

# Promoting Innovation to Prevent the Internet from Becoming a Wasteland

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Images of a wasteland abound in our political, economic, and cultural vocabulary. T.S. Eliot, in his famous poem, was drawing on religious representations of a land rendered barren by God's wrath.<sup>1</sup> Eliot was referring to a metaphorical barrenness: the spiritual and existential impoverishment of post-World War I-Europe. Wasteland as physical or spiritual barrenness has come to dominate the notion of the wasteland in the twentieth and twenty-first centuries. The mayor of Hiroshima, speaking on the fifty-fourth anniversary of his city's bombing, referred to the nuclear holocaust as a "scorched wasteland"; and, recently, Hamid Karzai, the president of Afghanistan, similarly referred to his nation as a "wasteland."

Former Federal Communications Commission Chairman Newton N. Minow's famous 1961 speech evokes a different kind of wasteland.<sup>2</sup> Speaking to a gathering of TV executives, he lamented that television, rather than serving the "public interest" with "a soul and a conscience," had become

a procession of game shows, violence, audience participation shows, formula comedies about totally unbelievable families, blood and thunder, mayhem, violence, sadism, murder, Western badmen, Western good men, private eyes, gangsters, more violence and cartoons. And, endlessly, commercials—many screaming, cajoling, and offending. And most of all, boredom.<sup>3</sup>

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1. T.S. ELIOT, *THE WASTE LAND* (1922).
2. Newton N. Minow, *Television and the Public Interest*, Speech Before the National Association of Broadcasters (May 9, 1961).
3. *Id.*

In this gloomy vision, television is suffering from profusion rather than barrenness—and yet the net result is much the same as in the other wasteland metaphors: unfulfilled potential, wasted resources, and lack of innovation.

### IS THE INTERNET A WASTELAND?

More than four decades have passed since Minow's speech, and in that time, we have seen the emergence of a new form of electronic communication, one that has held as much, if not more, promise than did television in Minow's America. In 1999, drawing an analogy with earlier forms of communication such as radio and television, I pointed out that the potential of the Internet was tremendous, but by no means fulfilled. I underscored that there was a distinct possibility that the Internet would disappoint those who saw it as a force for positive social transformation.<sup>4</sup> The intervening three years has made even clearer that we confront numerous challenges regarding access to information, and distribution of content on the Internet. Is the Internet in danger of becoming the new wasteland?

The first part of this Essay explains why we should continue to be optimistic about the Internet. The second part, however, points out that the Internet is confronting several important challenges that, if left unattended, could take us down a path leading toward a new form of Minow's wasteland. The third part suggests some ways of dealing with these challenges: it proposes a framework for Internet governance that would permit innovation and the public interest to flourish.

### WHY THE INTERNET IS NOT A WASTELAND

The Internet is the fastest-growing communications network in history. In just about a decade, it has grown from a peripheral experiment to a global resource that is central to the lives of more than 600 million users around the world.<sup>5</sup> In both the developing and developed worlds, it is providing access to a huge resource of information, pictures, museums, stories, and countries. It is transforming the way people take part in the political process, introducing efficiencies into the delivery of government services, and spurring productivity and economic and social development.

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4. See ZOË BAIRD, MARKLE FOUNDATION, PRESIDENT'S LETTER: IMPROVING LIFE IN THE INFORMATION AGE (1999), available at [http://www.markle.org/news/presidents\\_letter.pdf](http://www.markle.org/news/presidents_letter.pdf) (last visited Mar. 2, 2003).

5. According to figures provided by Nua Internet Surveys, there were 605.6 million users worldwide as of September 2002. See [http://www.nua.com/surveys/how\\_many\\_online/index.html](http://www.nua.com/surveys/how_many_online/index.html) (last visited Mar. 2, 2003) for latest figures.

To cite just a few numbers: Nearly 80% of American Internet users went online in 2002 to look for information on political candidates;<sup>6</sup> 73 million Americans searched for online health information;<sup>7</sup> and globally, the size of e-commerce transactions now amounts to more than \$2.293 trillion, a figure that is estimated to grow by nearly 54% over the next four years.<sup>8</sup>

Perhaps the main reason the Internet has spread so quickly is because of its underlying architecture—especially the end-to-end principles and the emphasis on technology neutrality. Both features are intrinsically supportive of creativity and diversity, mainly because they have enabled innovation to flourish at the ends of the network. Rather than relying upon a centralized group of corporate innovators, the Internet marshals the skills and capabilities of millions of users around the world. The result is a network that is fundamentally nurturing of imagination and talent: anyone with a connection can innovate on the Internet. And indeed, every day we see new technologies and applications emerge and new and better ways of communicating, conducting business, and retrieving and storing information.

### CHALLENGES CONFRONTING THE INTERNET

Threats to the potential of the Internet to meet public needs arise from the consolidation of the industry that is taking place, the confusion over rights to use of content, and the lack of capital for innovation. The Internet does indeed confront some very real challenges today. To an extent, these challenges may be inevitable on any maturing network—we are entering a new phase in the development of the Internet. Moreover, the mere existence of difficulties does not mean that the Internet is a wasteland, or even that it is in danger of becoming one. I remain fundamentally optimistic about the future of the Internet. But if the Internet is to continue growing, and if it is to remain supportive of innovation, then we need to deal with some of the growing pains it is confronting today.

To understand the challenges facing the Internet, I would like to invoke a framework for thinking about the Internet that was developed by

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6. See *Web Becomes Popular as Political News Source*, NUA INTERNET SURVEYS, Jan. 6, 2003, available at [http://www.nua.ie/surveys/?f=VS&art\\_id=905358689&rel=true](http://www.nua.ie/surveys/?f=VS&art_id=905358689&rel=true).

7. See *Americans Use Net to Look After Themselves*, NUA INTERNET SURVEYS, May 27, 2002, available at [http://www.nua.com/surveys/index.cgi?f=VS&art\\_id=905357995&rel=true](http://www.nua.com/surveys/index.cgi?f=VS&art_id=905357995&rel=true).

8. See UNITED NATIONS, CONFERENCE ON TRADE AND DEVELOPMENT, E-COMMERCE AND DEVELOPMENT REPORT, PART 1, UNCTAD/SCTE/ECB/2, 8 (2002), available at [http://www.unctad.org/en/docs/ecdr2002p1\\_en.pdf](http://www.unctad.org/en/docs/ecdr2002p1_en.pdf).

Professor Yochai Benkler.<sup>9</sup> Professor Benkler organizes the Internet into three “layers”: the “physical infrastructure” layer underlying the Internet and through which applications operate and information travels; the “code” or “logical” layer that controls the infrastructure and the information; and the “content” layer, which is the information that runs through the network. Each of those layers faces different challenges, and each may require a different solution. The purpose of what follows is to draw attention to some major challenges at each layer; needless to say, the range of challenges is vast, and these examples are intended simply to be illustrative.

### *Infrastructure*

At the infrastructure layer, the challenge we are facing today is the tension between the need for *universal* (i.e., everybody) and *ubiquitous* (i.e., everywhere) access on the one hand, and on the other, the economic, structural, technical, and regulatory limitations that make providing such access difficult. This challenge is manifest in the so-called local loop, the network that links individuals and homes to exchanges, and which is essential to providing connectivity.

Universal and ubiquitous access is essential to bringing all individuals into the digital age. More users would allow the network to tap into the talents of a greater variety of individuals, and would thus mean more creativity and more innovation. More users would also have social and economic spin-off benefits, as people would be able to communicate and engage in dialogue with each other, and access the wide range of real-time information available on the Web. The problem is that providing such access is expensive: The so-called last-mile of connection, which is essential to linking homes to local exchanges and the backbone, accounts for a significant (if not majority) portion of overall network costs.<sup>10</sup>

The way spectrum is allocated will be an essential component of any solution to this challenge. Wireless technologies (e.g., cellular and Wi-Fi), which are cheaper to install in the local loop, can play a crucial role in ensuring universal, ubiquitous access, particularly access to broadband. But to ensure that this potential is fulfilled, spectrum policy needs to: take advantage of technological advances that can improve the efficiency with which we use spectrum; make spectrum available to a broad array of services and of users; allow for the use of fallow spectrum; and carefully

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9. Yochai Benkler, *From Consumers to Users: Shifting the Deeper Structures of Regulation Towards Sustainable Commons and User Access*, 52 FED. COMM. L.J. 561, (2000).

10. Various network cost-calculations for local-loop deployment are available from Analysys at <http://www.analysys.com> and Ovum at <http://www.ovum.com>.

define the bundle of rights conveyed through spectrum licensing to maintain the public's interest in this resource.

### *Code*

We find similar challenges at the code, or logical, layer, where software controls the infrastructure. Here, we are witnessing the emergence of technologies that appear to go against the principles of end-to-end and technology neutrality—for example, the increasingly common secure platforms and other technologies that would enhance the security and stability of the Internet. Such technologies, properly deployed, could be instrumental to the continued growth of the Internet. But enhanced digital security (as in the non-digital world) also poses challenges to individual rights.

Such trusted computing platforms if not properly developed, could also be used to give software makers and content providers an unprecedented degree of control over users and their machines. Such control could threaten privacy (e.g., by allowing unauthorized commercial tracking of users' surfing habits), lead to anti-competitive practices (e.g., by unfairly excluding competitors' products), and could lead to draconian copyright enforcement by allowing manufacturers to verify the software or content on user computers. Striking the wrong balance between security and privacy could reduce the capacity for individual creativity, and it would also lower consumer trust and confidence in the system—a prospect that could be seriously damaging to the Internet in the long-term.

### *Content*

Finally, at the content layer, we face similarly difficult choices in the field of intellectual property—a field that is emerging as one of the key battlegrounds of the digital age. On one side stand certain content creators arguing that tighter copyright protection is necessary to safeguard the rights of inventors and innovators in an era where copyright violations have grown easier. They point to software tools like Napster and Kazaa, declining CD sales, and the increased possibility of making and distributing perfect digital copies of all forms of creativity. On the other side, stand those who argue that strengthening intellectual property protection will stifle free speech and erode fair-use rights in existing copyright law.

## THE NEED FOR GOVERNANCE STRUCTURES THAT PROMOTE INNOVATION AT EACH LAYER

These challenges do not have easy solutions, and the task of this Essay is not to provide definitive answers to these evolving debates.

Rather, my purpose thus far has been to highlight some of the extraordinarily difficult choices we confront, and to highlight the high stakes that rest on our decisions. As I recently argued in a *Foreign Affairs* article on Internet governance,<sup>11</sup> current mechanisms for managing the Internet (which rely largely on market-driven solutions, or ad hoc government regulations) are insufficient for dealing with the many challenges we face. We need to find new ways of addressing Internet policy issues that accommodate consumer concerns, promote innovation, create sustainable business models, and serve the public interest.

Developing the policymaking processes needed for the Internet will not be easy. Balancing the competing goals and interests at the roots of the Internet's many challenges presents unique dilemmas, and in many ways, Internet governance is still a concept in search of a model. But one thing that is clear is that any Internet governance needs to emerge over time, as the product of informed and considered deliberation among the various interests involved. So far, Internet governance has largely emerged de facto, as the result of the first-mover advantages of those who pursue specific interests—usually the private sector. In the absence of a broadly participatory policymaking process for the Internet, as Professor Lawrence Lessig has famously pointed out, code and code-writers will by default become legislators of the Internet.<sup>12</sup>

Such first movers (whether from industry or other sectors) make valuable contributions to the Internet: indeed, they embody the entrepreneurial spirit that has driven innovation. But if Internet governance is to move beyond its currently ad hoc nature, then a broad range of voices needs to be heard in the process of policy formation. Consumer groups, civil liberties advocates, governments of developed and developing nations, businesses, and civil society: each of these sectors, too, has a stake in the outcome of the challenges we identified earlier, and representatives of each need to have a true say in any discussion leading to Internet governance.

What is needed, then, is a *pluralistic* model of governance; one that would take place in multiple fora, that would include a broad range of voices, and that would give serious consideration to the public interest. If, for example, the challenges at the content layer are captured in the competing interests of certain industry players (in favor of greater copyright protection) and consumer groups (opposed to such protection), then a solution will require real interaction and compromises between these groups. The solution will not be sustainable if it is imposed through

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11. Zoë Baird, *Governing the Internet: Engaging Government, Business, and Nonprofits*, 81 FOREIGN AFFAIRS 15, 15-20 (Nov./Dec. 2002).

12. LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE (1999).

industry-only standards-setting bodies or even through government processes that do not fully consider public interests in true parity with industry interests. Likewise, at the infrastructure level, the challenge of achieving affordable, universal, and ubiquitous access will not be achieved unless the public interest is fully explored and understood, with all options on the table. And at the code level, the policy implications of digital identity systems—on the end-to-end, nondiscriminatory nature of the Internet, and on Internet users—suggests that their development and deployment is far too important to be left to code-writers or standards-setting bodies.

Civil society, in particular, is an important voice that needs to be included. Civil society, represented by the nonprofit community, has a vital role to play in ensuring the public interest.<sup>13</sup> Unaffiliated with the state and the commercial sector, non-profits are able to articulate an independent point of view that consumers can trust. They are vital to ensuring the confidence and faith that is so important to maintaining the future of the Internet. Indeed, a recent survey on trust, conducted with 36,000 people by the World Economic Forum, found that NGOs and advocacy groups had the second highest ratings as trusted parties (after the armed forces); the institutions that were least trusted were governments (at the very bottom) and private companies.<sup>14</sup>

In addition to its vital role in ensuring consumer confidence, civil society is also important because of its transnational nature. One of the biggest challenges confronting the Internet is the difficulty of establishing effective systems for management across national jurisdictions and borders. The Yahoo! case, where a French court ordered Yahoo! to prevent local users from linking to Web sites with Nazi memorabilia, is the most famous example of this, but there are several others.<sup>15</sup> Recently, for example, courts in Australia ruled that a man in Melbourne could sue Dow Jones for libel on the basis of an article that existed on servers in New Jersey but that were accessed in Australia.<sup>16</sup> Organizations that are transnational and unaffiliated with any individual state have an important role to play in

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13. Baird, *supra* note 11.

14. See WORLD ECON. FORUM, RESULTS OF THE SURVEY ON TRUST (2002) at <http://www.weforum.org/site/homepublic.nsf/Content/Annual+Meeting+2003%5CResults+of+the+Survey+on+Trust>. See also MARKLE FOUND., TOWARD A FRAMEWORK FOR INTERNET ACCOUNTABILITY (2001) at <http://www.markle.org/news/AccountabilityForewordExecutive&Intro.pdf>.

15. T.G.I. Paris, Nov. 20, 2000, League Against Racism and Antisemitism (LICRA), French Union of Jewish Students v. Yahoo! Inc. (USA), Yahoo France (Interim Court Order), *discussed in* 145 F. Supp. 2d 1168, 1172 (N.D. Cal. 2001).

16. Dow Jones & Co. v. Gutnick (2002) 194 A.L.R. 433.

finding ways to address such issues, which raise difficult questions about national jurisdiction on an international network.

### CONCLUSION

Achieving the potential of the Internet will depend on balancing often-competing interests: Industry's goals may differ from those of consumers or civil society, and the State, too, may have different interests. Each of these interests is equally important to maintaining innovation at the individual layers, and across layers. If we are going to find a legitimate way to balance them, and prevent the Internet from becoming a wasteland, then we need to have the three sectors included in the local, national, and international policymaking processes. The future of the Internet may depend on such a pluralistic policymaking framework.