



The Impact of Digitalization – a generation apart

INFORMATION, COMMUNICATIONS & ENTERTAINMENT

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Executive summary

New technology can often be disruptive. But the pace of change in information technology over the past few years, and the speed with which technology has been adopted by Generation Y, poses particular challenges for business in general, and for media companies in particular. What has become known as Web 2.0—a somewhat overused term that refers to a second generation of internet-based services (such as social networking sites, wikis, communication tools, and folksonomies) that emphasize online collaboration and sharing among users—has upset the hierarchy among media companies in a few short years.

Four developments

Broadly, there have been four big developments in the online world in the past few years. The first is the decline in the cost of media distribution—thanks to digitization and broadband—which has helped to make even relatively unloved content commercially viable.

The second phenomenon, which has been sparked by the decline in the cost of media production, as well as by the development of tools for sharing content, has been the rise of user-generated content perhaps better described as “participatory media”. This has been exemplified by the phenomenal success of web sites like MySpace, acquired by Rupert Murdoch’s News Corp, and YouTube, the video-sharing site acquired by Google.

The third development is the rise of sharing, be that deliberately, for example, through wikis—a software tool allowing for collaborative working—or involuntarily.

The way in which information is organized is also changing – phenomenon number four. Instead of a traditional hierarchy of information by experts, i.e., a taxonomy, web users are increasingly categorizing online content—web pages, photographs and links—for themselves. This dramatically reduces the cost of search and

information management and has given rise to new businesses.

All of these phenomena taken together have led to a change in the attitude to copyright and intellectual property. If it is easy to create content, if working collaboratively is seen to lead to more innovation than is perceived to have been created by the individual genius, then the entire Western copyright system is seen by some to be flawed. The primary intellectual exponent of this view is Larry Lessig, the Stanford law professor who has come up with a new form of licence that allows content creators to share their work more easily.

Coming down the pike are greater and greater amounts of memory from computer makers, and greater distributive capacity, via broadband and wifi. Consumers will want to view, create and share richer and richer content online.

The business response

Media companies are reeling from these new forces. As Lars Mouritzen, of KPMG in the UK points out, media companies make money in two ways: by capturing attention and by monetizing it. But both are being challenged: the ability to capture attention by the new availability of niche and user-generated content, and the ability to monetize it by highly-effective online advertising.

So, old media must rethink their business models. With the costs of distribution tumbling, media companies should spend less time trying to find blockbusters, and more time trying to make it easy for consumers to find the stuff that interests them, however arcane. A side effect is that archives, which might not have had a commercial audience in the past, become more valuable. This is where old media has an advantage, but only if they can find a way to catalogue their content and to deal with the rights that were agreed in a pre-digital age.

User-generated content is just as much of a challenge. One response is for media companies to incorporate user-generated content into their own offerings, e.g. newspaper columnists writing a blog to which readers can respond. Another response is to make offline content richer and more analytical: this is the strategy of *The Wall Street Journal* in its new year relaunch. And media companies have got to reduce the cost of traditional content generation.



New technology has both enabled and revealed a deep desire to work collaboratively, sometimes for altruistic motives, sometimes for the exhibitionist pleasure of doing so. This is exemplified in the “open source” movement of software development, though one of the best-known examples is the online encyclopedia, Wikipedia. However, even when consumers do not intend to share information, their actions can prove useful to others. This is what lies behind the recommendations that Amazon offers or the way that Google’s algorithms can pinpoint the most useful web pages for specific searches based on what millions of other users have looked for.

Search engines have been one of the greatest commercial winners from the first phase of web development because they have succeeded in exploiting consumer attention by targeting advertisements.

The new possibilities for information management using Web 2.0 software has been enthusiastically seized by a handful of companies. Flickr, for example, is much more than a photo-uploading site. It allows users to see others’ work on similar subject matter, to join affinity groups of users of the same camera, like the Leica M8, and to track subjects of interest, e.g. models of the Ford Capri. What is

powerful about the likes of Flickr is that it is users who “tag” the photos. Given the richness of data in photographs, how much easier to allow users to do this cataloguing than to employ an army of researchers to do it. del.icio.us, a social bookmarking site that enables users to see how others are following the same areas of interest, is another example of the power of voluntary collaboration.

It is telling that both Flickr and del.icio.us have been acquired by Yahoo! The classic response to new entrants is to acquire their expertise by taking over the company. The difficulty is in assessing the value of these fledgling companies. Does the value of YouTube for example, lie in its technology, its branding or its positioning? How do you evaluate a site that is capturing consumer attention, but perhaps not doing so well in monetizing that interest? What is the shelf-life of user-generated content? The grisly cellphone video of the Saddam hanging may be a cult internet sensation, but it will hardly have the longevity or the merchandising opportunities of classic content like Disney’s *The Lion King*.

In other cases, the correct response is to find a way of affiliating. This is what Google and MySpace did when they agreed a revenue-sharing deal last year.

While the latest new media developments are great for the consumer, especially the twenty-something who happily download music or video, remixes and uploads to YouTube, it has been a nightmare for the owners of content. Newspapers and music companies have already been assailed by the ease with which their content can be purloined, and TV companies and studios are next. All content companies need to have firm policies on intellectual property (IP) management and strategies on how to deal with IP matters. It may well be an old-fashioned approach, which is to combat any infringements, but it is the most sensible one.

Finally, businesses should be aware of the dangers of the ease with which information can be captured and shared. Grainy mobile phone videos have played a dramatic part in the perception of many events. Companies should not think themselves immune from losing sensitive information nor from the potentially catastrophic consequences.

Survey Summary



But while mobile phone ownership is nearly ubiquitous, the ways in which consumers use their phones shows great variance

KPMG International commissioned Omnibus to interview 3,000 people in Germany, Spain, United Kingdom, the Netherlands and the U.S.A in December 2006. Our survey covered the age spectrum from Generation Y (18-30 year olds) to the Baby Boomers born in the years after the Second World War. It offers a glimpse into how consumers in these countries react to technological developments within the media world.

On the not-so-surprising side, mobile phone ownership is widespread and nowhere more so than in the youngest three age groups surveyed. These age bands (18-24, 25-34 and 35-44) have the highest concentrations of mobile phone ownerships in every country except the U.S.A. There, ownership rates peaked further up the age ladder, with 35-54 year-olds out-pacing their younger peers. Of course marginal fixed-line phone tariffs have historically been higher in Europe than in the U.S., which made mobile phone ownership in Europe comparably more affordable. Still, mobile phone ownership is commonplace within every age group and geography surveyed. Even the oldest age brackets have made the leap. Nearly two thirds of the 65+ population sampled have tossed out their rotary phones and sprung for the convenience of mobiles.

But while mobile phone ownership is nearly ubiquitous, the ways consumers use their phones shows great variance. Take text messaging. The desire to type messages by tapping tiny little buttons with one's thumbs is most prevalent among the youngest age group. Gen Yers across the five countries surveyed send an average of 80 texts per month, nearly double the volume sent by the 25-34 year olds. In the U.K., thumbs get a real workout. Text messaging volumes are virtually four times higher in the UK than in the other four countries surveyed. Interest in text messaging drops significantly among older age groups. Even so, the over-65s still tap out an average of three texts per month.



Whereas text messaging usage does show a demographic bias, other media applications have wider appeal. Music, video players and handheld games consoles are in greatest demand among the youngest (18-24) age group, but ownership and interest does not tail off significantly until the oldest age groups (45-54, 55-64 & 65+).


Consumers in the UK, US and Spain show a stronger preference for video players in their communications device than do their German or Dutch counterparts, where ownership rates are lower. Ownership of Blackberrys (significantly higher in the UK and US than elsewhere) is more evenly spread through the age bands. On average 61 percent of the 18-24s own at least one of the four specified devices, compared with only 25 percent of the over 65s.

Just as the way people consume entertainment is changing, so is the way in which news is read, watched and listened to. Television remains the primary news source for all age groups and geographies. Teasing out demographic preferences, newspapers are more likely to be seen as a primary (1st mention) source of news by the Dutch, Germans and anyone over 45.

By contrast, among Americans and 18-34 year olds, newspapers appear the source of last resort. Gen Y relies heavily on the internet as a primary news source, with Spanish youth showing the strongest preference. Radio is more likely to be seen as a primary source by the oldest age group of 65+.

On the edgier side of media, only 2 percent of respondents claim to take part in online metaverses. Not altogether surprisingly, this rate rises to 6 percent among 18-34 year olds. Youngsters in the UK (10 percent), US (9 percent) and Germany (9 percent) show the highest levels of participation. Social networking web sites claim higher participation rates, with an average of 8 percent of respondents having used such sites. Usage again spikes among the youngest consumers where it rises to an average of 30 percent. Within the United States alone, over half (52 percent) of the youngest age groups participate in a social networking site. Fewer have gone so far as to post videos online. On average, 4 percent of survey respondents have posted videos to YouTube and related sites, a number that rises to 11 percent among 18-24 year olds.

The internet is a key source of news in Spain and the phenomenon of “pásalo” (forwarded SMSs) is especially significant as a form of involvement for a public who are allegedly alienated from politics, says Rocio Campos Martinez Partner, KPMG in Spain



Generation Y: technology's latest gatekeepers

New technologies have traditionally been introduced by a small, skilled group, but Web 2.0 is the property of an entire generation, says Bernard Salt of KPMG's Australian firm

In remote parts of Australia in the late 19th century, community newspapers would track local "society". Sheep-station 'graziers' and doctors set a cracking social pace. But so too did the local railway stationmaster. These were all people of great import in the Bush. And why not? Graziers were Aussie versions of England's landed gentry. Doctors had a monopoly over life and death on the frontier. And stationmasters were the gatekeepers of a new technology that connected remote and isolated communities to a far greater world beyond.

Only doctors have held their elevated social status. Graziers' have been marginalized by low commodity prices. Nor are stationmasters, Bush towns' glitterati any longer. Rail has been usurped by newer technologies that facilitated quicker, cheaper and more universal connectivity to the outside world.

A generation of "gatekeepers"

The rise and fall of rail technology, and its stationmaster gatekeepers, is being repeated with the technologies of our age. Google's Sergey Brin and Larry Page and Niklas Zennstrom and Janus Friis (of KaZaA, Skype and now Joost) may have put the chic into geek. However, the reign of geek as gatekeeper is over instead the gatekeeping role is now in the hands of an entire generation. The internet, podcasting, YouTube, Google, MSN and SMS are both the currency and the conversation of Generation Y. And from today's youth, modern popular media can infiltrate other, older generations.

During the 1990s, a select group of gatekeepers controlled access to entertainment and information technology. IT specialists acted as the interface between information technology and its users. The fear of so called Y2K glitches running up to the turn of the millennium simply elevated their status and earning power.

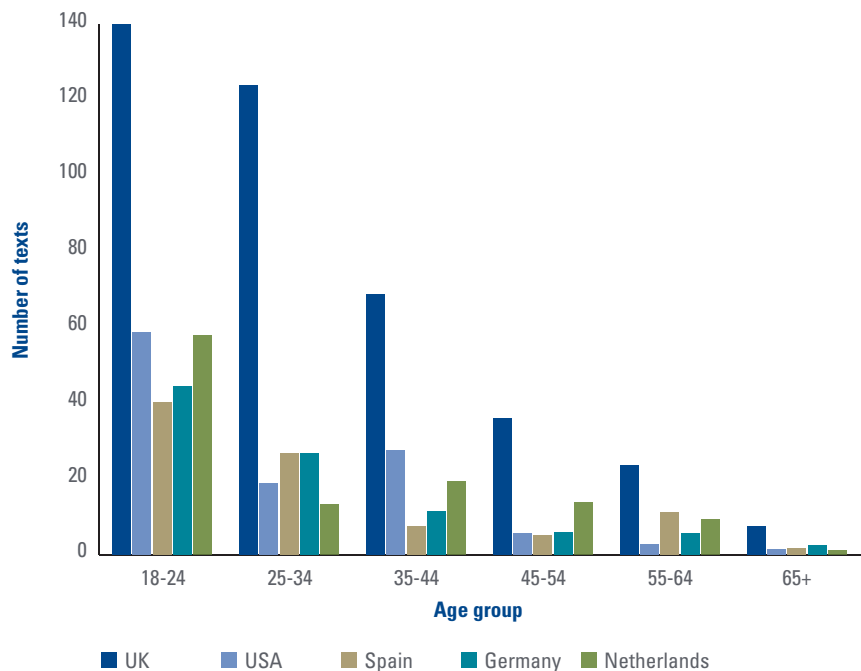
But as Generation Y the cohort born between 1976 and 1991 - grow into the workforce they challenged the traditional gatekeeping role of technology's professionals. Generation Y are the children of so-called baby boomers (the postwar generation born between 1946 and 1961). They follow



the generation Canadian author Douglas Coupland dubbed Generation X in his 1992 novel of that name. While Boomers were idealistic in their opposition to the Vietnam War, Xers were cynical. Generation Y by contrast display none of the Xers' characteristic angst. Rather, subsidized by Boomers' parental support, they are forming different lifestyles, based on different values and facilitated by innovative technologies. The way in which Generation Y has embraced and adapted new technology is proving massively disruptive to swathes of the media industry. Music companies have scrambling to work out their strategy in a world in which their key customers quite happily download and share their product for free from the internet. Wikipedia a communal online encyclopedia has effectively superseded not just the model of the Encyclopedia Britannica, but other traditional collections of expert information. YouTube contains video material that may be, by the sheer breadth of its offer, more relevant, more timely and often funnier than any of the finely-crafted productions specifically designed for free-to-air television.

The foreboding language of IT's early gatekeepers—such as Fortran and Cobal—has been usurped by an even newer language constructed in alphanumeric shorthand, short message service (SMS) text. Gen Y understands the protocols of SMS text; those born before 1940 are unlikely to.

Average number of text messages sent per month



KPMG LLP (UK) – December 2006

In short Generation Y are the gatekeepers of new technology. A computer geek living in Silicon Valley might write new code, develop new software or invent a new piece of kit but it is Gen Y that adopts and adapts it to their needs. And this is the difference between today's technology and the 19th century Outback railway: the latter is hierarchical and exclusive—the owner of a single skill set controls the technology. The former is broad-based, democratic and inclusive—anyone can download music, edit a photo, upload a video, send a text, write a blog or contribute to Wikipedia. Gen Y has reinvented the role of stationmaster in their own image and have made the new technology even more accessible and even more flexible in the process.

Technology and values

But why has Generation Y so comprehensively usurped the geeks and wrested control of new technology? And what is it about the latest generation of technology that so aligns so well with the thinking, values and lifestyle of these youngsters?

Generation Y are the children of rich, guilty and indulgent baby boomers. 'Guilty', because both parents worked, leading Boomers to try to compensate with material goods. Yers also came from smaller families; boomers are often one of four, five or even six children. In aggregate this has led to a demographic crunch across both the developed world and China.

Moreover, the 1990s was an era of extraordinary prosperity. So, Generation Y has only ever known a world of, at worst, gently-rising prosperity: they have never experienced a real recession or a genuinely-difficult labor market. This has made Gen Y financially fearless: they expect the future to be just like the past. Boomers were married with mortgage and kids by their 20's. Supported by these self same indulgent Boomers, Yers have eschewed commitment to marriage, mortgage, children or career in their early '20s. Some commentators have labeled Gen Y's twenties as the 'new teenage years'. Generation Y is truly "footloose and fancy-free".

Here is an entire cohort secure in the knowledge that their well-to-do Boomer parents can bail them out of financial difficulty. If they don't like their job they can, and do, chuck it in and head back to live with their parents. Boomers did not challenge the status quo, they reinforced it. If gatekeepers presented Boomers with a new technology such as the 'video' recorder it was adopted; it was even invited into the suburban heartland via the video shop.

There is no doubt that Generation Yers are driving fundamental changes in business models. It would be a mistake however, to underestimate the importance of digital immigrants of Generation X and Baby Boomers - who have consistently demonstrated their capacity to cope with change - to the long term success of digital business models, quotes Tudor Aw Partner KPMG in the U.S.

Yers think differently. Unconcerned with immediate consequences this generation can take a gatekeeper's technology and adapt, convert, distort and rearrange it for an alternative use. The vendors of cell phones did not anticipate, for example, mobiles being used for multiple daily social communications in their own truncated new language between tribe members. Nor did they foresee the same phone being used as a means of expressing individuality via ring tones or to provide illicit thrills by filming criminal acts. But these possibilities were seen by Generation Y and not just by a hardcore cell of technology's early adopters, but by a broad sweep of an entire generation.

Generation Y is arguably the first generation to use technology to facilitate communication, to spawn creativity and to air political views on a grand scale. But this raises the question: if the gatekeeping role has been acquired by an entire generation, could an even newer technology be embraced by the whole community? If this happens, Generation Y might be just as easily usurped as the railway stationmasters of Outback Australia were more than a century ago.

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Generation Y and new media: Where next?

Generation Y has been fastest to latch onto the opportunities of new technology, especially its networking possibilities. But the full effects on politics and society have yet to be seen, says Frances Cairncross

Technology is one of the biggest forces for change, social and economic. The internet has already changed the world, in a remarkably short time. Its impact has been more pervasive than that of electricity. It has bred a vast number of new businesses that didn't – and couldn't – exist only a decade ago. The group that has latched fastest on to these opportunities is Generation Y, now in their late teens and twenties.

The internet has spawned a bunch of devices, such as BlackBerrys and iPods, that create new consumer products and services, many of them portable. The spread of wifi means that laptop computers can be used in many places where they were useless only two or three years ago. People can now do things at times that were once used for other activities, or not used at all – to e-mail from a taxi, for instance, or to watch a DVD in a train or to listen to a favorite radio program on the Subway. Given that time is a scarce resource, this is important: these devices have expanded the time people spend on favorite activities, at the expense of other, less-valued activities. One source of additional



time has been a steep decline in the hours the young spend watching television, especially among young men, the group that advertisers most want to reach.

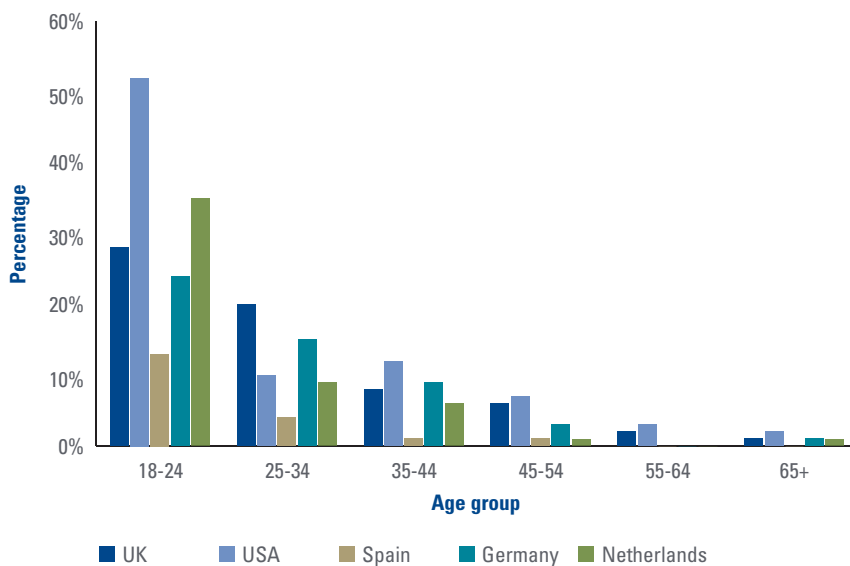
Young people are partly using the additional internet time as their parents do: to search, to communicate and to buy. The internet has become a gigantic marketplace, and not just for the well-educated. Recent figures from the OECD show that 70 percent of people in Britain made an online purchase in the past year, the highest proportion in Europe.

Social networks

But, some of the most interesting things happening online make no money. However, they create the potential for extraordinary change – economic, social and political. And the belief that these new activities may one day create value is generating a second dotcom boom. In the past two years, buyers have snapped up Skype, MySpace, Flickr and YouTube for prices that look astonishing relative to their earnings.



Do you use online social networking – yes respondents



KPMG LLP (UK) – December 2006

What binds such companies together? Well, Skype is a way around international telephone call charges. But the other three, and many of the other most successful sites, allow users to create content themselves. They allow collaborative creativity, and new ways for some individuals to express themselves and others to admire the result. This is a world of recommendations. It is a world of volunteerism, where people create for the sheer exhibitionist or altruistic pleasure of doing so. It is the world of the social network.

Two books have analyzed some of the characteristics of this world. One is *The Long Tail* by Chris Anderson, editor-in-chief of *Wired* magazine. Anderson's thesis is that the exiguous cost of digital delivery, combined with the power of the search engine, and with recommendation software that speedily promotes interesting oddities, has built new markets for niche products. Music, films and books that once had hardly any market have now found buyers.

Social production

The other key book is *The Wealth of Networks* by Yochai Benkler. His thesis is that technology permits extensive forms of collaboration, and enhancing "peer-production", like Wikipedia, the online encyclopedia. He says we are seeing the systems of "social production" that "are decentralized but do not rely on either the price system or a managerial structure for coordination".

The examples of personally-produced content are myriad. The most revenue-generating is eBay. Not only has eBay allowed a whole host of small businesses to flourish: An AC Nielsen study last year found that more than 68,000 small businesses depended on eBay for at least a quarter of their income. Ebay has also sucked sales away from more traditional outlets. In Britain, eBay is now the largest outlet for used cars. It has also stolen sales from charity shops. Why scour the racks at Oxfam when you can flick through a wider range of possibilities without leaving your desk?



The industry has to be aware of the next generation - the 'digitized' consumer who expects to access content with no limitations. The industry faces great strategic opportunities and challenges and only those players who are able to create tailor-made, individualized and easily accessible content will achieve sustained success, quotes Stephan Kinne, Partner, KPMG in Germany

Craigslist has done the same for classified advertising. The magical power of the search engine transforms both auctions and advertising, and digital delivery is always cheaper than print. Recently, though, Craigslist has begun to charge for some ads, becoming a more conventional marketplace.

But the newer development flourishes on content produced with far less commercial goals in mind. Blogs are the most obvious example: a vast public and semi-private debate, made searchable by web sites like Technorati. From blog to picture is a small step, or to podcast, and from picture or podcast to music or video or (as with YouTube) music video another small one. The technique of tagging favorite sites, so that others know whether they are about kittens or comedy, helps users to navigate through the mass of material.

Contact me

Then there are the sites that link friends with friends or contact-hungry professionals with other useful folk. Some, like MySpace and FaceBook, are specifically directed towards the young. But, once a site gains a certain momentum, the size of the audience expands and the average age rises. More than half of MySpace users are now aged 35 or over, according to MediaMetrix, an online data service. The numbers now visiting and using successful sites are mind-boggling. For instance, in July 2006, more than 63m people a day visited YouTube.com, downloading a staggering daily average of 100m videos.

How will these conversations affect older media and entertainment companies? Undoubtedly, they constitute a huge challenge, on two fronts. One is content – the other advertising.

Rich, cheap, content

On the content front, the question is how far online sources of news and entertainment will replace traditional ones. In the case of newspapers, a 2006 survey by the Pew Research Centre found that nearly one in three Americans regularly get their news online. Even adding print and online readers of daily newspapers gives a readership of 43 percent of Americans, well below the 50 percent who read a newspaper 10 years ago.

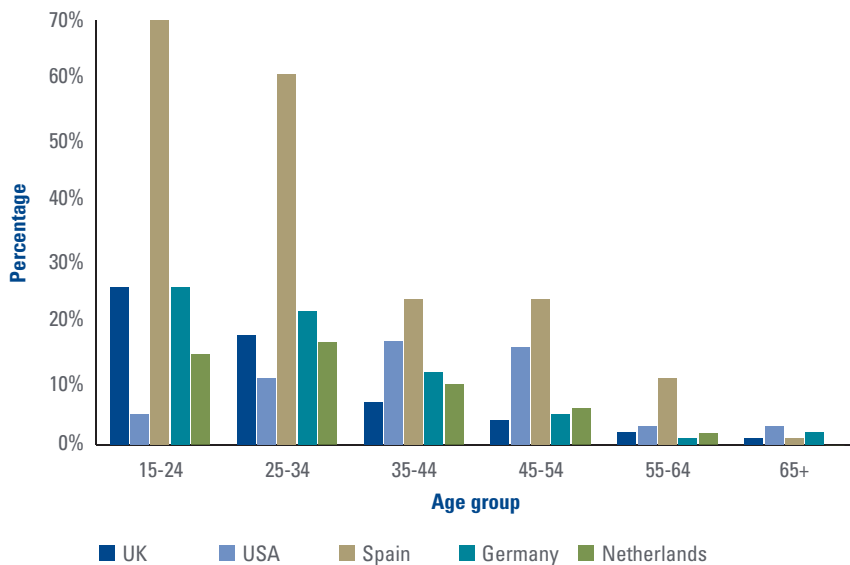
Is the content worthless? Certainly, many peer-produced sites contain large amounts of rubbish. But some sites have considerable impact. CNET, some of whose stories are written by "citizen journalists", broke more stories on the crisis at Hewlett Packard this summer than did *The Wall Street Journal*. Flickr collected pictures that summed up the London bombings of July 7 2005. Where such sites are visited by a small elite, they may offer sophisticated commentary on law, finance and management.

A further challenge to traditional producers of content is the ease with which material can be distributed online. Copyright laws are poor protection online, although publishers have fought a fierce rearguard action to protect their intellectual property.

Advertising online

As for advertising revenue, it is threatened not just by Craigslist et al. The business model for most open source and peer-produced activities online is advertising: a real diversion of resources from traditional media. The challenge is all the greater because online advertising is often carefully targeted, like Google's. In 2005, online advertising became the fourth largest in revenue terms in Britain, running at three times the level of radio advertising, and overtaking billboards and the business and consumer magazine markets.

Those who use the internet as their first means of accessing news



KPMG LLP (UK) – December 2006

Some traditional producers of content will find ways to benefit from these new online channels. The Wall Street Journal, for instance, uses clever software to deliver to readers the stories likely to interest them most, and to tell them which are the stories most widely read or blogged, and to encourage them to air their own views. As for the music industry, it has suddenly acquired new showcases for snippets of music videos, with vastly larger audiences than ever before.

New technology, new society?

But one of the biggest questions is how these technologies will affect politics and society. We are beginning to get glimpses – some of them born of the wars in Iraq and Afghanistan, the first in which most soldiers come from Generation Y. Take the helmet cam, a tiny camera that clips on to a helmet, automatically filming action as it occurs. These home movies are being posted in their hundreds on web sites such as YouTube.

The power of a new technology to change the world takes time to become apparent. The internet, that huge innovation of the second half of the last century, is still throwing off new and dramatic subsidiary innovations. It will take another half century to be sure what their full effect on our lives will be.

Frances Cairncross is Rector of Exeter College, Oxford and author of *The Death of Distance*

KPMG Comment

As Frances Cairncross points out, the transformative power of the net can be hugely disruptive to existing businesses. Just as the internet threw up completely new businesses like eBay, the advent of broadband has enabled more novel business models such as YouTube and MySpace. These can threaten old media companies in two ways. Firstly their user-generated content is often more appealing and cheaper to generate and secondly the new web sites are leaching advertising away from offline media. At KPMG our Corporate Finance practices can support our firms clients in a variety of ways, from analysing the strategic options and assessing value, to structuring the deal and designing mechanisms for presenting to the marketplace, to negotiating and securing the optimal terms for a successful closing.

As with any disruptive technology, it can be virtually impossible for existing companies to incubate a new model themselves. Instead, it is generally simpler and quicker to acquire a company in the new space. This can deliver not just new technology, but also new audiences that can be reached through new distribution channels. KPMG firms professionals can provide merger, acquisition, and divestiture support to media companies on both the buy and sell side. We can combine sector and M&A experience to help reduce risk and optimize the value of these business deals.



Mob rule

It is not new to complain about information overload. The advent of the telegraph prompted stressed Victorian merchants to grouse that they could not dine in peace without being disturbed by new-fangled telegrams. But developments in the internet, search engines and broadband really do mean that we will have access to more information than we can ever have imagined, all the time.

David Weinberger, a scholar of new technology, believes this super-abundance of information will transfer power from the keepers of knowledge to users, be they customers, students, readers, citizens or workers. There are three manifestations of this changing balance of power. The first is that information is now being organized by folksonomy, in the new phrase, rather than taxonomy. This is best exemplified by the rise of social bookmarking web sites, such as Flickr and del.icio.us. A second, related development, is that the role of the expert is being challenged. Finally, tools that enable collaborative working are changing the organization of work.

Information unlimited

One of the biggest changes the internet has enabled is the organization of information. Most information is not categorized. Such knowledge as is organized – published journals and books – is arranged by taxonomies determined by experts. Unfortunately, these taxonomies are restricted in size and scope.

For example, the indexing of books is limited: no publication is tagged with more than ten terms under the Library of Congress system, and one category has to be declared primary because of the limits of indexes, we rely on highly trained experts to organize information. But, in the real world there is no limit to the amount of information about authors and their books. The web, with its billions of web-pages and hundreds of billions of links—signposts within web sites to other websites—makes this information discoverable.

Weinberger believes, that the ease with which users can post content overturn the rule of content experts but that, the ease with which users can organize that information—finding and sharing slices and clusters is even more subversive of business control.

The internet is changing how we organize information, how we interact, how we learn, how we do business, even how we think, says David Weinberger. Companies should beware Web 2.0 will deliver even more power to the people

The Netherlands boasts one of the highest broadband penetration rates worldwide. Due to a comprehensive cable infrastructure nearly 95 percent of all Dutch households have broadband access which creates an enormous boost for internet usage, says Geert-Jan van der Snoek, Partner KPMG in the Netherlands.

Businesses and other authorities are finding they no longer are in charge of deciding what's important, how it's to be navigated, and even what it all means.

Playing tag

Web sites are beginning to use the "wisdom of crowds" (in James Surowiecki's phrase) to organize and categorise information. Rather than experts formally determining categories ex ante user 'tag' data as they wish, in an unsystematic manner - broadly speaking, a folksonomy. Two of the best-known are Flickr and del.icio.us, (pronounced delicious) a social book-marking site, both owned by Yahoo!. (This is no coincidence: Yahoo! places a premium on human interpretation of information, while Google relies on powerful algorithms). Both sites allow users to categorize information with "tags" —key words created by readers and viewers.

Del.icio.us is the virtual equivalent of being able to look over the shoulders of millions of others, see the articles they find interesting, the websites they rely on for news, the blogs they find amusing and the serendipitous material to which they have attached the equivalent of an online Post-It note. The way in which it does this is by enabling users to or bookmark interesting web sites, and to share

this with other users. So, for example, futurephone.com, which enables Americans to make free international calls, is tagged "free". A click on the "free" tag leads to Wikipedia (free encyclopedia), the BBC (free language classes) and (free) Google gadgets.

When users subscribe to a tag they see what everybody else on del.icio.us is marking with that tag. "It's like having the rest of the world do research for me." While this is fun and interesting for him the implication for business is that "this is a tool of tremendous value to corporations that are doing any sort of research."

Expert schmexpert

Given that the internet allows everyone a voice, the expert has to compete to be heard. In the past, experts would determine "categories, how they're going to be structured and presented, and how the information should be filtered." But now, Weinberger says, companies should not seek to dictate how goods or services should be categorized. Instead, they should "allow users to put in as much meta-data as they can, and to let them filter it on the way out, rather than doing all that work on the way in."

Wikipedia, an online encyclopedia, is perhaps the prime example of this. "Wikipedia is a public negotiation over

knowledge. Expertise becomes a social activity. The knowledge that experts have gets improved by being brought into play with other people, which makes the locus of the knowledge not the head of the expert but the conversation that's occurring among various parties."

Who owns the information

These ways of generating, organizing and sharing information pose a threat to business. Consumers will see themselves as increasingly entitled to shape the experience of how they transact with companies. "Now, business owns the stuff until you buy it. But it also owns the experience – how you buy it, what you know about it. This hasn't been true for 10 years for people on the web and that's going to be more widespread."

Google, in Weinberger's view, is a harbinger of things to come. "One of the lessons of Google is that even their user interface says, "the experience is not ours, as businesses, it's yours. You own how you get at the information, what you're going to do with the information and what the information is going to be like. You don't even have to come to our site to get it. We're going to have to syndicate our stuff as well. We are not going to own anything except the goods and the core information – the facts about the goods

– and, after that, it goes out into the miscellaneous world, and you can do what you want with it.”

How we learn

The internet is already changing how kids learn, according to Weinberger, and it is just a matter of time before these changes filter into the workplace. The way in which learning, and homework, is increasingly becoming a collective activity, will spread. “Our students in the developed world are frequently doing their homework on computers that are attached to the internet”, Weinberger points out, “which also means they’re also on instant messaging (IM) sessions with their friends. This means they’re doing their homework together.” Weinberger rejects concerns about this collaborative approach, which traditionalists may interpret as cheating, saying, “It’s artificial to say, ‘Be connected to all your friends, but work alone’. It’s a bad model of consciousness, it’s a bad model of reason, it’s a bad model for social discourse.”

The future of work

Weinberger is confident that, as this generation matures, they will think it entirely natural to seek, shape and share information collaboratively. And this will upset the traditional hierarchy of who is seen to add value to the enterprise. “We’ll see the same thing happening as we’re seeing with blogs,” he predicts. “People who have no public standing, by a combination of expertise, writing skills, humor and personality become recognized experts. Blogs change who is valued. Right now people aren’t getting compensated for being good social knowers.”

This way of working will become ubiquitous, Weinberger is confident. The crisis of measuring the wrong qualities “will end once students become the managers. It’s a generational thing”

David Weinberger is a Fellow at the Harvard Berkman Center, co-author of *The Cluetrain Manifesto* and the blog, www.JohoTheBlog.com. His new book, *Everything Is Miscellaneous*, will be published in May, 2007.



KPMG Comment

David Weinberger predicts a world where smart companies engender vibrant conversations among people working on information and generating ideas together. Old hierarchies of information access and control need to be overturned and information provided to those who need it most. In this world, expertise becomes a social activity. The quality and speed of decision making can be improved, by going beyond the experts to find information. New business concepts and models will be conceived, developed and executed more rapidly than ever before. KPMG firms dedicated Advisory teams can provide in-depth advice on support in the design and implementation process of these new shared services models.

This also helps to raise the bar for performance. Businesses need to re-examine their current processes, structures and systems, to ensure that they support rather than hinder the capture of potential benefits identified by Weinberger. KPMG firms professionals have deep experience of advising on improving performance whether that is through streamlining processes, enhancing controls, managing critical information or establishing performance and cost measurement. Our dedicated teams can help to improve your ability to make critical business decisions.



As the costs of creating and distributing media have fallen, common national cultures are fraying. Instead, says, Chris Anderson, Generation Y-ers are developing deeper links with those who share their interests, at home and abroad

“When I was growing up,” says Chris Anderson, author of the new media bestseller, *The Long Tail*, “you had top 40 radio. Generation Y-ers are just not listening to top 40 radio. They’re not listening to radio at all.”

Anderson, at 45, is hardly over the hill, but the shift between how he consumed culture and how today’s teenagers consume, has been dramatic. In *The Long Tail*, Anderson charts how consumption of media has shifted from a world of narrow broadcast spectrum, few television and radio stations and a handful of newspapers to a world of seemingly limitless choice. As the costs of creating and distributing media have collapsed, we have gone from a world of a few hits to a world where even the most arcane content has a commercially-viable audience.

The effects of this choice—for business and society—are profound. What counted for common culture – three quarters of American TV households watching *I Love Lucy* in 1954—is disappearing, to be replaced by what Anderson, using an analogy from computer processing calls “massively parallel” culture.

There are two key commercial effects of recent technological changes. The first, is that the combination of powerful search engines and the availability of broadband have transformed the economics of media production and distribution. As a result, even content with tiny audiences becomes commercially viable. One consequence of this, Anderson believes, is that archives become more valuable. And, therefore—and contrary to the new West Coast conventional wisdom, the owners of intellectual property should fight to retain their intellectual property rights.

At the same time, new media production software, combined with faster computer processors and, again, broadband, have made it possible for individuals to create and share content on the web, be that blogs, podcasts or videos. The phenomenon of user-generated content, or UGC, is the subject of Anderson’s remarks here.

Say’s cultural law

Jean-Baptiste Say is credited with the “law” that supply creates its own demand. Anderson doubts this economic truth, but believes it to be “a cultural observation from the emerging long-tail markets”. YouTube, a video-sharing web site, is the exemplar of this phenomenon. Anderson quotes Barry Diller, the media mogul: “people

with talent won't be displaced by 18 million people producing stuff they think will have appeal." Anderson asks: "Has there ever been a better definition of YouTube than 18 million people producing stuff they think will have appeal?"

Because of its arrogance, the blockbuster industry—to which Anderson belongs has, according to Anderson "missed user-generated content entirely." The industry "not only just didn't recognize how big it would be but assumed that it wasn't what people wanted at all. They believed that we, the taste-makers, who have "our fingers on the pulse of culture," are necessary to find talent, to elevate it with production and money and then to distribute it with our powerful access to the broadcast channels."

In fact, new culture is more diverse and exciting than the old. "What we discovered," says Anderson, "was that the consequences of this demand for

very mass audiences, was a very formulaic, lowest-common denominator, model to create hits. What YouTube, with its very low bar, enables is a very liberal approach to culture. Everything gets out there, regardless of its anticipated demand."

Youth culture

As Generation Y spends time on YouTube, they are spending less time watching television. "The common culture is in decline," Anderson acknowledges. "We will lose something in our linkages through mass culture."

"We've shifted from mass culture to massively-parallel culture," Anderson says, "where we're able to explore our individual interests more deeply rather than having to settle for the relatively shallow places where our collective interests intersect." The connections between smaller numbers of individuals in the same niche or tribe are much more profound than the

weak links of common culture. MySpace exemplifies this. "What is MySpace?" Anderson asks, "None of us really know. It's content, but not as previously defined. It's micro-content. It's for audiences that measure in the dozens, not in the hundreds, but they have a very intense engagement with this content. It's not trivial to them."

Gentlemen vs. Players

Unfortunately for those in the business of content creation, y-ers have, if anything, less interest in expensively-produced news and home movies than they have in their friends' blogs, the school garage band, and the home movie of the prom preparations. "The audience is migrating to a world that exists on a granular level that we, as professionals, can't even hope to approach," Anderson says. "It's the big scary lesson."

The future of news?

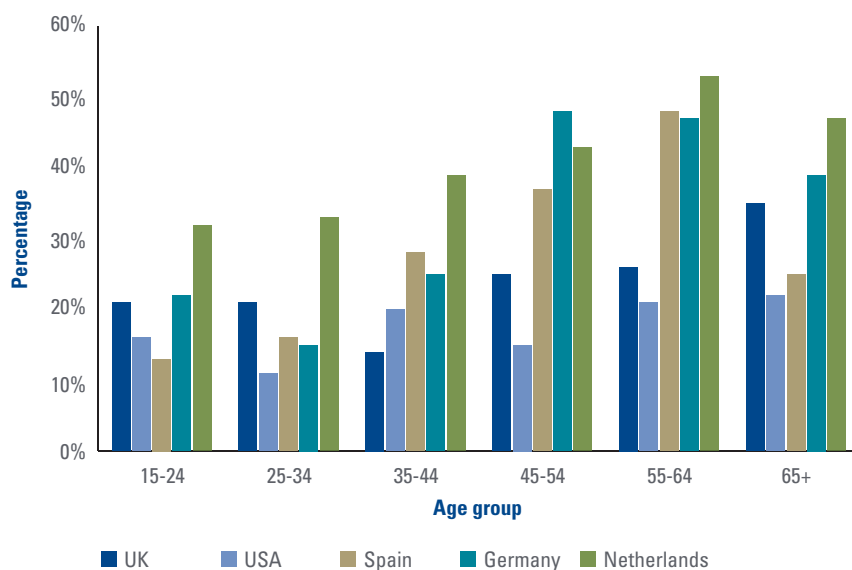
Newspapers are finding the going especially tough. "We, the professionals, are now competing with an army of amateurs doing something we cannot do," This raises tough questions for society in general, and for certain types of journalism in particular.

Anderson acknowledges that "investigative journalism, some political reportage, going to dangerous places—is not easily done by the mob, the army of amateurs." Unfortunately, that sort of news is both the most expensive to produce and "is not what people are interested in. They're interested in the results of the kids' soccer game, or the PTA (parent-teacher association). Very, very narrow, hyper-local story. No entity, especially not one like The New York Times, can scale down to that level of niche interest."

Globalization 2.0

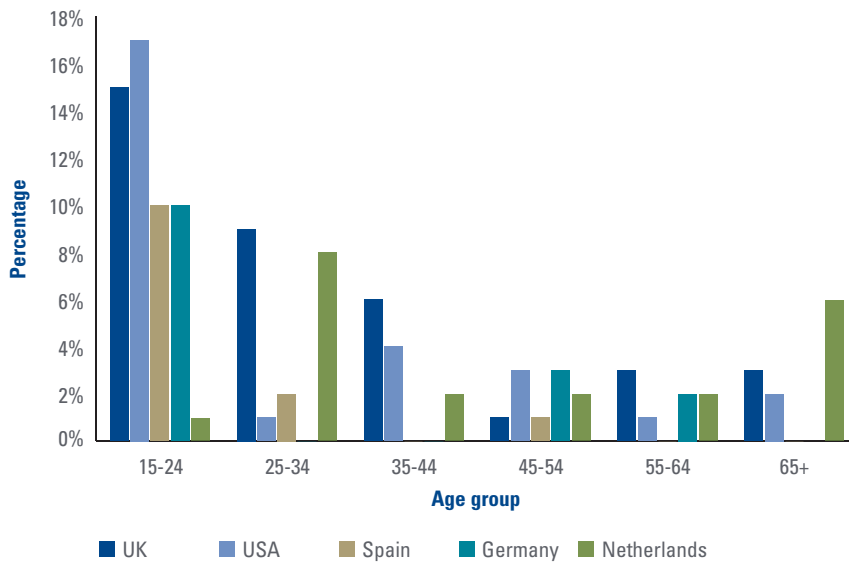
While y-ers' connections to their compatriots may be less than before, they are forging greater links to foreigners. "Cultural globalization has tended to go one way, which is

Those who read newspapers as their first means of accessing news



KPMG LLP (UK) – December 2006

Do you post videos online – yes respondents



KPMG LLP (UK) – December 2006

Americanization,” Anderson says. “If globalization created American antipathy, that’s because it was a one-way conversation. Now that the vehicles of culture are so inexpensive and the distribution channels are so cheap, every country’s culture can go global. It’s early days, but I hope that the backlash that accompanied the first wave of cultural globalization will be moderated by the second wave of bi-directional globalization.”

Proof of this is found in the sales figures for Netflix, a DVD rental company. Foreign films—including Bollywood—are one of its fastest-growing categories. Generation Y-ers will be able to travel and live abroad and still maintain much closer links to home thanks to e-mail, webcams, instant messaging, Skype, social web sites and the global availability of foreign media.

Copywrongs?

The internet is the product of, and has enabled, amateur collaboration. Many users of the internet, therefore, feel passionately that access to it should not be restricted in any way. Others go further, and argue that copyright has no place in a world where reproduction is

virtually free. Larry Lessig is one of the most famous exponent of this view and has come up with a license—the “creative commons license” that allows much freer use of intellectual property. Anderson disagrees.

“*The Long Tail* argues that there is value in archives –untapped, latent, value in archives that could be extracted with more efficient distribution,” Anderson says. “That would be an argument for copyright extension. Opponents say that, as all of the value is taken in the first year after release, why not release content to the culture as a whole after twelve months? *The Long Tail* model says, ‘Actually, there’s a lot more value you can squeeze out of those things because it’s cheaper and cheaper to get them into the hands of consumers.’”

However, unless Generation Y sorts out a means of negotiating rights to these archives, that value will remain locked up. Anderson argues for “a really really low-cost way to clear rights. If you wanted your copyright extended, you’d just have to pay a penny, or check boxes, or send an e-mail—some de minimis effort.”

This reform is something that governments could do with the stroke of a pen, but Anderson, a libertarian, is skeptical about their will to do so.

Chris Anderson is Editor-in-Chief of *Wired* magazine and author of *The Long Tail*.

KPMG Comment

As Chris Anderson points out, change in technology is having an increasingly powerful impact on business, from transforming the economics of production and distribution to realizing value from embedded content, culture and capabilities. Not unexpectedly, businesses are under increasing pressure to maximize this business value from IT across the enterprise. There are significant changes in the way IT is being governed and delivered and these present daily challenges with regard to aligning IT with business needs, leveraging IT innovation, reducing IT risk and bringing new solutions to business leaders. Survival in this environment means making tough choices, demonstrating clear business understanding and constantly seeking out the best service at the best price. KPMG firms’ IT Advisory teams can help businesses achieve greater value from IT through a variety of means - from understanding technology and trends to advising clients on how to take advantage of those.

On the reverse side, technology mis-steps can have negative and potentially catastrophic impacts. This is why our IT teams also works with our firms clients to provide guidance on IT services to help ensure successful delivery of IT projects to time and budget, and to demonstrate effective IT Governance and Regulatory Compliance.

The prana of the internet

The internet has catalyzed a shift in our economy from consumption to creation, says Paul Saffo. The web is now a destination for creating and socializing in profound ways that have yet to unfold

Paul Saffo reckons that there are three fundamental human desires: to be of use, to tell stories and collect stuff. As a forecaster with almost three decades of experience in figuring out the practical impact of new technologies, he believes that technology has to be seen in terms of how it enables these three desires. After all, “what doesn't change are human desires. The Maslovian hierarchy still applies.”

The big change of “Web 2.0”, (a vague term that refers to a second generation of internet-based services—such as social networking sites, wikis, communication tools, and folksonomies—that emphasize online collaboration), Saffo says, is from an economy based on consumption to an economy based on creation. By this, he does not mean high artistic creation, (though software packages and cheap hardware are enabling an explosion in garage bands and amateur video directors), but in the sense that all of our decisions are acts of creation that can be captured and can, thereby, inform the decisions of others. So, the three human desires are met in Web 2.0: online recommendations and tags help others; blogs and social networks tell stories and experiences can be collected in online metaverses.

Economic gear change

Saffo argues that the past 100 years has seen a shift from a manufacturing economy to a consumer economy by mid-century, and that “we are in the middle of a third shift, from consumer to creator.” This is not about an elite creative class, although a mass creative class is springing up thanks to sophisticated, widely-available software and cheap and sophisticated cameras and computers.

Rather, says Saffo, this is about “ordinary people in their everyday lives engaging in acts of micro-creation. When you're on Amazon and you leave a book comment, you're a creator. When buy or sell something on eBay, you're a creator. When you drive to the supermarket and you're scanned by the checkout counter machine, you're creating. When you're on Google, you're not just consuming information, you're creating information because the record of your search becomes valuable enough to Google that Google has gotten as big as it's gotten.”

In short, continues Saffo, “There are no bystanders. The companies that get the largest are the ones that harness the very small actions of very large populations of people.”



Who owns the idea?

In this world of the universal creation, Saffo believes that intellectual property rights will wane. He castigates the music industry for “trying desperately to preserve a dying old model and ...making all the classic mistakes that go with that,” such as deciding to “sue our best customers, teenagers.” If the model for success is harnessing millions of actions, the way to do that is to “give away” ownership.

It is not that no one will own anything: quite the reverse. Ownership becomes more important than ever. Saffo points to the contrasting fortunes of Sony's Everquest, the first metaverse where avatars and alter-egos were created and sold.

Medium of communication

The central effect of the internet, says Saffo, is that “In cyberspace, there is no distance between two points.” This has dramatically increased both the velocity and the reach of human communication. “The net effect of modern technology is to more tightly couple members in society,” Saffo says. “Technology gives us power. There are ever-greater consequences to otherwise minor actions.” Of course, this has a downside. A too-hastily sent e-mail might offend (or, as many business

people have found, lead to the sack). And the consequences can be widespread: one person's negligence about anti-virus software could affect 10,000 to 20,000 people.

Unexpected consequences

New technologies can change human behavior and norms in unforeseen ways. The introduction of the Penny Post in Victorian Britain allowed sheltered girls to carry on private correspondence. A few generations later, the telephone liberated women to talk to men to whom they had not been introduced.

With each successive invention and innovation, the medium of communication becomes more and more central to the experience of communicating, Saffo believes. “The internet was revolutionary because it shifted communications from being a conduit, a pipe between connecting physical locations that people spoke through,” says Saffo, “to communications becoming a destination in their own right. Each advance in technology, e-mail to the web—the web's more of a destination; YouTube, MySpace – more and more destinations. And then Second Life and the massively multi-player environments are pure destinations.”

The key word for the new generation is collaboration. Where Web 1.0 was all about ordering online and logistics, Web 2.0 is all about social networking: In the corporate world, we are already seeing such trends with outsourcing, and the need to communicate with partners and customers beyond the firewall which means ‘you can't just hunker down with old-fashioned IT,’ says Crispin O'Brien Partner, KPMG in the U.K.

Saffo is convinced that multi-player environments like Second Life provide better clues to the future, and, in the long run, may represent a more profound shift than blogging, wikis and even social web sites like MySpace and YouTube.

Blogs: a one-sided conversation

While blogging is “an indicator of the instinct to create,” Saffo believes it to be imperfect. He concedes that blogs have a place, but while newspapers may be, in the adage, “the first draft of history,” blogs are merely its “scratch-pad.” Moreover, “the software has a long ways to go in terms of creating an alternative to the one person, one blog, it’s all about me. It’s just a list of entries.” As an alternative he suggests “linking with hypertext; organizing it in some way other than chronological; have automatic indexing so what I see when I log on is a hyperbolic chart with a spider’s web of themes and the like. And I can search it subject-wise, not by the accident of time.”

While MySpace and YouTube have snaffled the attention of millions of users and of deep-pocketed media behemoths, Saffo questions their long-term impact. They “have the feeling of electronic hula hoops. It really is a craze like CB radio was. It just got too popular. They are hugely important starts, but it is unlikely they will survive in their current form.”

Taking Part

In contrast, Saffo believes that Second Life and other multi-player environments are pointers to the future. Second Life is demonstrating not just remarkable growth, but also a marked degree of participation. In contrast to Wikipedia, some two thirds of users are creating things in Second Life, and the average user spends a quarter of their time in Second Life creating stuff. Some 10 percent to 15 percent of users are making more money than they are spending being there. Despite some high profile real estate plays, most of these earnings come from “useful” things like fashion.

Second Life is also mimicking the real world in more profound ways than shopping. It is being used for education—Saffo points out that more than 17 universities teach courses there. Suzanne Vega had a concert. Some of those who fight imaginary battles in the World of Warcraft, the biggest “morpeg” (massively multi-player online role-playing game), go to the Second Life to hang out afterwards, much as one would repair to the pub after a match.

Saffo is quick to point out that Second Life is different from video games that are already commercially well-established (their revenue exceeds Hollywood’s box office). For one, the gender balance is, well, more balanced than in the famously male gaming fraternity.

For Saffo, the big unknown is whether metaverses can enable relationships as, or even more, profound than those developed in the “real world.” “Does,” he asks, “all of this exposure to so many different people allow them to form their long-term relationships more intelligently than the rest of us?” Today’s adults formed lifetime relationships randomly: it depended on whom we went to school with. “We formed our lifetime friendships—before e-mail and the like—from spending lots of physical face time with people,” Saffo says. “Now, in places like Second Life, is it possible for people to form those lifetime bonds with lots of virtual face time?”

He continues, “An Indian friend of mine likes to say that the problem of cyberspace is that it has no prana, (life-giving force), that you can’t form deep relationships over the internet. It’s a provocative thought, but I suspect he’s wrong. You can do those things.”

Paul Saffo is a Silicon Valley technology forecaster. See www.saffo.com

KPMG Comment

Paul Saffo sets out his conviction that old business and intellectual property models are outdated. If success requires millions of actions to be harnessed, the way to do that is to “give away” ownership of your media assets to consumers, and let them use these assets to create new, user-generated content. There is also the need to manage the rights of those assets carefully, which is crucial. KPMG firms Intellectual Property teams help companies across the globe to develop and implement digital rights management systems and can provide support in assessing and improving royalty models in order to reflect requirements driven by the digital world.

However the market develops, it is certain that managing intellectual property will be more critical to success than ever before, whether it is distributed “free” under a creative commons licence, or ownership is carefully maintained. KPMG firms’ can offer deep knowledge of the management of intellectual property and can advise businesses on management of royalty and licence fee collection.

Second – Real – Life



Second Life is not an alternative to the “real world” says Linden Lab’s Chief Technology Officer, Cory Ondrejka. Rather, it enables people to learn, experiment and grow businesses in a safe environment

There has been a lot of excitement about Second Life, the virtual world created by California-based Linden Labs. The number of residents has expanded exponentially, and now numbers well over one million; scores of businesses have run marketing campaigns in this “metaverse” and universities are teaching courses there. Some wonder whether Second Life might alter human relationships, just as earlier communications technologies and innovations, like the Penny Post, the telegraph and telephone and air travel did.

At Linden Lab, Chief Technology Officer, Cory Ondrejka, is more modest in his claims for what Second Life represents. Indeed, Ondrejka goes so far as to say that: “A mistake that people who get excited about virtual worlds make is talking about it as a replacement (to the real world) – which is just silly. Now, talking about it as something that augments, talking about it as something that complements, now that starts sounding interesting.”

“Realler” life

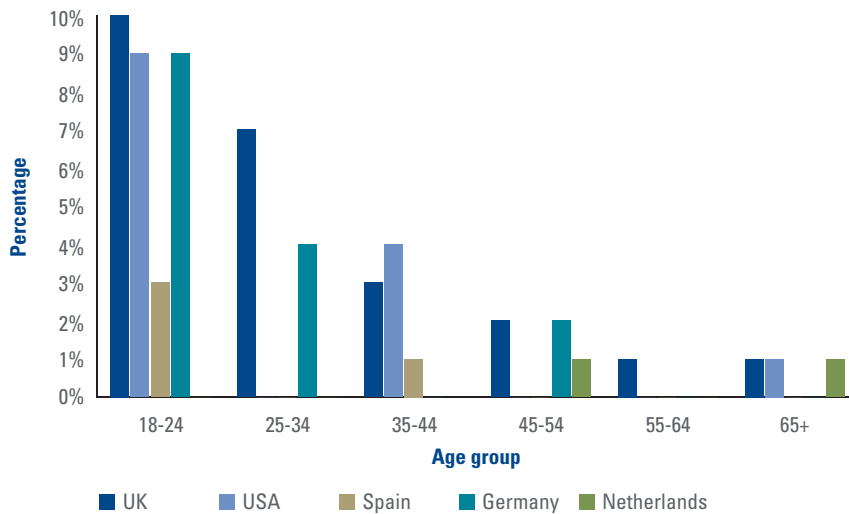
As Ondrejka sees it, what Second Life offers, is a better approximation than Web 1.0, or even some of the “poster children” of Web 2.0, to real life. In particular, Ondrejka subscribes to the “Dunbar number”, i.e., the 150 meaningful relationships that the Liverpool University anthropologist

Robin Dunbar reckons is the maximum that any human can sustain at any time.

If we accept that human beings interact in small groups, then the technology that will prove most appealing is that which enables small-scale communication, collaboration and interaction, Ondrejka believes. He cites some examples. “If you go to a big concert, you will only get to know the people you went with. If you go to a jazz club with twenty people, you might meet all the other people. Even watching TV is more fun with a living room full of people.”

Web 1.0 is “sequential, solo and massively parallel”, says Ondrejka, in other words, “completely atypical for human interaction.” He adds, “I would include Web 2.0 in those limitations. It’s certainly much easier to do a certain amount of collaborative creation (with Web 2.0), but if you look at a lot of the poster children of Web 2.0, you still see very low participation rates: Wikipedia, 0.2 percent - and that’s a very generous count because that includes all of the “style and formatting” folks who just go through and make it all look like Wikipedia. And, so, even with Web 2.0-enabled stuff, you still see relatively low participation rates, but you see much higher participation rates than any other form of media.”

Do you use online Metaversers – yes respondents



KPMG LLP (UK) – December 2006

The increased collaborative opportunities offered by Web 2.0 are mirrored by changes in how Generation Y uses technology, Ondrejka believes. “We’re clearly raising a generation who feels like participation in their media is important. It’s been really interesting watching the shift away from typical consumptive media as folks find that it’s actually just as much fun to maintain your MySpace page. Or it’s just as much fun to spend time mucking around in Flickr as it is to watch TV which, if you’re a mainstream media company, should terrify you.”

Degrees of collaboration

The big difference between Second Life and those other “poster children” of Web 2.0 is the higher degree of participation and collaboration in Second Life. Ondrejka argues that “While it’s still small scale in absolute terms, what we are seeing is extremely high participation and collaboration rates. Two thirds of the people who login in any given month will make something from scratch – that doesn’t even include the people who will modify, do sort of a remix. That is the people opening the building tools or opening the tech center.”

A 2005 survey by the Pew Internet and American Life Project found that 35 percent of all internet users in the US, or 48 million people, had generated content and posted it on the web. However, these statistics are heavily biased in favor of teenagers, with teens more likely to post on MySpace or Flickr, more likely to blog and more likely to maintain their internet presence. By contrast, the median age of Second Life residents is mid-30s, and they are gender balanced.

Ondrejka adds that the statistic “that leaves my computer science professor friends flabbergasted is the 15 percent of people in a week who will write script code from scratch—and the scripting language in Second Life looks like “C” – only harder.” This degree of confidence in experimenting, says Ondrejka, “gets into questions about community, peer-to-peer education, on-demand learning.”

“What’s so neat about a lot of the activities in Second Life”, he says, “is that you’re able to try these real-world activities like being a programmer, or learning or being a teacher, or running a nightclub, or running a business or hiring people. You can do this behind a veil of pseudonymity with virtually no capital expenditure, to get into it. If you fail – eh

– so what? The odds are you may have lost a lot less than you did in the real world. Plus you have the protection of pseudonymity.”

There is evidence for the attractions of pseudonymity in the classroom. Harvard Law School offered its Cyber 1 law class online—so anyone, and not just its own students, could take it—as well as in the classroom. To professors’ surprise, they found that some of their own students were taking the class online. The reason? Even these super-bright kids felt more comfortable asking questions if no one knew they were asking.

Business life

Just as Second Life allows risk-free learning, Ondrejka holds that it also provides a safe environment to become an entrepreneur, and indeed points to the future of business creation. He says, “About 65 companies are now in the real world that have spun out of Second Life. They employ 300-plus people. In aggregate they have announced US\$10 million a year in contracts and so, what’s interesting about that is that nearly all of those companies spun out of folks who first started collaborating inside Second Life, then started having an opportunity to sign deals and contracts in the real world and so had to spin out their



company into the real world.” He adds, “And what’s so neat about this is that most of these companies have completely distributed employee bases where they have employees that they’ve never met in the real world.”

“Now you have the same community power of the Wikipedias of this world being applied to actual, real-world content-creation jobs by people who first learned how to do this by role playing – right? Who said, “Maybe I’ll try to be an entrepreneur. Maybe I’ll try to be a programmer. Maybe I’ll try to be an artist. Because, of course, the downsides are so low. There’s basically the opportunity cost of time and a very small monetary investment compared to if you were trying to do this in the real world.

Some are sceptical about whether Second Life represents the future of business, or of marketing, or whether it is a fad. Ondrejka is convinced that the innovations that Second Life represents will survive, regardless of what happens to Second Life itself. “From the perspective of watching what’s going on, clearly, something’s going to win,” he says. “People are going to be using this. Whether it’s us, whether it’s something that follows along after us, whether it’s a

more open version of what we’ve done, sort of doesn’t matter. It’s the reason why, if you interview these companies that are in Second Life, a lot of people will ask them: “Isn’t this a big risk? What if Linden Lab screws up?” And they’re like, “Look, we’re now the world experts on creating interactive content in a shared virtual space. We know that it’s valuable. So, who cares what technology we use? We’re building expertise.”

Ondrejka dismisses the criticism, alluded to in a recent Financial Times feature on Second Life, that it is just about “shopping and sex”. He says, “IBM has over a thousand employees using Second Life right now– they’re not doing it for shopping and sex. They’re doing it because they are a giant multinational business corporation and they are trying to figure out if they can increase collaboration between business units - really really boring business process stuff. Think about it – what if virtual worlds allows you to do five percent less travel? Or makes the travel that you do do five percent more effective because you’ve already spent met and spent time together virtually? If you’re an IBM, that five percent is a tremendous number, and because you’re talking about ultimately innovation, which is per capita

productivity growth. That means that you’re on an exponential curve. If you have any advantage from this, that turns into an infinitely large advantage 10 years from now.”

Ondrejka believes that such so-called “incremental” changes are reason enough to be excited about what Second Life represents: for learning, for business and for relationships. He says, the question should not be “Does this enable something that’s completely different?” Rather, it should be: “Can you meet more people? Can you have better long distance relationships?” And, if the answer is yes, that’s a result.

Cory Ondrejka is Chief Technology Officer at Linden lab

Taxing questions



Certainty and stability of tax is a priority for Finance Directors. This is difficult enough to achieve now, but the emergence of wide global networks of collaborative activity, and uncertain intellectual property ownership, will provide extraordinary challenges for the foreseeable future, says David Nickson of KPMG in the U.K.

Taxation policy has tested the finest economic and political brains for centuries. Politicians are concerned with, as Jean-Baptiste Colbert, put it, “so plucking the goose as to obtain the largest number of feathers with the least amount of hissing.” The task of establishing when money has been made, and where it has been made, has become much tougher thanks to Web 2.0.

Among the various tools of macroeconomic policy, taxation is seen as one the best to stimulate investment – in jobs, capital equipment, infrastructure growth etc. However, when creative work is dispersed through a virtual network of collaborating peers (the “social production” of which Yochai Benkler writes in his recent book, *The Wealth of Networks*) on a global basis, how can a government use incentives to skew GDP growth to their country? While Generation Y relies on a technological infrastructure, the value it is creating is in the virtual network, not the physical one. This is bound to result in inconsistencies in approach.

Secondly, international concepts of relief from double taxation were established at a point in time when ‘cross-border trade’ meant the physical flow of goods, and where services were delivered ‘in person’. However, traditional tax concepts such as “source” and “residence” have their meaning significantly eroded in the digital world. As the economic environment has migrated increasingly from offline to online, fiscal authorities have tended to start with the questions of how to apply old concepts (residence, source, permanent establishment etc) to new activity. For example, “how will we determine tax residency once company control is exercised in online conferences through avatars of the directors?” But perhaps the better question is to ask why residence or source is important in the first place? It is natural for national governments, concerned about short-term tax leakage in the online world, to develop their own pragmatic approaches to the matter, but what would really valuable is a consistent approaches applied at a global level. This could apply equally well to indirect taxes where there are numerous inconsistencies between the ‘real’ and ‘virtual’ worlds.



Lagging behind

This, in itself, highlights the increasing gap between the speed at which business is now operating and that at which governments are able to respond. Many economists speak of “inside and outside lag” as measures of the time it takes for governments to respond to external challenges and for their responses to be felt externally. Arguably, never will these gaps have been greater than may be seen in the next few years. In the commercial environment, multi-jurisdictional collaboration progresses at a furious rate. The world of international treaty negotiation, despite increasing levels of cooperation, moves (in relative terms) at a snail’s pace.

One reason that existing tax frameworks will be brought under so much pressure (perhaps more than they can bear) is that Generation Y undermines what previously were certainties. Concepts of intellectual property ownership, and in particular the question of which assets have ‘value’ are being violently challenged – if taxation is to follow economic value creation, huge swings of taxation liability from one country to another – unless companies act may be seen. Metaverses such as Second Life have the potential to create much confusion here – intangible assets created in an intangible world, without

limit. A piece of land in a metaverse can have a value, ‘exist’ in cyberspace, and attract ‘real world’ value, but the data which represents it may be spread over multiple servers in multiple jurisdictions. This kind of activity is so recent a phenomenon that it would be impossible to see how existing taxation frameworks could adequately cope.

Finally, governments are likely to be most concerned about the potential for tax evasion and other forms of non-compliance among the emergent digital world. It is doubtful that the current levels of resources applied to detecting such activity are sufficient, and fiscal authorities will need to make significant investments over the immediate term. Experience suggests that this may take priority over the highly necessary thought leadership that must occur in the field of multi-jurisdictional taxation; this would be a shame though, as a more suitable approach would be to invest in both a continually relevant taxation framework and a robust approach to tax crime.

For certain, the next 10 years will be something of a rollercoaster in the field of global direct and indirect taxation as all stakeholders seek to keep track of where economic growth is taking place, the nature of transactions occurring in

the online world, and where wealth is being accumulated. However, Generation Y has shown an incredible capacity to collaborate among itself in the digital space.

Companies would be wise to take a fresh look at the assets they have, and the assets they are creating, and ask whether they are in the optimal location for value accretion. Chris Anderson has highlighted the potential increased value of archived material. New sources of income, from the exploitation of new routes to market for traditional content, to the monetization of social networks should be carefully evaluated. This should include a reassessment of the impact of brands and software; regardless of wider developments these should remain key value drivers and can yield to established valuation techniques.

Moreover, planning around emerging value drivers is best done when they are in their infancy; it can be much harder and costlier later on. Appropriate internal policies, such as those setting transfer prices, should also be in place from the outset to help ensure risks are managed and opportunities maximized.

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Recommendations rock

Search engines dominate the battle both to capture and to monetize consumer attention, says KPMG's Lars Mouritzen. But recommendation engines promise to be the "next big thing" that Generation Y are likely to latch onto

Did you fail to spot the advent of the blog? Do you know what social networks are for? Do you think that a virtual universe is an interesting way to start new businesses? Or to collaborate across diverse regions?

If you find new media bewildering, you are not alone. Since the late '90's, we have been engulfed by wave upon wave of internet-driven cultural phenomena with no let-up in sight. For media companies, this creates challenges.

Every 'next big thing' carries both commercial opportunity and threat. This is as true for core media players as it is for those converging into media, like telecommunications or technology companies. For them, bewilderment is simply not an option, even if there is no certainty about Generation Y's next move.

Surviving and thriving in this unruly environment requires a clear understanding of what works commercially, and why. This article seeks to examine that, then looks at recommendation engines as the 'next big thing'. Finally, it draws out implications for media businesses.

Search for the money

Measured against any commercial yardstick, search engines are among the clear winners in the online world. They are spearheading online advertising growth, the main source of income for online media so far. Search engines have created a whole new category of advertising – paid-for search – that accounts for forty to 50 percent of total online advertising revenues. According to Jupiter, an internet research company, search will be the fastest-growing segment as online advertising heads towards ten percent of U.S. advertising revenues by 2011.

Investors value this expected growth. Google, which is estimated to have just half of online searches, is at the time of writing worth almost as much as Disney and Time Warner combined. Or you could cash in Google for Yahoo!, eBay and Amazon but still have enough to pick up Viacom or CBS as well. So, for all the talk about Web 2.0, social networks, creative commons, mobile and web integration – search seems to be where the money is. Why?

Money in media

In media, money stays close to consumer attention. Search generates cash thanks to its ability to capture online consumers' attention, and its extraordinary ability to monetize that attention.



The early internet was defined by a huge volume and variety of content, most of which was text because of bandwidth constraints. Search engines have captured consumer attention because of their ability to navigate this world.

How search engines monetize attention is more subtle, but arguably even more important, than how well they capture attention. Firstly, search engines are very effective at tailoring ads to individuals. The ads on Google's results pages are automatically generated using the words from the search. Secondly, Google places ads on content pages that are relevant to the content and, therefore, probably of relevance to the audience. In either case, the probability of response increases.

Crucially, search engines do all of this on an industrial scale. They aggregate the audience attention fragmented across billions of web pages. Then every individual fragment of attention is matched up to precisely the advertiser who will pay the most for that attention, and the full monetization potential is captured.

MySpace, which served up almost one in every five display ads viewed online in June last year, according to Nielsen/Netratings AdRevelence, agreed a revenue-sharing deal with Google when squaring up against the challenge of monetizing its search traffic. Google will pay Fox Interactive Media (who own MySpace) around US\$900 million over the next three years in return for the right to monetize the Myspace and other Fox search traffic.

Many have taken this as further evidence of search engine pre-eminence, even if the deal looks attractive for Fox. Although capturing consumer attention might be an open game, everybody from the largest player down requires at least some search engine help in monetizing it.

The next big thing?

Will there be a 'next big thing' that will capture and monetize online consumer attention on an industrial scale? Or will the search engine continue to rule?

Social media networks have so far proven very powerful at capturing Generation Y attention, and they seem to be moving into the mainstream. However, it remains to be seen how adept social networks will prove at monetizing that attention without search engine input.

Search engines are among the clear winners in the online world. They are spearheading online advertising growth, the main source of income for online media. They have created a whole new category of advertising – paid-for search – that accounts for 40 percent to 50 percent of online advertising revenues

Another interesting development underway might provide a more compelling candidate for 'next big thing'.

As internet bandwidth and storage availability grows, richer media, like music, TV, movies and user-generated video are increasingly capturing the attention of consumers online. The music industry has already experienced this, to its cost. Now TV and film executives are nervously preparing for the migration of video online. Google's US\$1.6 billion acquisition of YouTube has not helped to steady nerves. As rich media online increase, the challenge of navigating them will rise.

Navigating rich media

Search engines face a huge challenge in navigating rich media. The digital text of a news item necessarily contains within itself the words needed for a search engine to identify it. A digital video does not. It carries a host of instructions about arranging pixels on a screen and generating audio output, but that does not tell a search engine what is on the video. Unless somebody attaches words– so-called metadata, or data about data– to the video, the search engine can't find it.

Creating metadata for rich media is a serious challenge. The problem is anticipating the ways users try to navigate to the media.

A marine biologist might type "mancalias uranoscopus" if looking for the deep sea angler fish featured in Pixar's Finding Nemo. But a young fan might look for a "big scary fish in nemo." Unless the video contains these descriptions, the engine can't find it.

With millions of hours of archive in existence, and further millions of hours of footage produced each year, the challenge of adding metadata is enormous.

One of the emerging solution to this problem is to leave metadata creation to the users. Flickr does this by letting users 'tag' photos, describing them and linking to other photos. digg facilitates similar peer recommendations for news content, while del.cio.us does the same for web content in general.

Navigating via user-generated metadata require active input from many users, and some observers are skeptical about the appeal beyond Generation Y. An alternative is to capture transactional data, such as those that power recommendations on Amazon and iTunes.

Revealed preference

The transaction-based recommendation engine (for example using collaborative filtering, enhanced by behavioral monitoring) is interesting as one of the candidates for the 'next big thing' for five reasons.

Firstly, it requires no additional effort from users beyond transacting, for example by purchasing or downloading. Secondly, a transactional recommendation might be more useful to consumers than a high-ranking search result. Search result rankings are based on links which, like talk, might be cheap. Transactions on the other hand put your money where your mouth is.

Thirdly, there are network effects in any recommendation engine. The more transactional data, the better the recommendation. Further, transactional data is completely proprietary. The music labels can't access iTunes' knowledge of which users bought which songs, and neither can Google. This suggests a winner-takes-all competitive dynamic, where the site accumulating the most transactions wins. Is this a big contributor to Amazon's success in books and iTunes' dominance of online music?





Fourthly, recommendation may be a better solution for navigating rich media in mobile devices, as search can be unwieldy when screen sizes and keyboards are small. Napster already uses recommendation to drive mobile navigation.

Finally, recommendation engines might be less reliant than, for example, social web sites, on search engines in monetizing consumer attention. The emergence of the long tail hints that recommendation may outperform search in navigation of rich media. Further, recommendation engines might work for contextual advertising around rich media, using accumulated data about the type of content you consume.

Implications for media companies

Firstly, search will probably not decline in absolute terms. But consumers will spend more time navigating rich media. A scramble to earn the right to capture transactional data seems likely. This means owning or controlling content sites like iTunes, where consumers transact with rich media. Companies are also going to start looking around for proven recommendation technology

In music, iTunes has a head start. If recommendation engines rule, then the accumulated transactional data gives iTunes a very strong position. Meanwhile, in TV, the game is still wide open. No one has yet managed to establish an iTunes equivalent for video. Most content owners are trying to set up their own sites and have largely been shy of making their content available on-demand on third party sites like iTunes. Film is much the same.

The joker in the pack is the extent to which it may be possible to cross-refer successfully across different media types. Sites like Yahoo! have a very rich set of different types of content, including video, music, text and user-generated content. Can Yahoo! successfully recommend videos on the basis of, say, a user's transactions in music and blogs?

If so, the rules of the game change again. It will become critical to determine which types of content work well together in generating powerful recommendations and aggregating that content in new propositions. In any case, recommendation engines could prove a counterweight to unrestrained search engine power.

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