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## Abstract

Since Tim O'Reilly coined the phrase in 2004, there has been much ado about Web 2.0 as a democratizing force – a global conversation characterized by “grassroots participation, forging new connections, and empowering from the ground up” (Granick, 2006). Technological utopians claim that Web 2.0 is revolutionizing our political processes by encouraging user participation and open discussion of social issues. Additionally, Web 2.0 has become an industry buzzword haphazardly attached to any start-up seeking venture capital (Gilman, 2007). With the ubiquity of sites like Twitter, Facebook, and YouTube, many online businesses are eager to capitalize on the tantalizing idea behind Web 2.0: create a site and have users do most of the “grunt” work in the site-building process for free via user-generated content. However, in spite of these assumptions, Web 2.0 sites have failed to produce results to justify this optimism. This paper aims to challenge two commonly held notions regarding Web 2.0. First, that it facilitates open discussion of social issues, thereby acting as a democratizing force in society, and second, that it is a largely successful and lucrative business model. In doing so, the paper suggests that Web 2.0 constitutes a second coming of the dot-com bubble.

**Keywords:** Web 2.0, Facebook, Twitter, YouTube, venture capital, Bubble 2.0, Tim O'Reilly

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### Introduction

Since Tim O'Reilly coined the phrase in 2004, there has been much ado about Web 2.0 as a democratizing force – a global conversation characterized by “grassroots participation, forging new connections, and empowering from the ground up. The ideal democratic process is participatory and the Web 2.0 phenomenon is about democratizing digital technology” (Granick, 2006). Technological utopians claim that Web 2.0 is revolutionizing our political processes by encouraging user participation and open discussion of social issues (see Kelly 1999, Gilder 2000). Additionally, Web 2.0 has become an industry buzzword haphazardly attached to any start-up seeking venture capital (Gilman, 2007). This should come as no surprise, as in 2009, the most popular word in the English language was “Twitter” (Vargas, 2009), Facebook officially registered its 350 millionth user (Corbin, 2009), and YouTube reported that it receives over a billion views per day (Peck and Tancred, 2009). With the ubiquity of sites like Twitter, Facebook, and YouTube, many online businesses are eager to capitalize on the tantalizing idea behind Web 2.0: create a site and have users do most of the “grunt” work in the site-building process for free via user-generated content. However, in spite of these assumptions, Web 2.0 sites have failed to produce results to

justify this optimism. This paper aims to challenge two commonly held notions regarding Web 2.0. First, that it facilitates open discussion of social issues, thereby acting as a democratizing force in society, and second, that it is a largely successful and lucrative business model. In doing so, the paper suggests that Web 2.0 constitutes a second coming of the dot-com bubble – “Bubble 2.0” (The Economist, 2005).

#### “Irrational Exuberance”: A Background of the Dot-com Bubble

In January 2000, Pets.com aired a thirty second commercial during the Super Bowl featuring its trademark sock puppet mascot for a reported cost of \$1.2 million (Ewalt, 2005). Shortly thereafter, in February 2000, the company raised \$82.5 million in an initial public offering (Bowery, 2005). The site, which sold pet food and accessories over the Internet, reported revenues of \$619,000 in its first fiscal year and advertising expenditures of \$11.8 million (Cheyfitz, 2003). Nine months later, the company announced its liquidation.

Pets.com offers one of the most illustrative examples of the failures of the tech boom of the late 1990s and early 2000s. During this period, rabid speculation drove up the price of tech stocks under the auspices of the so-called “New Economy” (Konrad, 2000). Experts, envisioning “a networked world in which the Internet is a limitless marketplace of information, entertainment, products and services” (Lohr and Markoff, 1998) claimed the Internet would revolutionize the way business was conducted in the 21<sup>st</sup> century. Tech entrepreneurs, spurred on by eager financiers, poured millions of dollars of venture capital into online startups without any viable revenue stream. If the Internet was the way of the future as investors presumed, then establishing market share early in the game would be necessary for future prominence in the e-commerce landscape. Investors accepted what they believed to be short

terms losses under the assumption of astronomical long-term market growth (Daly, 2010). These early losses were justified as the cost required to establish market share, which could later be exploited once the Internet became the dominant avenue through which consumers bought goods as speculators anticipated. As valuations soared, simple business principles of value, profit and return on investment were overlooked in favour of market-share (Daly, 2010). Page hits – a perceived bellwether of market share – became the sole measurement of a company’s viability and value.

The NASDAQ index of leading technology steadily ballooned from under 1000 in 1995, to an all-time peak of 5,132.52 on March 10, 2000 (Daly, 2010). Within six days of this peak, the NASDAQ dropped 9 percentage points (Madslie, 2010). In the following months, as stock prices plunged, \$5 trillion of market value was wiped from the NASDAQ (Gewirtz 2009).

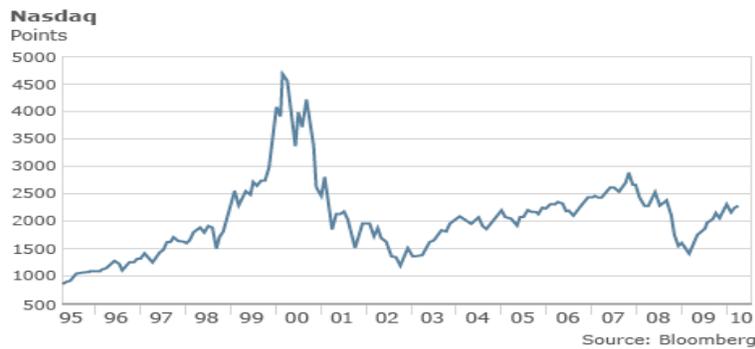


Figure 1. NASDAQ 1995-2010 (Madslie, 2010)

Unbridled optimism about the future of Internet had bred wild speculation in the marketplace. This optimism was based on bold assumptions, not reasonable financial assessments: unshakeable investor confidence in Internet businesses overtook the traditional indicators used by investors such as price-to-earning ratios (Daly, 2010). Characterized by then Federal Reserve Chairman Alan Greenspan as “irrational

exuberance” (Uchitelle 1997), the mentality of the dot-com bubble was based on unquestioning belief in the future of the Internet rather than reasonable assessments of the present.

### Defining Web 2.0

Before an examination of Web 2.0 can commence, a definition of the term is necessary. When O’Reilly developed the Web 2.0 concept, he identified specific features that characterize Web 2.0 sites. In O’Reilly’s estimation, Web 2.0 is defined primarily by its contrast to Web 1.0. Where Web 1.0 is static and unidirectional in its distribution of content, Web 2.0 is open, multi-directional in its flows of content, ever-changing, and participatory by nature (O’Reilly, 2005). Web 2.0 sites rely on user interaction, collaboration, and production of content in contrast to Web 1.0 sites, many of which flourished in the late 1990s and early 2000s that centered on publishing, subscription, and pay-for-service software. O’Reilly (2005) provides a chart (see Figure 2) to illustrate Web 2.0’s divergence from Web 1.0.

<b>Web 1.0</b>		<b>Web 2.0</b>
Double Click	→	Google Adsense
Ofoto	→	Flickr
Akamai	→	BitTorrent
mp3.com	→	Napster
Britannica Online	→	Wikipedia
Personal websites	→	blogging
evite	→	Upcoming.org and EVDB
domain name speculation	→	search engine optimization
page views	→	cost per click
screen scraping	→	web services
publishing	→	participation
content management systems	→	wikis
directories (taxonomy)	→	tagging (“folksonomy”)
stickiness	→	syndication

Figure 2. O’Reilly: Web 1.0 vs. Web 2.0

Where Web 1.0 functioned by providing content to users through publishing, Web 2.0 engages users in the act of content production. As O'Reilly's (2005) chart suggests, Web 2.0 is conducive to sites that rely primarily on user-generated content such as wikis, peer-to-peer sharing sites, social networking sites, open-source software, and blogs. The emergence and pervasiveness of such sites indicates a shift toward a participatory model for the Internet (Jenkins, 2006). These sites share common elements that encapsulate the Web 2.0 mantra, "Web as a platform". O'Reilly writes:

Web 2.0 is the network as platform, spanning all connected devices; Web 2.0 applications [are] delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an 'architecture of participation,' and deliver rich user experiences (O'Reilly in Scholz, 2009).

However, there has been significant criticism of the term Web 2.0 itself. Many have suggested that the features that characterize Web 2.0 have been in place since the 1990s. For example, eBay and Amazon employed user-response systems long before the Web 2.0 concept emerged in 2004 (Goldsmith and Wu, 2006: 131). As Tim Berners-Lee (2006), creator of the world wide web, states: "Nobody really knows what it means [...] If Web 2.0 for you is blogs and wikis, then that is people to people. But that was what the Web was supposed to be all along". A report issued by Fox and Madden (2006) for the Pew Internet and American Life Project reiterates the impreciseness of the Web 2.0 label: "Still, there has been little consensus about where 1.0 ends and 2.0 begins. For example, would usenet groups, which rely

entirely on user-generated content, but are not necessarily accessed through a Web client, be considered 1.0 or 2.0?” Marc Andreessen, founder of dot-com giant Netscape, claims the ambiguity and broadness of the Web 2.0 label have resulted in rampant misappropriation of the term. This in turn has led many to overlook whatever conceptual substance exists, and “dismiss the whole category as trendy marketing hype full of me-too wannabes and in the process throw out the baby with the bathwater” (Chen, 2007).

Regardless of the debate over the validity of the term – whether or not it is merely a piece of jargon – there is a commonly held understanding of Web 2.0 as a digital meme (O’Reilly, 2005). That is, Web 2.0 is best understood as a loose and evolving concept, albeit an inexact one. Although it cannot be pinned down with any rigid definition, Web 2.0 is defined primarily as a shift in the nature of the Internet toward an open, participatory, collaborative model characterized by multi-directional flows of content. Web 2.0 sites like Twitter, Facebook, YouTube, MySpace, and Wikipedia operate around the “Web as a platform” concept where users are responsible for the production, consumption, exchange, modification, and dissemination of content (O’Reilly, 2005). The significance of the shift toward Web 2.0 has been profound, and has inspired lofty speculation from experts about the democratic and financial potential of Web 2.0.

#### Web 2.0 as a Democratizing Force

Since the emergence of Web 2.0, its potential as a democratizing force has been widely discussed. The basis for this claim stems from its ability to facilitate discussion, interaction, collaboration, exchange, as well as other forms of peer-to-peer communication. As such, some have posited that Web 2.0 could resolve certain shortcomings of modern democracies that result largely from society’s inability to communicate effectively (Granick, 2006). John Dewey (1927)

argues that democracies require effective communication systems to allow citizens to discuss pertinent issues facing society. Without this communication, Dewey (1927) suggests a true democracy would fail to materialize: “Without such communication the public will remain shadowy and formless [...] Till the Great Society is converted in to a Great Community, the Public will remain in eclipse. Communication can alone create a great community” (144). As a result of its participatory, peer-to-peer nature, some regard Web 2.0 as the revolutionary communication technology that Dewey foresaw.

For many, part of Web 2.0's allure as a democratizing technology is its decentralization of information (see Sholz 2008, Trend 2001). Where previously traditional forms of media were the only sources of information regarding local, national, and global issues, Web 2.0 provides a means for information to be provided by anyone, anywhere who has access to the Internet. As a result, Web 2.0 is seen as freeing the public from constricting perspectives of traditional media (Karaganis, 2007). Jurgen Habermas addresses the trade-off of Web 2.0; the escape from traditional media's agenda-setting and the resulting clutter of amateur news-coverage through citizen journalism that possess their own inherent forms of agenda-setting:

Use of the Internet has both broadened and fragmented the contexts of communication. This is why the Internet can have a subversive effect on intellectual life in authoritarian regimes. But at the same time, the less formal, horizontal cross-linking of communication channels weakens the achievements of traditional media. This focuses the attention of an anonymous and dispersed public on select topics and information, allowing citizens to concentrate on the same critically filtered issues and journalistic pieces at any given time. The price we pay for the growth in egalitarianism

offered by the Internet is the decentralized access to unedited stories. In this medium, contributions by intellectuals lose their power to create a focus (Habermas in Litwin, 2008).

As Habermas notes, the proliferation of news coverage by untrained, sometimes uniformed Web 2.0 users comes at a cost. Deteriorating standards of reliability, sourcing, and coherence are inevitable features of citizen journalism that undermine the information available to users (see Cammaerts 2008, Deuze, Bruns and Neuberger 2007). Since discussion of social issues is only relevant to democracy if it is based on reliable and accurate information, Web 2.0's coverage of news is rendered impotent by an inevitable feature of its design, specifically, its lack of quality control (Grominsky, 2010).

In 1927, Harold Lippmann, responding to John Dewey's (1927) claims, argued that the public was both unwilling and unable to handle the responsibility of formulating public opinion (Lippmann, 1925). According to Lippmann (1922), the world is "altogether too big, too complex, and too fleeting for direct acquaintance" and the public is simply too uninformed to handle the wide array of complex issues that face them. As an alternative, Lippmann (1925) argued that society's decision-making be left to experts and intellectuals who would then explain it in simple terms to the public through the mass media (198). Although the elitism of this perspective should not be understated, Web 2.0 embodies some of the follies that Lippmann feared: a citizen-controlled medium. Echoing Lippmann's skepticism of public opinion, new media critic Andrew Keen argues that the Web 2.0 transition will breed new challenges to public discussion of social issues which mirror traditional flaws: "instead of a dictatorship of experts, we'll have a dictatorship of idiots" (Keen in Flintoff, 2007). In a space in which contributors are proudly untrained or uneducated in relevant disciplines, the "wisdom of the crowd" is realized at the expense of expert opinion and commentary (Flintoff, 2007).

Moreover, the nature of Web 2.0 itself is not necessarily conducive to democratic discussion, as sites like Facebook, Twitter, LinkedIn, and MySpace ostensibly cultivate hyper-individualism (Thorne, 2008). Users are constantly under pressure to edit their profiles, update their statuses, upload pictures, and develop a virtual image of themselves – an avatar that reflects how they want to be perceived by others. What follows this individualism is a “cult of narcissism” in which users’ primary focus is how they will be perceived by others, and how they can present themselves in the most desirable light possible (Flintoff, 2007). Furthermore, when a user does move beyond this digital narcissism in Web 2.0, discussions they engage in are likely to be with other like-minded individuals (Keen, 2007). The “echo-chamber” effect described by Cass Sunstein (2007) asserts that users create a comfortable niche for themselves online and naturally avoid sites, groups, forums, or profiles that are likely to challenge or oppose their own personal views. As a result, online discussion is segmented and compartmentalized, thus eliminating hope for large-scale discussion between individuals and groups with oppositional views on social issues. Furthermore, this echo-chamber reaffirms and entrenches users’ perspectives on social issues. Naturally, this is a problem for democracy as a system that requires dissent, discussion, and debate:

People should be exposed to materials that they would not have chosen in advance. Unplanned, unanticipated encounters are central to democracy itself. Such encounters often involve topics and points of view that people have not sought out and perhaps find quite irritating. They are important partly to ensure against fragmentation and extremism, which are predictable outcomes of any situation in which like-minded people speak only with themselves (Sunstein, 2007: 5-6).

Additionally, Web 2.0 has been suggested as a way for political leaders to keep with the pulse of what the public wants from them. Many major politicians have Facebook, YouTube and Twitter profiles where users can post comments and find information (Arrison, 2008). For example, Facebook, Twitter, and YouTube were mentioned prominently in the coverage of the 2008 US presidential election. However, these amounted to little more than online public relations campaigns. Despite the fact that Barack Obama's Twitter page has 2.3 million followers, in a town-hall meeting in November 2009, Obama admitted he has actually never visited the site (Chacksfield, 2009). Ultimately, the Obama campaign was able to cultivate an illusory relationship between users and the candidate, one in which users falsely perceived a direct point of contact with Obama.

#### Flaws of Web 2.0 as a Business Model

During the dot-com bubble, commentators expounded that business would be revolutionized under the banner of eCommerce. In the era of Web 2.0, they promise a revolution of public opinion-making. In both these instances, technological utopianism blinds commentators from the realities of technological change (see Kling 1996, Gilder 2000, Segal 2005). Contrary to Dewey's (1927) unflinching faith in the future, the emergence of some unforeseen, democratizing technology that promises a utopian future has not yet materialized. It is clear that Web 2.0 does not, "[create] new ways to make government responsive to the public, and to magnify the individual power of each educated and informed voter" (Granick, 2006).

Aside from the claims regarding its democratic potential, the focus on Web 2.0 has centered primarily on its profitability. With the pervasiveness of sites like Facebook, Twitter, YouTube, and Wikipedia, many observers are convinced that these sites represent perfect business models for the digital age. One simply sets up a website, attracts

users, and the rest of the work is provided for free through user-generated content – the content provided by users through their use of the site. User-generated content manifests itself in a variety of ways depending on the site’s functionality but common forms include uploading pictures and music, commenting on articles, blogging, even banter on social networking sites (Zimmer, 2008). After establishing a platform to facilitate the creation of user-generated content, the site owner then sits back and collects money from advertising. Of course, this seemingly perfect arrangement has caught many businesses’ attention. Using willing, eager, and, most importantly, free labor in collaborative production, social networking, video streaming, and so forth, businesses have the simple task of facilitating this activity by providing a supporting infrastructure. This Web 2.0 business model has developed such hype that it is becoming the singular model by which new online businesses plan to make money (Jarvis, 2006). As a result, venture capital firms are seeing increasing numbers of pitches for businesses with a Web 2.0 framework:

Too many similar ideas are getting money and not enough are failing fast enough. That is because the one true innovation of Web 2.0 is that entrepreneurs have discovered how to start a company for less, using existing tools, and launching while still half-baked (Jarvis, 2006).

As Jarvis (2006) suggests, the Web 2.0 business model is not as foolproof as it seems. Facebook, the Web 2.0 poster-child, provides a useful example. In spite of its status as the ultimate Web 2.0 behemoth, it has not been as profitable as one might initially expect from its 2007 valuation at \$15 billion (Sloane, 2007). Although it boasts over 350 million registered users and is by far the most prominent and pervasive Web 2.0 business, it has only recently become cash-flow positive (Oreskovic, 2009). In September 2009, shortly after registering its 300 millionth user, Facebook reported

that it was “finally making money” (Oreskovic, 2009). This may seem counter-intuitive; how does a site whose content is produced entirely by users have enough expenses to negate the millions of advertising dollars it brings in? Facebook’s expenses stem primarily from the cost to maintain its enormous infrastructure. It has been cited that Facebook spends \$20 to \$25 million a year just to house its servers (Miller, 2009). Moreover, in 2008, Facebook spent \$1 million a month on electricity alone, \$500,000 per month on bandwidth, \$10 million dollars per year on its 800 employees and hundreds of millions of dollars purchasing servers – keep in mind that these costs have inevitably increased as its user-base has grown (Arrington, 2008). Facebook faces a dilemma in which its expenses rise in reaction to its ever-expanding user-base as it is forced to accommodate new users. Specifically, the cost for servers, storage, electricity, and Internet bandwidth inevitably increases as the user base grows. Since Facebook’s revenues are linked directly to the size of its user-base, the expenses it incurs are simply the cost of doing business.

This is not to say that Facebook is not highly profitable. However, the example of Facebook illustrates how difficult it can be for Web 2.0 sites (even the most successful Web 2.0 site) to turn a profit by relying solely on advertising for revenue. By demonstrating what Facebook would need to do to raise \$100 million, Buley (2009) illustrates the difficulty of raising money through advertising alone. For example, Facebook would need to:

- Show 34,100 ads to each U.S. woman on Facebook aged 35 and up, or convince all U.S. men aged 35 and up to click on 28 ads each.
- Show every U.S. high-schooler on Facebook 93,300 ads each, or get every U.S. college student on Facebook to click on 25 ads.

- Display 421,000 ads to each Facebook user living in Germany, or get all users living in China to click on 1,362 ads a piece.

In spite of the difficulty of extracting profits from Web 2.0 sites, many investors have been extremely optimistic. In 2006, in one of the biggest online deals since the NASDAQ crashed in 2000, Google purchased YouTube for \$1.65 billion (Goo, 2006). Considering YouTube had yet to turn a profit at the time of the sale, allusions to a resurging “bubble” mentality were aroused immediately. In 2009, Credit Suisse reported that YouTube would likely lose around \$470 million that year (Tartakoff, 2009).

The micro-blogging site Twitter faces similar problems. Despite its 1689% growth from February 2008 to February 2009 and its \$1 billion valuation, it is unclear how, if ever, Twitter will make money (Whitworth, 2009). There was some talk of partially converting Twitter to a paid service “Twitter Pro”, but it has yet to materialize (Frommer, 2009). If implemented, this paid-for service would be a move unabashedly oppositional to the central tenets of Web 2.0. Additionally, in September 2009, Twitter modified its terms of service agreement to include a clause allowing the site to advertise to users in return for its service. However, founder Biz Stone is adamant that if the site develops an advertising revenue stream, it will be “non-traditional” online advertising. Stone openly acknowledges the problems facing Twitter’s viability as a business: “I don’t know if we’re going to be profitable, but we have plenty of time” (Prodhan, 2009). After already receiving \$100 million of venture capital, Stone says Twitter is entertaining the idea of an initial public offering (IPO) as a means to generate revenue: “If an IPO’s the only thing, then sure. But if there is some other way then that would be great too. Maybe some other new way will emerge” (Prodhan, 2009). By looking to go public with no viable revenue stream and without a potentially profitable business model yet devised, Twitter offers perhaps the most

salient example of a Web 2.0 site embodying the mindset of the dot-com bubble of the late 1990s.<sup>1</sup>

### The Problem with Advertising-based Models

The crux of Web 2.0's struggle to garner profits is the apparent failure of advertising-based models. The majority of Web 2.0 sites are based around what Dallas Smythe (1978) called "selling eyeballs". Initially applied to broadcasting, Smythe (1978) described the triangular relationship between broadcasters, advertisers, and the audience. In this framework, the audience is sold to advertisers by broadcasters (hence, "audience commodity"). The audience submits to this relationship for the incentive of the "free lunch" provided by broadcasters (Smythe, 1978). This free lunch is the content of mediums, such as television shows, magazine articles, or the communication services provided by social networking sites. Web 2.0 is arguably based around this free lunch concept. As an open, participatory platform, Web 2.0 requires huge numbers of users have free access to online services; for Web 2.0 sites, the more users, the better the site will be. Since any pay-for-service model would surely limit the user-base, advertising has been seen as the only remaining means of making money. However, banner advertisements on Web 2.0 sites have been seeing woefully low click-through rates on advertisements. Even with its ability to target advertisements to users based on his or her personal profile, Facebook has seen exceptionally abysmal results from its advertisements:

The users appear to be too busy leaving  
messages for each other to show much

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<sup>1</sup> Since the writing of this article, Neil Manji, PricewaterhouseCoopers national IPO services leader, and other financial analysts, continue to question when or if the popularity of sites like Facebook and Twitter will translate into profits. For more, see Moretti (2011).

interest in advertising. Facebook's members appear indifferent even to movie advertising aimed at their demographic. Click through rates, the percentage of time users click on an ad, average 0.04%, just 400 clicks in every 1m views (Wellman, 2007).

Web 2.0's inability to capitalize on its user-base through advertising owes largely to the nature of the medium itself. Banner ads were the first and most rudimentary method of advertising that developed online (Choi and Rifon 2002, O'Reilly 2007). By crudely grafting traditional advertising techniques onto websites, businesses hoped to implement a strategy designed for billboards, bus stops, and newspapers in cyberspace. However, Web 2.0 has proven itself to be unsuited to such advertisements because of its participatory nature. Web 2.0 is what Marshall McLuhan (1964:22) would call a "low definition", "cool" medium: highly participatory, engaging, and requiring the user to not only extract meaning through comprehension, but also imbue meaning through user-generated content. Unlike the traditional television viewer, the Web 2.0 user is constantly immersed in the task of creating content. The immaterial labor of Web 2.0 – that is, the unpaid "labor that produces an immaterial good, such as a service, a cultural product, knowledge, or communication" (Hardt and Negri, 2000:290) engages user's senses entirely in the creation and consumption of content. In other words, the Web 2.0 user does not passively observe content as a television viewer or newspaper reader does. Instead, the Web 2.0 user is too busy tweeting, commenting on Facebook profiles, messaging friends, uploading pictures, downloading music, and editing Wikipedia entries to pay any mind to peripheral banner advertisements. The "massage" of Web 2.0 on the human sensorium (McLuhan, 1964) makes it unsuitable for traditional advertising techniques because the user's full attention is focused on the task of production or consumption.

Perhaps the greatest benefactors from Web 2.0's emergence have been the marketers, advertisers, news organizations, record labels, artists, and others who have harnessed its potential for disseminating content (promotional or otherwise) and monitoring trends. As a medium, it provides such businesses with a cheap and easy tool to *engage* users in interactions that are not advertising in the traditional sense (O'Reilly 2005, O'Reilly 2007). Moreover, YouTube view counts, Facebook "likes", Twitter trending topics, Google PageRank, and blog comments sections allow marketers to monitor up-to-the-minute trends directly, easily, and for free. This may be the ultimate folly of Web 2.0 as a business model: the majority of Web 2.0 sites facilitate marketing, promotion, "trend-spotting" and the dissemination of information in a way that cannot be monetized directly at this point in time.

### Conclusion

Earlier this year, The Economist (2009) boldly predicted an impending "end of the free lunch" of Web 2.0. As the figures suggest, the advertising model is simply no longer cutting it for Web 2.0 sites. Undoubtedly, these sites will be looking for alternative ways to extract profits from their enormous user-bases. However, these sites are forced to walk a fine line:

The social web is based on an underlying, but unstable social contract. From the point of view of the users this social contract stipulates that their attention is to be monetized through advertising, as long as it does not interfere with their sharing. If the interference crosses a certain line of acceptability, users will either revolt, or go elsewhere (Bauwens, 2008).

Additionally, claims of Web 2.0's democratizing potential are yet to be realized. In the political context, it appears Web 2.0 has amounted to little more than an avenue for public relations, half-baked political commentary, self-absorbed narcissism, and deafening chatter and consensus between like-minded users. Web 2.0 has not proven itself to be the revolutionizing communication technology that John Dewey (1927) imagined in the 1920s. Just as technological utopians overstated the revolution of the business world through eCommerce ten years ago, technological utopians are now heralding Web 2.0 as revolutionizing our political processes. Moreover, the bloated valuations, the \$1.6 billion dollar sale of YouTube to Google, and the apparent lack of profit-making schemes signal a dangerous return to the dot-com mindset of the late 1990s. In other words, the Web 2.0 bubble is ready to burst beneath us. In fact, as the hype continues to grow and profits continue to be marginal at best, "Bubble 2.0" may already be deflating.

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