

GLOBAL INFORMATION SOCIETY WATCH 2009

*Focus on access to online information and knowledge
– advancing human rights and democracy*



ASSOCIATION FOR PROGRESSIVE COMMUNICATIONS (APC)
AND HUMANIST INSTITUTE FOR COOPERATION WITH DEVELOPING COUNTRIES (Hivos)

Global Information Society Watch 2009

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*Dedicated to A.K. Mahan - an activist who valued
intellectual rigour and concrete outcomes.*

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Open standards

Opening standards, opening human liberty

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Introduction

Information and communications technology (ICT) standards are a critical component of global knowledge policy. Standards are not hardware or software products but are the “blueprints” or specifications necessary for developing products that are compatible with other ICT products. Familiar standards include Wi-Fi, Bluetooth, MP3, motion picture experts group (MPEG), hypertext transfer protocol (HTTP), and the transmission control protocol/internet protocol (TCP/IP) standards underlying the internet.¹ But the vast majority of standards are invisible to end-users because they are deeply embedded in the design of software and hardware. These specifications establish universal rules for formatting, compressing, transmitting, accessing, securing and displaying information. Although these are highly technical functions, the design and implementation of standards also have significant economic and political implications.

This report will describe how the degree of openness in standards affects global knowledge policy in four ways. First, standards are directly linked to innovation policy, market competition, and global trade. Second, standards design decisions sometimes determine civil liberties online (e.g., user privacy) and the ability of citizens to share and access knowledge or engage in electronic political processes. Third, lack of openness in standards can disproportionately affect developing countries. Finally, standards have distributive justice effects when they create finite resources (e.g., spectrum, bandwidth, internet addresses) necessary for participation in the information society. This report concludes by recommending a definition of open standards that promotes universal access to knowledge, provides a level playing field for innovation, and maximises the legitimacy of standards-setting institutions to make decisions with direct public policy implications.²

Standards as global knowledge policy

Jack Balkin has described access to knowledge as a demand of justice. It is both an issue of economic development and one of individual participation and liberty; and while it is about

intellectual property, it is more than intellectual property.³ This is a useful framework for understanding the knowledge policy implications of open standards. Standards are an example of “information-embedded tools”, and allow hardware and software innovation, similar to the tools necessary for developing medical technologies or agricultural resources.⁴ If these tools include proprietary information and underlying intellectual property rights, any new innovation may require permissions and royalties. The internet’s underlying standards, such as TCP/IP and hypertext markup language (HTML), have historically been developed in a relatively open process. They have been openly published and freely available for citizens and entrepreneurs to use to create new technologies and new modes of information exchange. Accordingly, the availability of open standards has contributed to the democratisation of online culture, political dissent, and internet innovation. However, many standards do not exhibit this same degree of openness, including the standards underlying emerging forms of internet video. The following describes the implications of the degree of openness in standards on various aspects of global knowledge policy.

Innovation policy

Because technical standards are the blueprints that competing companies or individual citizens use to develop new products that are interoperable with other products based on the standard, they can promote innovation. But this freedom to innovate is possible only if the standard is openly published and can be used without significant intellectual property restrictions on its use. This degree of openness contributes to the possibility of a level playing field on which innovation and competition can occur. Unfortunately, in the 21st century, standards-based intellectual property rights are increasingly emerging as non-tariff barriers to global trade in ICT markets (for example, see the case of China’s WAPI standard).⁵ They have the potential to drive up the cost of broadband access technologies like WiMAX that could otherwise help close the global access gap in the developing world. The degree of participatory openness of a standards-setting process itself also has direct linkages to innovation. It is well understood how new forms of open and distributed collaboration have produced innovations in information

1 The IEEE 802.11 wireless local area network (LAN) standards are collectively referred to as “Wi-Fi”; Bluetooth is a protocol for short-range wireless transmission; MP3 stands for MPEG Audio Layer 3 and is a format for encoding and compressing audio files; MPEG is a set of video compression standards; the HTTP standard is the standard for exchanging information between web browsers and web servers; TCP/IP is a central family of standards underlying internet communications.

2 For a detailed framework of best practices for openness in standards, see DeNardis, L. (2009) *Protocol Politics: The Globalization of Internet Governance*, The MIT Press, Cambridge.

3 Jack Balkin (2006) Opening remarks in the Plenary Session of the Access to Knowledge (A2K) Conference at Yale Law School, 21 April. balkin.blogspot.com/2006/04/what-is-access-to-knowledge.html

4 Benkler, Y. (2006) *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, Yale University Press, New Haven.

5 WAPI is a Chinese national standard for wireless local area networks. See Gibson, C. (2007) Technology Standards—New Technical Barriers to Trade?, in Bolin, S. (ed.) *The Standards Edge: Golden Mean*. ssn.com/abstract=960059

production and software development. Similarly, the most innovative standards historically have emerged from the most open standards-setting organisations, such as the Internet Engineering Task Force (IETF) and World Wide Web Consortium (W3C), which welcome the participation of any interested participants.

Access to knowledge and human rights

Standards bodies directly make decisions about human rights when they make design decisions that implicate core political processes, such as electronic voting, access to electronic government archives and the availability of government services online. The design decisions underlying standards also structure technologies, whether social networking tools, digital education systems, or Web 2.0 platforms, that create the more informal conditions within which citizens engage in the public sphere. Furthermore, choices made in technical standards development, whether for encryption standards, addressing standards,⁶ or cellular standards, can determine the extent of user privacy and the right to be free from unwarranted government surveillance or censorship.

Development⁷

The extent of openness in standards can have pronounced implications for developing countries. The International Telecommunication Union (ITU) is currently leading a project called Bridging the Standardisation Gap⁸ in order to make recommendations for closing the standardisation gap between developed and developing countries. Standards disparities can occur in several areas. For example, the institutional processes of standards setting do not necessarily reflect the interests of developing countries. Businesses in emerging markets may also be disadvantaged in the area of intellectual property rights if they are later entrants in standards processes in certain markets – they usually do not have large patent portfolios, large legal staffs, or cross-licensing agreements inherent in developed countries.

The allocation of scarce resources

Standards sometimes create scarce resources necessary for access and political, cultural and economic participation in the information society. Some standards structure and allocate radio frequency spectrum (e.g., broadcast standards, Wi-Fi and

cellular standards); some prioritise information flows based on application type (e.g., voice versus video); others create resources necessary for access, such as IP, which creates a finite pool of internet addresses. The creation of these resources and how they are distributed, and by whom, can create inequalities of access, quality, and the freedom to use these resources to create new systems of communication.

Opening standards

The technical rationale for open standards is the interoperability that enables the universal exchange of information, which in turn provides opportunities for universal political and creative expression. The economic incentive for promoting open standards is to provide a level playing field for innovation, whether for competing businesses or for an individual citizen. The political rationale for open standards is to create legitimacy for standards institutions to make design decisions that implicate civil liberties online or core governmental functions. To achieve these objectives, this report advocates for the promotion of open standards that are open in their development, implementation and use.

Standards development processes should reflect participatory and informational openness. The process should be open to any interested party; include well-defined procedures for standards selection and appeals processes; and include disclosure of membership (if applicable), funding sources, affiliations, process, intellectual property rights, meeting minutes and proceedings, and electronic deliberations. To promote innovation and also public oversight, the standard itself – the tool necessary to develop products – should be publicly available. An unpublished specification is proprietary and, by definition, not a standard. Ideally, there should be no fee associated with accessing the standard and the standard should be available to implement in products on an irrevocable royalty-free basis. While different levels of openness are appropriate in different contexts, these characteristics promote the greatest public oversight and equal opportunities for innovation. Open standards development and implementation criteria result in a standard that is open in its use, meaning that it results in multiple, competing products based on the standard, avoids single vendor lock-in, and enables individual citizens to use the standard for any reason.

To promote the public interest, governments have many incentives to encourage open ICT standards. Governments, particularly in the developing world, are significant parts of technology markets. Recognising the significant public interest implications of open standards, governments are increasingly establishing interoperability frameworks and government technology procurement policies that favour open technical standards. ■

6 An addressing standard includes numerical information, such as a binary internet address, that is necessary for routing information to and from a sender and a destination.

7 A development agenda for open standards is presented in DeNardis, L. (2009) Open Standards and Global Politics, *International Journal of Communications Law and Policy*, Issue 13, Special Internet Governance Edition, Winter 2008-2009.

8 www.itu.int/ITU-T/gap

GLOBAL INFORMATION SOCIETY WATCH (GISWatch) 2009 is the third in a series of yearly reports critically covering the state of the information society *from the perspectives of civil society organisations across the world.*

GISWatch has three interrelated goals:

- **Surveying** the state of the field of information and communications technology (ICT) policy at the local and global levels
- **Encouraging** critical debate
- **Strengthening** networking and advocacy for a just, inclusive information society.

Each year the report focuses on a particular theme. **GISWatch 2009** focuses on *access to online information and knowledge – advancing human rights and democracy.* It includes several thematic reports dealing with key issues in the field, as well as an institutional overview and a reflection on indicators that track access to information and knowledge. There is also an innovative section on visual mapping of global rights and political crises.

In addition, 48 country reports analyse the status of access to online information and knowledge in countries as diverse as the Democratic Republic of Congo, Mexico, Switzerland and Kazakhstan, while six regional overviews offer a bird's eye perspective on regional trends.

GISWatch is a joint initiative of the Association for Progressive Communications (APC) and the Humanist Institute for Cooperation with Developing Countries (Hivos).

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