

CPRF 2006 – Darren Sharp (Smart Internet CRC, Swinburne University)
The Digital Services Economy: Understanding Next Generation Internet Users
Refereed Academic Paper

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Abstract

The widespread take-up of broadband, increased media literacy and user sophistication in advanced economies is enabling the development of Internet-based services that feature user-led innovation, group-formation, many-to-many communications and peer collaboration. These new services enable qualitatively different business and social relationships to emerge than were possible using earlier media forms. Interoperability between different platforms using XML and Web services creates the conditions for more fluid forms of interaction to occur between media providers and end users. Advanced search algorithms and lightweight publication protocols like RSS (Really Simple Syndication) have unsettled the established one-to-many broadcast media model. Millions of users with access to these services have the opportunity to personalise their media lifestyle experience by pulling together syndicated, aggregated and customised content. Internet-based services have the potential to radically transform the mass-market media and entertainment sector and re-define traditional value chains of production, distribution and consumption.

This paper will present an overview of recent Smart Internet Technology CRC research on the digital services economy and in particular focus on some emerging Internet-based innovations that empower users to create, collaborate and share information in profoundly new ways. Groupware such as online social networking applications, blogs and wikis signal an important shift towards user-generated content and network-enabled collaboration. This paper will investigate the significance of “Web 2.0” market developments and related social tools like RSS feeds, media-sharing platforms, and mashups in the context of broader trends in user-led innovation. This paper will also present a value networks map to foster understanding of the complex user-led forces shaping the take-up and “co-creation” of emerging Internet-based services.

Next Generation Internet Users

The media and entertainment sector is experiencing a rapid period of transformation. The traditional broadcasting and publishing model of distributing professionally produced content to mass audiences is changing. This paper will examine how the next generation of Internet users are no longer reliant on the narrow decisions of traditional gatekeepers like programmers, editors and advertisers. It will be shown that increasing numbers of these users partake of a media lifestyle that is personal, participatory and pull-driven. The unfolding networked media space provides an ever expanding choice of audio/visual content, applications and rich user experiences. The Web is now the platform connecting users to an endless variety of social, media, financial and entertainment services.

This plethora of choice is being accelerated by a range of Web innovations that empower users to create, collaborate and share information in profoundly new ways. Groupware such as online social networking applications, blogs (Web-logs) and wikis (group-edited Web pages) have attracted millions of passionate users leading to the emergence of novel services that take advantage of network-enabled collaboration. These services pose a number of challenges and opportunities for media organisations and communications policy makers more broadly.

An examination of recent market developments and investment decisions illustrates the commercial importance of these emerging platforms. The most high-profile of these was News Corporation's acquisition of the popular social networking site MySpace.com for US\$580 million in June 2005.¹ MySpace forms the centrepiece of Murdoch's interactive media strategy and serves as a test bed for talent scouting, trend spotting and viral marketing campaigns.² The site achieved 100 million registered accounts in August 2006 gaining notoriety along the way for its controversial user-generated profiles, the product of its hormone-enhanced teen demographic.³ News is using MySpace as a cross-promotional vehicle to sell episode downloads of the hit Fox TV series *24* with other popular shows like *The Simpsons* and *Family Guy* likely to follow.⁴ The success of MySpace led Google to sign an exclusive search and keyword advertising deal with News worth US\$900 million, more than vindicating Murdoch's initial investment.⁵

The group-forming power of many-to-many platforms has resulted in similarly strong levels of user take-up for a number of related services. The blogosphere (collective blog ecosystem) continues to experience phenomenal growth with over 175,000 blogs created daily.⁶ The blog search engine company Technorati was tracking over 50 million blogs in the United States market alone in August 2006.⁷ In wiki related developments, the collaborative knowledge platform Wikipedia celebrated the publication of its one millionth English-language article and maintains a growing base of over 1.5 million registered users.⁸ These figures illustrate the rapid rate at which many of these new Internet services are being adopted by millions of users around the world.

Other Web-enabled developments like photo and video sharing, mapping, mashups and user-generated content provide cues to lifestyle trends and future service innovation. Services like Flickr (photos), YouTube (video) and MySpace (social networking) provide community-building platforms that give peers the opportunity to develop and maintain

social relationships across cities the world over. Such technosocial systems facilitate a range of social practices and provide users, enterprises and governments with powerful tools to leverage the collective knowledge and social networks of their peers, customers and citizens.

The Rise of Web 2.0

Much attention has been given to the various social platforms that emerged in the wake of the dotcom bust. Starting in 2004 a number of converging trends began to reach a tipping point with the mainstreaming of user-friendly Web publishing and distribution tools like blogs, wikis and RSS feeds (Really Simple Syndication); the growing ubiquity of hardware like digital cameras, MP3 players (iPod) and camera-enabled mobile phones; increased bandwidth, memory and storage capacities; and the widespread take-up of broadband. Driving these changes were the increasing numbers of users committed to participating in the collaborative production of the content they consumed.

Enterprising Web mavens Tim O'Reilly and John Battelle began the task of building a discourse around the term "Web 2.0" as a means of normalising these somewhat nebulous set of changes. In October 2004 O'Reilly Media and Media Live International hosted the first Web 2.0 conference in San Francisco and in doing so launched an overnight movement. A fever-pitched excitement surrounded much early discussion of the true significance of Web 2.0. The rhetoric was dominated by a combination of investment hype, renewed optimism for industry rejuvenation and praise over the power of increased user involvement in the development of new Web platforms, services and content.

Critics like Nicholas Carr have suggested the Web 2.0 movement puts forward an overly optimistic view of technology's ability to effect social change.⁹ This overlooks the longer term potential for the emergence of what Doug Rushkoff refers to as a "society of authorship" as the public develop new literacies through the use of blogs and wikis.¹⁰ Provisional in essence, Web 2.0 signifies the next major iteration of the medium's historical development. One of the major themes of Web 2.0 is Tim O'Reilly's idea of the "Web as platform".¹¹ This concept attempts to capture the changes that have taken place through a range of new services that plug into the Web's architecture by previously inaccessible means. Evidence for this can be found in Google, Amazon and eBay's decision from 2004 onwards, to open their platforms to third-party developers, welcoming their contributions as co-creators. They achieved this by releasing their Application Programming Interfaces (APIs) to the public, enabling a raft of novel services to be "mashed" together in surprising combinations.

Numerous case studies illustrate how the shift towards a "Web as platform" model facilitated an upsurge of creativity by amateur programmers. Developers like Joshua Tauberer quickly grabbed the opportunity to "mashup" these newly available data sources. The 22-year-old University of Pennsylvania graduate won the first ever Technorati software development contest for his project GovTrack.us, a free website that aggregates up-to-the-minute news and blog feeds on topics related to the passage of legislation through U.S. Congress. The site uses Web Services software like Extensible

Markup Language (XML) that plugs into Technorati's API to track what bloggers are saying about bills as they make their way through the corridors of power.¹² Numerous other "mashups" abound such as Chicago Crime (mapping & crime data) and Live Plasma (Amazon products & visual search).

Rather than some epochal shift it is argued that Web 2.0 developments merely build on the Web's inherent malleability, a legacy of its founding architecture known as the TCP/IP protocol suite. It was from this bedrock that Tim Berners-Lee fashioned three standards URL, HTTP, and HTML that gave rise to the World Wide Web. Popular Web 2.0 development protocols like XML, Ajax, RSS and Web Services take this a step further by allowing much tighter levels of interoperability across multiple platforms and integration of microcontent from an infinite variety of data sources.

It is this interoperability between different platforms—a "small pieces loosely joined approach"—that defines most Web 2.0 services (Weinberger 2002). This creates the conditions for more fluid forms of interaction to occur between media providers and end users. Ajax programming techniques use JavaScript to create dynamic Web applications that update changes without the need to reload pages. Advanced search algorithms and lightweight publication protocols like RSS have unsettled the established one-to-many broadcast media model.

These new services enable qualitatively different relationships to emerge over earlier media forms. Millions of users with access to these platforms are now able to personalise their media lifestyle experience by pulling together syndicated, aggregated and customised content. A plethora of niche offerings have become available through the infinite shelf space of the "Long Tail" (Anderson 2006). Leading Internet companies like Amazon, Google, iTunes and eBay have leveraged the Long Tail to create micromarkets in advertising, books, collectibles, mp3 downloads, CDs and DVDs. Amazon derives more than half of its book sales from outside its top 130,000 titles by taking advantage of the Long Tail effect of network economics (Anderson 2006). Google's huge advertising revenues have been driven by the aggregate demand of small advertisers buying key word matches through the hugely popular search engine.

The traditional model of one-to-many broadcast media is being replaced by many-to-many and one-to-one forms of social media that are collaboratively filtered and cooperatively shared amongst globally distributed networks of peers. Networked consumers have become empowered by leveraging their community of peers. These models are subverting the structural inequalities between producers and consumers. These information asymmetries have been subverted as more consumers turn to sites like TripAdvisor, Epinions, and kulist to compare companies' offerings and deconstruct their brand speak. Creators of niche goods, services and content are able to connect with new audiences through the social selection process made possible by recommendations, tags, reviews and bookmarks. Other forms of user-generated microcontent likes blogs, wikis MySpace and YouTube are diverting audiences away from traditional media channels.

Media proprietors face intense competition from a range of new services in the battle to win the attention of the global Web community. Audience fragmentation is occurring at a rapid pace as less time is spent consuming traditional media. This was starkly illustrated in July 2006 when the four largest American TV networks recorded their lowest ratings on historical record.¹³ Advertisers are migrating online as evidenced in Australia where free-to-air television sponsorship contracted 0.08% in the 6 months to June as Internet advertising grew by 60% in the 12 month period.¹⁴ Meanwhile video-sharing services, social networks and digital games continue to add millions of new members to their growing user communities. News, sport and entertainment remain of central importance in people's lives. It is argued that major changes are taking place regarding the way users find, consume and relate to the media choices available. Generations of expensive push marketing campaigns have taken their toll on a media saturated generation. Telling people which products to buy and brands to trust is not a sustainable long-term proposition. Users now navigate through an environment of media overload by turning to trusted social networks and peer communities for advice, recommendations and reviews.

The strategic importance of Web 2.0 platforms to the biggest market players can be evidenced in a string of recent acquisitions. Search-and-services leaders Google, Yahoo! and Microsoft are in a clear race to capture Web 2.0 market share and have purchased a raft of sites through which they hope to gain competitive advantage over rivals. Interestingly very few of the Web 2.0 building blocks have come out these companies respective R&D labs. Google has been on a non-stop shopping spree in the last few years most notably acquiring Pyra Labs (Blogger), Picasa (Photo Management), Keyhole (Mapping), Dodgeball (MoSoSo) and Writely (Collaborative Word Processing).

Yahoo!'s decision to purchase social bookmark leader Delicious, along with photo-sharing site Flickr and calendaring service Upcoming, signalled their firm adoption of a Web 2.0 strategy as a measure to counterbalance the dominance of Google. Yahoo! also released a beta homepage re-design which incorporates Ajax functionality with a more user-focussed interface that emphasises "personalization, news content and community".¹⁵ Meanwhile Microsoft has reorganised the company into three divisions and employed Ray Ozzie (Groove Networks) to drive their software-based services strategy.¹⁶ The software giant hopes its Windows Live platform will re-position its business away from the desktop towards Web-driven services like search, mail, mapping and media sharing.

The media giants have pursued popular sites like MySpace, Flickr and YouTube as vigorously they would the Holy Grail. These services represent a new breed of technosocial systems that are driven by the minute-to-minute contributions of users in the form of tags, commentaries, user profiles, photos, video and music clips. They have succeeded by putting users in the driver's seat. This anti-intuitive move enabled Web 2.0 companies to forge a new path hand-in-hand with the collective participation of their users. This new found belief in the "wisdom of crowds" sent a strong signal that the rules of the game had permanently changed (Surowiecki 2004).

The User-led Movement

From the evidence presented it is clear that the Web has become the habitat for a new media ecology that is remarkably complex, adaptive, and self-organising. At the heart of these fundamental changes are the shifting value networks of media production, publishing and distribution. In the aftermath of the dotcom bubble it became clear that users wanted more from the Web than simple two-way interaction. A new dimension of user experience began to take shape as people gained mastery over more complex tasks, whether writing Amazon reviews, rating fellow eBay traders, or creating Friendster profiles.

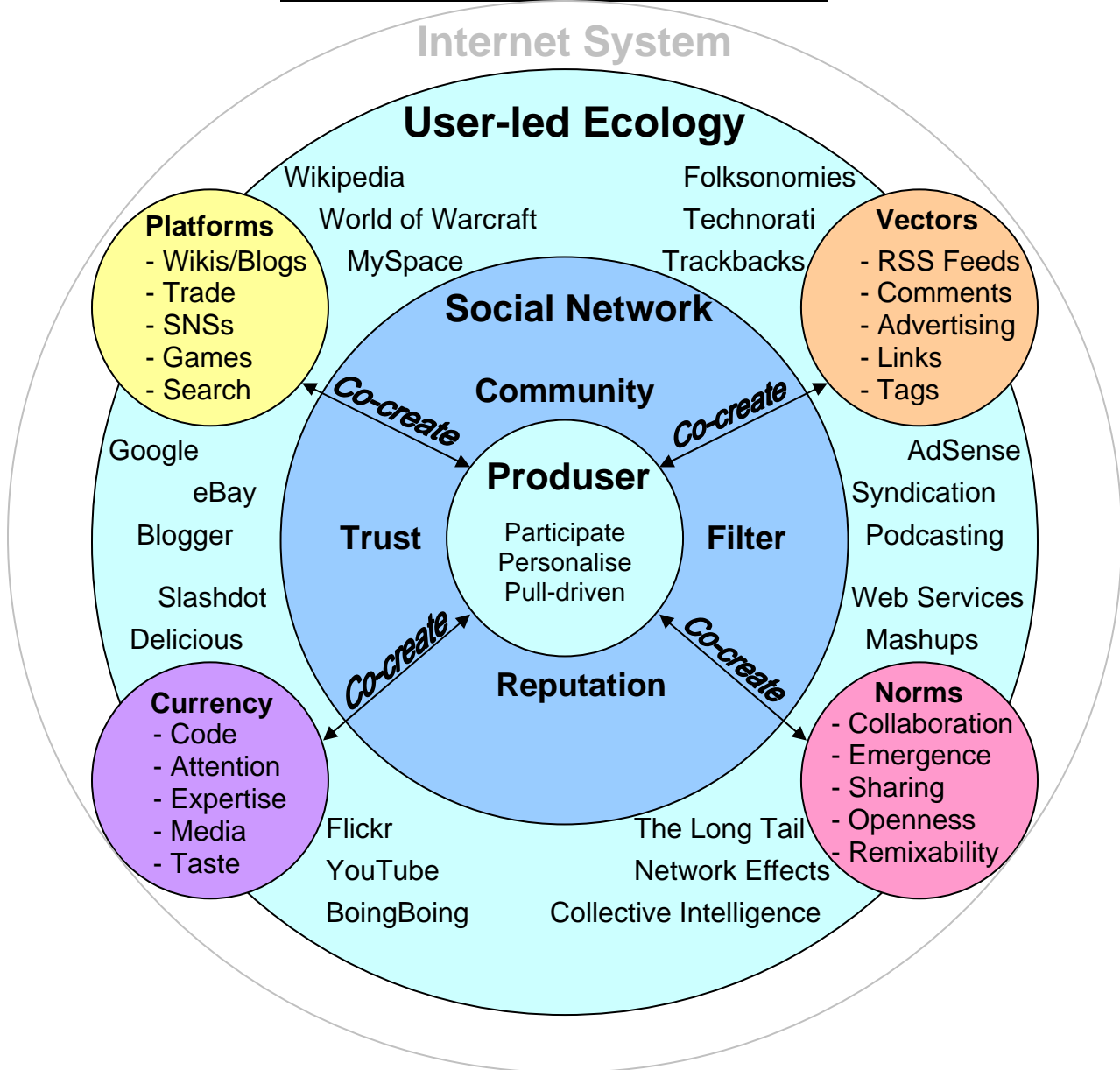
It has never been easier for people to tell their own stories, express their creativity and form communities of passion. A range of Do-It-Yourself (DIY) Web 2.0 platforms now give any user with access the ability to become a producer in a variety of social fields. This has spawned an entirely new understanding of authorship and content production in video (YouTube), games (Second Life), journalism (blogs), radio (podcasting), Web services (mashups), and knowledge production (Wikipedia).

Much press coverage of the user-led movement has focused on the lifestyle shifts associated with the current generation of teenagers known as the Millennials and their penchant for multi-tasking.¹⁷ The tone of this reporting has ranged from optimism over the potential for collaborative technologies to aid teaching and learning, to fear about the increased presence of lurkers taking advantage of unsuspecting youth through popular social networking services like MySpace.¹⁸ Suspect activity aside, the youth demographic are clearly early adopters of these technologies and their practices, preferences and tastes provide advance notice of future media usage patterns.

According to a 2005 survey by the Pew Internet and American Life Project: “Some 57% of online teens create content for the Internet. That amounts to half of all teens ages 12-17, or about 12 million youth. These Content Creators report having done one or more of the following activities: create a blog; create or work on a personal webpage; create or work on a webpage for school, a friend, or an organization; share original content such as artwork, photos, stories, or videos online; or remix content found online into a new creation” (Lenhart and Madden 2005). This data signifies a trend towards more participatory forms of new media production that are cooperative, involve some form of creativity and active user engagement.

Futurist Alvin Toffler in his book *The Third Wave* coined the term “prosumer” to denote a coming shift from passive to active consumption as mass production makes way for an era of mass customization (Toffler 1980). Building on this theme Australian-based media theorist Axel Bruns developed the term “produser” to capture these dynamics in information intensive environments (Bruns 2005). New models of participatory cultural production are needed to demonstrate the collapsing boundaries between producers and consumers engendered by the rise of user-generated content and platforms. The following user-led value networks map is the author’s contribution to this endeavour.

Value Networks Map



This map articulates the complex set of forces that constitute current User-led Value Networks. This pull-driven model emphasises the “produser” as the key actor through which media choices are made and value is created. The produser is nestled within their social network which they rely on to filter the inherent information overload associated with an abundance of choice. The social network thrives in an environment of trust in order to maintain the highest quality recommendations, reviews and feedback. Reputation can be won or lost depending on the validity of these insights. The produser and social network are themselves nestled within the broader “User-led Ecology” comprised of the multiplicitous sites, services, processes and rules governing this space. The co-created vectors, norms, currency and platforms function as attractors through which major change dynamics are expressed.

Media theorist William Uricchio (2004) has discussed the blurring of producer and consumer relations in digitally enabled communities in terms of its impact on the cultural public sphere and questions of citizenship. The shift towards “always-on” post-Fordist capitalist accumulation has resulted in labour practices intruding into leisure time. As John Hartley (2004) has articulated, the “value chain of meaning” has drifted to the consumer, audience or reader. Charles Leadbeater and Paul Miller relate these developments to a broader social trend they dub the Pro-Am Revolution. Their report for UK think-tank DEMOS defines Pro-Ams (Professional-Amateurs) as “innovative, committed and networked amateurs working to professional standards” (Leadbeater and Miller 2004). Neoliberal globalisation, the Internet, and the postmodern turn have all played their part to bring about these fundamental changes. Individual subjects have become the site for the production of value, meaning-making, creativity and innovation.

Business professors C.K. Prahalad and Venkat Ramaswamy from the University of Michigan have examined the impact of these changes on the corporate sector and developed a “co-creation” framework to describe new business–customer partnerships and their associated models of value creation (Prahalad and Ramaswamy 2004). Such participatory development via the Web— everything from software to advertising campaigns and game design—can also take place at the periphery of traditional enterprise structures and in many cases routes around them all together according to Yochai Benkler, Professor of Law at Yale University. Benkler suggests such “peer-production” networks represent a “third mode of production” that take place beyond the market and the firm and have the potential to reshape our society, politics and economy (Benkler 2006). Many of these systems are scalable, extensible, interoperable and engender the co-creation of cultural products that are collaboratively produced, rooted in cooperation between groups of strangers, and cleverly recombinant. The Free and Open Source Software movement were the original pioneers of a sophisticated feedback system of network-enabled collaboration that culminated in the GNU-Linux operating system. This has inspired other modes of collective production behind the successful take-up of user-led services. Users can now collaborate with peers through globally distributed platforms to “co-create” all manner of products, services, and knowledge via the Internet.

As barriers to entry continue to fall and media literacy increases, people are using the Internet as a platform for a range of everyday practices, which leads to the emergence of new participatory systems of production, access, and distribution. The merging of producer and consumer roles is changing the way companies innovate and gives users much greater say in product and service development. Eric Von Hippel, Professor of Management and Innovation at MIT has explored these practices through his notion of “user-centred innovation”. His research findings reveal that “lead users”, both firms and individual consumers, are increasingly involved in ongoing product modification. These user-centred innovation processes bring benefits in terms of problem-solving, product-testing and can provide community-wide solutions which are commercially attractive (Von Hippel 2005). Von Hippel has traced the evolution of user innovation practices across sectors as diverse as surgical instrumentation, open source software, sports equipment and the semi-conductor industry. The thread uniting these studies is recognition that organisations and individuals across the social spectrum are co-creating

products, services and platforms through an iterative process of network-enabled collaboration.

The technosocial transformations associated with Web 2.0 platforms, practices and technologies have led many organisations to re-think how they engage with their audience, customers and citizens. Broadcasters like the BBC have embraced trends in user-generated content and citizen journalism in crafting their new media strategy around the social media concepts of “find, play and share”.¹⁹ Netscape has risen from the ashes of the ‘90s browser wars to reinvent itself as a 21st Century social media news portal. Parent company AOL released a site beta in June 2006 that incorporates community ranking features based on the popularity of stories and the opportunity for users to submit their own content.²⁰ Netscape also hopes its newly appointed General Manager—blog maestro Jason Calacanis—will bring his wealth of experience as founder of Weblogs Inc., across to the new venture.²¹ Shareholders are hoping this re-positioning can lift the fortunes of the famous brand by emulating the success of other already established collaborative filtering platforms like Slashdot and Digg.

Users, industry groups and policy makers have an important role to play in the collaborative development of this space. The discussed changes to the production, distribution and consumption of media content and services unsettle established hierarchies, disrupt market leaders and provide opportunities for new creative players. It is incumbent on all stakeholders to strike an equitable balance between market demands and the need for ongoing user participation. Achieving the right mix of commerce and community will be instrumental to the future success of this nascent sector.

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