the following choices: less than two hours; 3–5 hours; 6–10 hours; 11–20 hours; 21–30 hours; 31–45 hours; and more than 45 hours. Source: Forrester's Consumer Technographics Q1 2005 North American Youth Devices and Access and Finance Online Study and Consumer Technographics Q3 2005 North American Survey.

[7] Source: Forrester's Consumer Technographics Q1 2005 North American Youth Devices & Access and Finance Online Study.

[8] By 2010, emerging markets in Asia will house 421 million PCs, up from 84 million in 2005. China alone will have 203 million home PCs. See the December 10, 2004, Market Overview "Sizing The Emerging-Nation PC Market."

[9] According to Google's SEC filings, it draws more than 50% of its audience from international domains.

[10] News Corporation President Peter Chernin spoke at Forrester's Consumer Forum in September 2004. Chernin wants networks and advertisers to work together on new formats, and he wants content companies to turn to technology for new forms of distribution. As fragmentation and ad-skipping swell, he believes live events will rule — and piracy will become the deadliest threat to profits. In such a world of fragmentation and consumer control, mediocre content brands will wither. See the September 28, 2004, Quick Take "Peter Chernin's 10 Rules for Media Survival."

[11] A range of studies across industries indicate that consumers often adapt products and services for their own purposes. These so-called "lead users" are important inputs to the innovation process of any company. Source: Eric von Hippel, *Democratizing Innovation*, MIT Press, 2005.

[12] eBay Germany leads the online auction vanguard in Europe. It has both driven and benefited from the massive interest that price-sensitive online German shoppers have in online auctioning: Twice as many online German shoppers as online UK shoppers buy from online auctions. But for continued success, eBay must encourage more females to participate in online auctions, take the lead on antifraud measures, and address the lack of parity between buyers and sellers. See the April 14, 2005, Market Overview "eBay Germany's Weak Spots."

[13] The average number of own children — sons and daughters, including adopted and stepchildren, of the householder — per US family is at its lowest point since 1955 (where the data stop). In 2004, the average was 0.86 for all families and 0.84 for married couples, compared with 0.91 and 0.89, respectively, 10 years earlier. Comparatively, these numbers were 1.15 and 1.16 in 1974, and 1.21 and 1.27 in 1955. Source: US Census Bureau's Current Population Survey and Annual Social and Economic Supplements.

[14] Consumers are less brand-loyal and more price-sensitive. This is not to say that brands are not important. Conversely, they are more important than ever. However, the price for achieving brand loyalty among today's fickle and powerful consumers is higher than it has ever been.

[15] Retailer brands (private-label products) account for up to 20% of supermarket sales in the US, 22% in Continental Europe, and as much as 42% in UK. Selling a name brand in place of a private label could result in significant margin losses for the retailer; these losses will vary by category and product. Private-label products, on average, earn retailers 27% more margin than name brands — even though not all private-label products make money. See the October 25, 2004, Trends "Trends 2005: Consumer Packaged Goods" and the Boston Consulting Group's June 2003 report "Private Label: Threat To Manufacturers, Opportunity For Retailers."

[16] The use of text messaging as force in toppling a Philippine leader was reported in many media sources. For example: "In the Philippines, text messaging helped topple a government in 2001. SMS messages directed 700,000 demonstrators to Manila's People Power shrine to demand the removal of then President Joseph Estrada, who stepped down in favor of his Vice President, Gloria Macapagal Arroyo." Source: Jacob Adelman, "U Say U Want A Revolution," *TIME Asia,* July 5, 2004.

[17] Consumers have both latent needs — which lead to disruptive innovation — and explicit needs, leading to sustained innovation. Brands that learn to identify consumers' latent needs and partner with retailers for "entwined" outcomes will avoid the commodity death spiral. See the March 16, 2005, Forrester Big Idea "Consumer-Focused Innovation." Additional source: Joe Wilke and Nick Sorvillo, "Targeting Early Adopters — A Means for New Product Survival," ACNielsen.

[18] The BuzzMetrics study into online conversations relating to trans fats also revealed that 40% of Google's top 100 search results came from consumer-generated content. Source: BuzzMetrics. See http://www.buzzmetrics.com/about/pc_news_transfat.htm for more information.

[19] The X Internet includes the sorting, sifting, and analysis of data gathered by networks of intelligent devices. So data analysis and business intelligence software, linked with device or sensor networks, helps companies deal with the onslaught of data that such networks will create. In many ways, extending the network is the easy part of the puzzle; making sense of the data using business analysis and reporting software is the harder task. See the June 24, 2005, Trends "The Seeds Of The Next Big Thing."

[20] An Emotive Network consists of three elements: content, connecting technology, and an engaged consumer. Online consumers demand and expect the ability to express themselves, and Emotive Networks facilitate this. See the September 24, 2002, Report "Emotive Networks Connect Consumers."

[21] Eighty-one percent of USAA clients agree with the statement that "My financial advisor does what's best for me, not just what's best for its own bottom line." Trusted financial firms offer customer advocacy, which means they simplify consumers' lives, act benevolent, and offer transparency and trustworthiness. See the August 1, 2005, Forrester Big Idea "Customer Advocacy: The Secret To Loyal Financial Services Customers."

[22] Consumers love to express opinions about products they love and products they hate. Increased adoption of online forums shows that consumers are also eager to share their expertise of products and services with each other. Reacting to this trend, eService vendors are now offering moderated forums as part of their eService suites, some even incorporating forum postings into knowledge base search results. However, companies interested in adding forums to an existing online self-service implementation must proceed with caution. Allocate adequate resources to forum moderation, and clearly state the company position on liability, so that recommendations found in forums do not create legal difficulties should a customer posting create problems or data loss for other forum readers. See the August 16, 2005, Best Practices "Social Networking Redefines Self-Service Options."

[23] "Millennials" — those born between 1980 and 2000 — have an innate ability to use technology, are comfortable multitasking while using a diverse range of digital media, and literally demand interactivity as they construct knowledge. Millennials lack the workaholic drive of their burned-out predecessors, but they compensate by using many technologies — often simultaneously — to get the job done quickly and have a

personal life as well. They don't have the skills and experience of the many retirees they are replacing, but they look to technology to help fill this gap. See the September 30, 2005, Trends "Get Ready: The Millenials Are Coming!"

[24] Microsoft announced its intent to acquire Groove Networks, which will increase the velocity of Microsoft's propulsion into collaboration platforms and the newly emerging information workplace market. Microsoft not only acquired critical collaboration technology from Groove Networks that fills gaps in its product line, but got a brilliant thinker and innovator with the addition of Ray Ozzie to Microsoft's team. See the March 15, 2005, Quick Take "'We're Engaged!' Microsoft To Acquire Groove."

[25] Among IT decision-makers, the gap between what enterprises seek in licensing packages and what vendors are offering continues to grow. Key trends show a pervasive shift away from named-user models, a propensity toward "all-you-can-drink" models, and rising interest in virtualization technologies rather than in utility or usage-based pricing. See the January 6, 2006, Trends "Trends 2006: Enterprise Software Licensing."

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