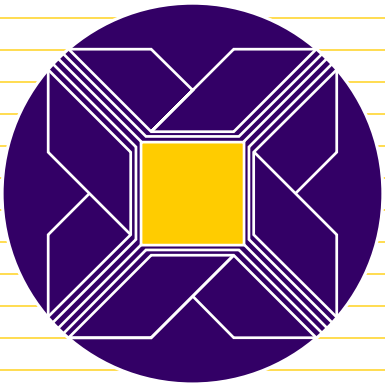

Research Library Issues

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Special Issue on Influencing Public Policies: Access, Openness, and Innovation

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Special Issue on Influencing Public Policies: Access, Openness, and Innovation

Table of Contents

Three Key Public Policies for Research Libraries: Net Neutrality, Fair Use, Open and Public Access

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The research, teaching, and learning enterprise and the Internet share several critical attributes: providing access to research resources; promoting free speech; and fostering openness, innovation, and transparency. For public policy issues of primary importance to the research library community—such as balanced copyright and intellectual property law and effectively implemented open and public access policies—the Internet must permit access to research resources and must do so in an open and affordable manner. Thus these policy debates are inextricably linked to one another and to the ability of research libraries and academic institutions to manage copyrighted and public domain materials and to adopt policies that embrace greater sharing of research resources. This issue of *RLI* explores three leading public policies of interest to research libraries: net neutrality, fair use, and open and public access.

Net Neutrality

The Internet was designed to have a largely agnostic, neutral "core" whose job was to pass packets back and forth. This design allowed most of the "intelligence" in the network (the programs that read, write, and respond to the packets' contents) to be at the edge; that is, in the hands of the user. Anyone who used standard protocols (which were freely available) could send and receive packets to or from anyone else on the network. Users could experiment with new programs, applications, and devices at the edge of the network, confident that the network would treat all packets alike and with no need to seek permission from any network provider or ISP. This design sparked phenomenal innovation and growth in countless sectors, resulted in

fundamental change in many marketplace models, and led to dependency by all sectors on a robust and non-discriminatory network. In a recent book, Steven Johnson refers to the "fourth quadrant: the space of collaborative, nonproprietary innovation, exemplified in recent years by the Internet and the Web, [which]…turns out to have generated more world-changing ideas than the competitive sphere of the marketplace."[1]

Today, research libraries depend on the Internet in several fundamental ways. First, research libraries are providers of content, services, and applications on the Internet. Second, research libraries rely on an open Internet to collaborate and obtain services and content from other sources and vendors. Finally, libraries rely upon the Internet to support and promote free speech and democratic values. A non-discriminatory network is central to the ability of research libraries to meet user information needs in support of research, teaching, and learning.

The phrase "network neutrality" is described simply: every network operator that provides Internet access to the public must allow every user to access and use content, applications, and services of her choice on the Internet without interference or discrimination.[2] This "neutrality," or non-discrimination principle, has a history in telecommunications law that long predates the Internet and was a critical element in the development of a nationwide long-distance voice telephony network almost 100 years ago.

As described by Kristen Riccard in her article in this issue of *RLI* on the importance of network neutrality to research libraries and academic institutions, recent legal challenges and technological advances, as well as market forces and actions by network operators, have called into question the fundamental openness of the Internet. The Federal Communications Commission (FCC), members of Congress, network providers, consumers, public interest groups, libraries, higher education, and others have focused on how to best achieve network neutrality. A recent court case, *Comcast v. FCC*, held that the FCC lacked the authority to enforce net neutrality principles against network operators who provide broadband access. Following this decision by the DC Circuit Court of Appeals, there has been a greater sense of urgency to enact, either through regulation or legislation, network neutrality principles. Riccard reviews the history of network neutrality, its criticality to research libraries, and the increasingly contentious debates in Washington over how best to ensure a free and open Internet. She concludes that the availability of low-cost, high-speed,

nondiscriminatory Internet services is essential for research libraries and academic institutions to achieve their missions in the 21st century.

Fair Use

The research library community has long advocated for balanced copyright and intellectual property policies, as these advance the mission of the research enterprise. The library and academic community look to copyright law as the policy framework for balancing competing interests of creators, owners, and users of copyrighted works. In recent years, through technological developments, court decisions, and legislation, this balance has shifted, favoring the commercial sector over non-profit and educational interests. This shift is due to several factors. First, driven by the fear of loss of control, and the loss of potential revenue due to the ease of copying digital copyrighted resources, owners of copyrighted works in the US pressed Congress and the Executive Branch for more restrictive copyright laws and practices. Second, the ability to technologically control uses of information allowed owners of copyrighted works greater freedom in limiting authorized use; thus, technology not copyright law determined use. Finally, the very nature of the Internet as a "disruptive technology" convinced Congress that greater protections for owners of copyrighted works were warranted. This shift has led to a variety of approaches in local practice, oftentimes practices that may not fully reflect the interests of the academy or what is actually permitted under law. These changes in law and practice also present challenges to research and academic libraries on a daily basis, as libraries provide access to copyrighted works to members of the academic and research community.

As described by Brandon Butler in this issue of *RLI*, research and academic librarians play a leadership role in copyright policy and practice at their institutions. These librarians rely on several provisions in the US Copyright Act, including fair use and related exemptions for libraries and educational institutions, to achieve their mission of preserving and providing effective public access to information in all formats. For libraries, the doctrine of fair use is an important limitation on the rights of copyright owners. This doctrine protects libraries and their patrons from liability when they reproduce copyrighted works for purposes such as scholarship, research, teaching, news reporting, and criticism. Fair use also serves an important "gap-filler" function. For example, as new technologies give rise to new rights and protections for copyrighted works,

a corresponding expansion of fair use rights is one way to maintain the appropriate balance between incentives for creators and access for the public.

In an effort to better understand and realize the benefits of fair use, ARL is conducting, in collaboration with the Program on Information Justice and Intellectual Property at the American University (AU) Washington College of Law and the AU Center for Social Media, a three-stage project to help academic and research libraries better employ fair use. This initiative is possible due to the generous support of The Andrew W. Mellon Foundation. The recently completed research phase of the project captures how practioners in the academic and research library community interpret and employ fair use in key areas of practice, including support for teaching, and learning; support for faculty and student scholarship; preservation; exhibition and public outreach; and serving disabled communities. In the current phase, the project team is convening a series of round-table discussions with academic and research librarians that will serve as the basis for a code of best practices in fair use for academic and research libraries. The third and final stage will involve extensive outreach to and collaboration with academic and research librarians, and others in academic leadership, to promote a better understanding of fair use and adoption of the code. Butler's article summarizes the project's Stage One findings from a series of interviews with academic and research librarians to determine how they are using fair use and related exemptions in the Copyright Act to meet library mission.

Open and Public Access Policies

The Internet can accelerate discovery, enable new strategies to address complex research challenges, and democratize access. To take advantage of these opportunities and to further their mission of creating, preserving, and disseminating knowledge, many academic and research institutions are taking steps to capture the benefits of open and public access policies by developing campus policies for the timely, free, and online dissemination of institutional research outputs. As noted by David E. Shulenburger, Vice President for Academic Affairs, Association of Public and Land-grant Universities, "our member universities have a special mission of outreach and engagement with their communities; ensuring that the research they produce is widely available to the public at no additional costs to them is a true expression of that mission."[3] These institutional policies build on the growing adoption—by funding agencies,

in the public and private sectors, and internationally—of implementing policies mandating public access to the results of funded research.

These open and public access policies promote discovery and innovation, and advance science while removing barriers to scientific communication. Increasingly users expect, indeed demand, the ability to reuse, build on content, and data mine. Most licenses from traditional publishers do not permit such activity. In addition, legal and economic barriers present significant challenges to researchers and librarians. For example, roadblocks negatively affect research productivity. The American Association for the Advancement of Science report, *Intellectual Property Experiences in the United States Scientific Community,* describes the difficulties encountered by some researchers in accessing copyrighted literature.[4] The study surveyed 2,157 US scientists; 562 of those scientists reported negative effects on their work because of difficulty in accessing the scientific literature. The consequences ranged from brief delay to abandonment of the research project.

Such roadblocks, and the inability to use technologies to their best advantage, spurred development of new open and public access models and tools of scholarly communication (e.g., Creative Commons licenses). As noted recently by Tom Rubin, Chief Counsel for Intellectual Property Strategy, Microsoft Corporation, user expectations regarding use and access to resources in the "Networked World" have changed:

> First, we should look at what the Networked World demands, not just for copyright but for all forms of commerce and communication. And one thing that is clear is that the Networked World demands *speed* and it demands *scale*. People now expect transactions to take place immediately, if not sooner, and likewise they expect access to information to help those transactions just as quickly. You see this demand for speed and scale in the rise of Creative Commons. In addition to the content and substance of the licenses, one of the reasons for the widespread adoption of Creative Commons licenses by those in the Networked World is how easy it is to include one in your creative work online.[5]

As noted by Heather Joseph in this issue of *RLI*, the adoption of policies calling for access to the results of funded research both in the US and around the world continues apace. The implementation and maturing of these policies has

led to a new focus, namely understanding the social and economic benefits that ensue from these policies. This entails, for example, strengthening the economic competitiveness of a nation's scientific enterprise and targeting selected R&D that will benefit from policies promoting the sharing of research resources. UNESCO's support for open access reflects this new focus. "Scientific information is both a researcher's greatest output and technological innovation's most important resource. UNESCO promotes and supports Open Access—the online availability of scholarly information to everyone, free of most licensing and copyright barriers—for the benefit of global knowledge flow, innovation and socio-economic development."[6]

While the understanding of the relationship between public access and the results of funded research, innovation, and economic competitiveness has deepened, there is a parallel movement to measure the actual return on investment of implementing these policies. Over the last two years, studies have been funded both in the US and abroad that explore the costs and benefits to national economies of policies that promote access to the results of research. Joseph details the different approaches undertaken in each of the studies and how these contribute to the policy debates concerning access to the results of funded research. The value of continuing to engage in these research efforts is key to the evolving public access policies.

Conclusion

The ARL Strategic Plan calls for ARL to influence "laws, public policies, regulations, and judicial decisions governing the use of copyrighted materials so that they better meet the needs of the educational and research communities" and to contribute "to reducing economic, legal, and technical barriers to access and use of the research results from publicly funded research projects, enabling rapid and inexpensive worldwide dissemination of facts and ideas."[7] To succeed, research libraries are dependent upon a non-discriminatory, robust, open, technological infrastructure that will permit effective use of resources under copyright, in the public domain, and under other legal regimes. Such an infrastructure must encourage emerging scholarly communication models that realize the benefits of networked-based technologies and reflect the interests of the academy and the public.

[1] Steven Johnson, "Innovation: It Isn't a Matter of Left or Right," *New York Times*, October 30, 2010, http://www.nytimes.com/2010/10/31/business/31every.html.

[2] Network neutrality does not apply and never has applied to private networks such as those operated by academic and research universities. Broadband networks that do not serve the general public should be allowed to operate according to whatever principles serve the private users and operators of those networks.

[3] David E. Shulenburger, "Testimony on Public Access to Federally Funded Research to the Information Policy, Census, and National Archives Subcommittee of the Oversight and Government Reform Committee," US House of Representatives, Committee on Oversight and Government Reform, July 29, 2010, http://oversight.house.gov/index.php?option=com_content&view=article&id=5061:qpublic-access-to-federally-funded-researchq&catid=48:hearings&Itemid=29.

[4] Stephen A. Hansen, Michael R. Kisielewski, and Jana L. Asher, *Intellectual Property Experiences in the United States Scientific Community* (Washington, DC: American Association for the Advancement of Science, 2007), http://sippi.aaas.org/Pubs/SIPPI_US_IP_Survey.pdf.

[5] Tom Rubin, "Copyright in a Networked World," Stanford Law School, Center for Internet and Society, November 24, 2010, http://cyberlaw.stanford.edu/node/6560.

[6] "Open Access to Information," United Nations Educational, Scientific, and Cultural Organization, November 18, 2010, http://portal.unesco.org/ci/en/ev.php-URL_ID=30671&URL_DO=DO_TOPIC&URL_SECTION=201.html.

[7] "ARL Strategic Plan 2010–2012," *Research Library Issues: A Bimonthly Report from ARL, CNI, and SPARC*, no. 268 (Feb. 2010): 12, http://publications.arl.org/rli268/.

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The Importance of Net Neutrality to Research Libraries in the Digital Age

Kristen Riccard, Law and Policy Fellow, ARL

Introduction: The Internet at a Crossroads

> The Web is comparable, from the readers' viewpoint, to both a vast library including millions of readily available and indexed publications and a sprawling mall offering goods and services. From the publishers' point of view, it constitutes a vast platform from which to address and hear from a world wide audience of millions of readers, viewers, researchers, and buyers… Publishers include government agencies, educational institutions, commercial entities, advocacy groups, and individuals.
>
> —*Reno v. ACLU*, 521 U.S. 844 (1997).

The US Supreme Court's characterization of the web as an enormous library and a platform for speech illuminates the early enthusiasm and hope for social benefit that our nation placed in the Internet. But today, many believe that the future of the Internet is at a crossroads—one that requires a reexamination of the Internet's current purpose and an evaluation of the role it should play going forward. This crossroads has sparked the "net neutrality" debate, and the outcome will determine whether the Internet continues to remain a platform for all to share and access information or becomes more of a commercial commodity where the deepest pockets receive the greatest benefits.

"Net neutrality" is the principle that Internet users should have the right to access and provide content and use services via the Internet as they wish, and that network operators should not be allowed to "discriminate"—slow, block, or charge fees—for Internet traffic based on the source or content of its message. As a result of developments in Internet technology, network operators now have the ability to discriminate among traffic and can choose to slow or block the flow of

traffic that they believe competes with their own services and content. Thus, the net neutrality debate centers on whether it is time to enact legal principles to protect the open Internet. While network operators assert that there is no need to enact such regulation or law, the evidence indicates that the threats against maintaining a free and open Internet continue to grow.

Ensuring a free and open Internet is critical to research libraries and the patrons they serve because the ability to access, produce, and distribute content and services over the Internet is central to the mission of libraries. The preservation of a free and open Internet will be essential for libraries to achieve their goal of offering innovative services and providing their patrons with effective access to information over the Internet in support of research, teaching, and learning. ARL, in partnership with the American Library Association, EDUCAUSE, and the Open Internet Coalition, has been actively supportive of net neutrality by filing numerous comments with the Federal Communications Commission (FCC), attending meetings with FCC staff, and tracking congressional action on this issue.

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Network Neutrality: A Principle to Preserve the Free and Open Internet

A simple way to understand the importance of net neutrality is to consider how the communications providers might function in its absence. One need not look far but only to another communications market: cable television. In the cable television market, network providers determine which content is aired, how much to charge consumers for channel options, and the cost of providing a show on their network. The ability of Internet service providers (ISPs) to serve as similar "gatekeepers" of the open Internet—determining when and at what price content is shared over the Internet—will threaten the unique benefit that the Internet provides: a free and accessible platform for all to speak and contribute.

Net neutrality was a founding principle of the Internet's original architecture. Under the initial business model of the Internet, network owners charged consumers for Internet access but could not discriminate based on the type of content or service transmitted by end users. Thus, it is said that innovation occurs at the edges of the Internet by end users. This open structure also promotes consumer choice. For example, the creators of Skype, Google, and

eBay tested the utility of their applications directly with consumers via the open Internet without first paying significant costs for transmission or negotiating with network operators. These applications resulted in huge market success, consumer benefit, and encouraged further innovation in Internet services.

Now, however, network operators can, if they choose, manage networks to promote certain websites, services, and applications, while blocking or slowing others. They may seek to prioritize their own services and slow the transmission of competing traffic or attempt to increase profits by charging individual and institutional users based on the content and services they use. ISPs may not charge users directly to view websites but rather charge service and content providers for access to end users of the Internet. These providers will then pass those costs along to end users in the form of price hikes or new charges to view content. The codification of net neutrality principles will ensure that network operators, which offer Internet access directly to the general public, do not engage in discriminatory practices that inflate prices and stifle innovation on the Internet.

Net neutrality was a founding principle of the Internet's original architecture.

The goal of net neutrality is to ensure that citizens have a public platform to interact; thus, it makes sense that net neutrality rules apply to network operators that provide broadband Internet access directly to the general public. In contrast, operators of "private networks"—such as university networks, libraries, coffee shops, and retail establishments—should not be subject to such rules because they do not provide Internet access to the public at large. Private network operators manage closed networks designed to serve the particular interests of their patrons. The FCC has long held that operators of private networks shall not be subject to the same regulations as commercial ISPs, and there is no indication that the FCC believes it is necessary to apply net neutrality to principles to entities other than commercial providers that offer broadband Internet access to the general public.[1]

The Cost of Success: How Developments in Internet Technology Created the Current Threat to Net Neutrality

A primary reason why net neutrality has become an issue in recent years results from technological changes in the delivery of Internet services. During the days of dial-up service, providers were subject to certain "common carrier"

requirements under the Communications Act of 1996[2] that continue to apply to operators of phone lines. One such requirement is that all such traffic must pass over the telecommunications lines impartially and without interference of network operators. Today, however, most Internet access is received via cable, DSL, and wireless technologies—broadband Internet access that is not over telecommunications lines—and providers of broadband access are not subject to the same "common carrier" rules as telecommunications service providers. Thus, federal law no longer guarantees the preservation of a free and open Internet the way it did when Internet access was delivered via telecommunications lines.

A second reason why net neutrality is no longer protected in the broadband Internet market stems from developments in network management technology. During the advent of the Internet, network operators were unable to distinguish details in the content that end users transmitted over networks. Now, through the development of "deep packet inspection" technologies, ISPs can look at the source of Internet content and inspect and shape each packet of information sent over their network. With this technology, ISPs "suddenly know a whole lot more about their users and their traffic. They also gain the ability to block, shape, monitor, and prioritize that traffic—in any direction."[3] This technology, combined with the fact that more network providers offer cable TV and phone service in addition to Internet access, means that ISPs can and have an incentive to slow or "throttle" Internet content that competes with their own services.[4]

A View from Washington: Agency and Congressional Efforts to Maintain Network Neutrality

In 2005, after recognizing the growing threat to the Internet's open architecture, the FCC developed the *Internet Policy Statement*[5] that lists four principles of an open Internet. These principles are often summarized as (1) any lawful content, (2) any lawful application, (3) any lawful device, and (4) any provider. However, the FCC did not write the 2005 *Internet Policy Statement* into regulation at the time of creation. As such, in 2009, FCC Chairman Julius Genachowski issued a *Notice of Proposed Rulemaking* (NPRM) seeking to codify the four open Internet principles as well as two additional principles of (1) transparency and (2) non-discrimination—the lynchpins of net neutrality.[6]

Unfortunately, the FCC suffered a huge setback in this rulemaking process in

2010, when the DC Circuit Court of Appeals held that the FCC lacked the authority to enforce net neutrality principles against network operators who provide broadband access. In *Comcast v. FCC,*[7] the court held that the FCC lacked authority because (1) broadband providers were not common carriers but rather "information service" providers and (2) the FCC also lacked any "ancillary authority" under Title I of the Communications Act to enforce the principles.[8]

After the *Comcast v. FCC* ruling, the FCC has considered different possibilities to enforce net neutrality principles. The FCC originally considered agency reclassification of broadband providers under Title II of the Communications Act, which would have allowed the FCC to enforce the certain common carrier requirements against network operators who offer broadband Internet access. However, facing strong opposition from networks surrounding reclassification—for fear that they may become subject to additional regulations—Chairman Genachowski announced on December 1, 2010, that he would introduce a proposal for net neutrality regulation under Title I ancillary authority. The FCC continues to assert its authority to enact net neutrality rules under Title I ancillary authority, but its NPRM rests this authority on slightly different grounds than were asserted in *Comcast v. FCC.* The Chairman also welcomed any action by Congress related to a net neutrality statute. The library community should continue to monitor how this issue resolves itself in Washington because it will directly impact libraries' ability to effectively support research, teaching, and learning.

Timeline of Net Neutrality Rulemaking

September 2005	FCC publishes the *Internet Policy Statement* containing the four open Internet principles.
January 2008	FCC auctions a block of wireless spectrum requiring any purchaser to adhere to the principles of the *Internet Policy Statement*.
September 2009	FCC Chairman Julius Genachowski adds the non-discrimination and transparency principles to the original four *Internet Policy Statement* principles.
October 2009	FCC issues a *Notice of Proposed Rulemaking* on the issue of codifying the six open Internet principles.
April 2010	DC Circuit Court ruled that FCC lacked authority to impose net neutrality principles in the case *Comcast v. FCC*. The FCC appeals the case to the Supreme Court.

FCC's Current Plan for Net Neutrality Rules

- On December 1, 2010, FCC Chairman Genachowski announced his plan to circulate a proposed net neutrality rule that will be voted on by the FCC during its December 21, 2010, open meeting.[9]
- The proposal would:
  - Prohibit networks from blocking users' right to access to lawful content and applications
  - Prevent wireline companies from engaging in "unreasonable discrimination," and prevent wireless companies from blocking lawful websites
  - Require transparency in network management practices for wireless and wireline providers
- The FCC will continue to assert its authority over Internet service providers and plans to offer additional grounds for authority beyond those claimed in *Comcast v. FCC*.
- On December 21, 2010, the FCC will vote on the proposed net neutrality rule, which requires a three-person majority to pass. This majority would likely be the three democratic Commissioners: Julius Genachowski, Michael J. Copps, and Mignon Clyburn.[10]

Three Reasons Why Net Neutrality Is Critical to the Mission of Research Libraries

1. A Free and Open Internet Is Vital to Libraries' Mission to Promote Intellectual Freedom and the Democratic Process

Libraries serve the public interest and further democracy by providing access to information, connecting the voices of faculty and students, and creating a more informed citizenry—efforts that are all further enhanced through the use of the Internet. As the FCC stated in its NPRM, with the advent of the Internet, "the possibility of using technology to create a more transparent and connected democracy has never seemed so bright."[11] Similarly, Congress noted that the Internet "offer[s] a forum for a true diversity of political discourse, unique opportunities for cultural development, and myriad avenues for intellectual activity."[12] Libraries have long been champions of intellectual freedom and the democratic process, and it is well recognized that the open Internet serves as a platform for these values.

Despite the Internet's potential social benefit, a central democratic tenet made possible by the Internet—the ability of educators, librarians, non-profit institutions, and members of the public to voice ideas on par with commercial entities—is in jeopardy if we do not enact safeguards to protect its open structure. The democratic platform provided by the Internet and promoted by libraries will be undermined if network operators are allowed to serve as gatekeepers that can unilaterally decide which content should be relegated to "slow lanes," or completely block access to original, competing, or non-profit voices.

> Libraries have long been champions of intellectual freedom and the democratic process, and it is well recognized that the open Internet serves as a platform for these values.

2. Research Libraries Depend on Access to Diverse Content Offered on the Open Internet to Serve Their Patrons

A primary goal of research libraries is to collect, manage, and provide effective long-term access to information and resources in support of research, teaching, and learning. In an increasingly digital world, libraries can only realize this goal if they have access to the diverse content offered over the Internet. Today, much of the new content and services that individuals and institutions develop is available solely or primarily in a digital format on the open Internet. These services and content range from YouTube videos, to data collection sets in open access repositories, to digital versions of political speeches, and much of this traffic requires significant bandwidth for transmission. Libraries and their users need access to a diverse range of content and services to fulfill their academic and research endeavors, and network operators should not be allowed to preemptively define the set of information that consumers use for educational and research purposes.

If network operators are allowed to charge tolls for bandwidth, the effect will be to stifle innovative content and services, as well as potentially limit use of information currently offered over the Internet. In the absence of a non-discrimination rule, network operators could charge different prices for the bandwidth required to deliver content and services to end users. This scenario would result in a "pay to play" environment, where the entities with the most financial resources have access to the users, while others are limited in their ability to provide content and services to consumers. Such an environment would effectively chill speech and limit the availability of new resources to libraries and their patrons.

Similarly, network operators might charge end users or content providers for access to particular sites or block access to some sites completely. This scenario

would be increasingly likely to play out where such traffic competes with the network operator's own content and services—such as voice and video services offered over broadband Internet access. The danger of discrimination is compounded when network operators engage in such behavior without transparently informing their costumers. Without both non-discrimination and transparency requirements, libraries and their patrons might not even know of the myriad content and services that they are unable to access.

3. Research Libraries Provide Content and Services that Require Quick and Dependable Transmission to End Users

In addition to their role as consumers of Internet resources, research libraries are also prolific providers of content, services, and applications to the general public. Research libraries create and maintain digital data collections, which according to the National Science Foundation, "are at the heart [of] fundamentally new approaches to research and education."[13] Additionally, research libraries have developed mobile applications that allow wireless device users to obtain access to library websites and their digital collections from a mobile wireless platform. Finally, research libraries dedicate significant time, money, and staff to provide access to electronic resources, which they then make available to students, researchers, faculty, and oftentimes the public.

However, the effort spent in creating a digital library environment is worthwhile only to the extent that patrons can access such resources for useful purposes. Many off-campus users depend on a reliable and unfettered cable or DSL Internet connection to access digital library collections. If providers prioritize traffic based on which entities are willing to pay the most to deliver content over the public Internet, research libraries and universities could be harmed because they do not have the resources to compete with other commercial entities. Such a system would not only harm libraries from an economic and practical standpoint but would compromise research activities and academic endeavors.

Conclusion: Net Neutrality as a Means to a Library's End Goal

The maintenance of a neutral network on the public Internet is critical to research libraries because it will ensure an environment in which libraries,

higher education institutions, and individuals can allow their ideas, opinions, and academic endeavors to flourish. A neutral network is a prerequisite for the free flow of information, and the codification of network neutrality principles will promote and encourage further innovation over the Internet. The collection and distribution of online library resources depends first on the library's ability to access the content and second on the ability transmit that information to end users—a system premised on a free and open Internet.

[1] *See* Telecommunications Act of 1996, 47 U.S.C. § 153(46) (2006) ("The term 'telecommunications service' means the offering of telecommunications for a fee *directly to the public*, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.") (emphasis added); *see also Framework for Broadband Internet Services*, GN Docket No. 10-127, Notice of Inquiry, 25 FCC Rcd 7866, 17909-10, para. 107 (2010) ("Nor do we intend here to address or disturb our treatment of services that are not sold by facilities-based Internet service providers to end users in the retail market….").

[2] Telecommunications Act of 1996, 47 U.S.C. § 153 (1996).

[3] Nate Anderson, "Deep Packet Inspection Meets 'Net Neutrality, CALEA," *Ars Technica*, July 25, 2007, http://arstechnica.com/hardware/news/2007/07/Deep-packet-inspection-meets-net-neutrality.ars/.

[4] For example, a network operator has the technology to determine whether traffic sent over its network is coming from the Hulu television website, and could interfere with the transmission of such traffic because it competes directly with Comcast's cable television services.

[5] *See Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, Policy Statement, 20 FCC Rcd 14986, 14987–88, (2005) (*Internet Policy Statement*).

[6] *Notice of Proposed Rulemaking*, Broadband Industry Practices, GN Docket No. 09-191, WC Docket No. 07-52, released Oct. 22, 2009. (FCC 09-93). (NPRM).

[7] 600 F.3d 642 (2010).

[8] *Id.*

[9] "Federal Communications Commission Chairman Julius Genachowski Remarks on Preserving Internet Freedom and Openness," Federal Communications Commission, Dec. 1, 2010, http://www.fcc.gov/Daily_Releases/Daily_Business/2010/db1201/DOC-303136A1.pdf.

[10] For information about all five FCC Commissioners, see "FCC Commissioners," Federal Communications Commission, http://www.fcc.gov/commissioners/.

[11] *See* NPRM, par. 75 (quoting THE KNIGHT COMMISSION, INFORMING COMMUNITIES: SUSTAINING DEMOCRACY IN THE DIGITAL AGE 28 (Oct. 2009) (KNIGHT COMMISSION, INFORMING COMMUNITIES), https://secure.nmmstream.net/anon.newmediamill/aspen/kcfinalenglishbookweb.pdf).

[12] 47 U.S.C. § 230(a)(3).

[13] National Science Board, *Long-Lived Data Collections: Enabling Research and Education in the 21st Century* (Arlington, Virginia: National Science Foundation, 2005), 9, http://www.nsf.gov/pubs/2005/nsb0540/.

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Challenges in Employing Fair Use in Academic and Research Libraries

Brandon Butler, Director of Public Policy Initiatives, ARL

Academic and research librarians are at the heart of copyright policy and practice at their institutions. The balancing features of copyright law—aspects of the law that allow use of copyrighted works without requiring payment or permission—are vitally important to these librarians as they strive to serve a variety of library users. The most flexible (and potentially the most powerful) of these balancing features is the doctrine of fair use, which judges apply to permit uses that benefit society more than they harm rightsholders. Some communities have united behind codes of best practice that help them take advantage of fair use by articulating how that flexible doctrine applies to their core practices. The flexibility of fair use can deter communities from using it, however, when users are unsure how to apply the doctrine to their practice.

With funding from The Andrew W. Mellon Foundation, ARL—in collaboration with American University's Center for Social Media and the Program on Information Justice and Intellectual Property at American University's Washington College of Law—is conducting a three-stage project to help academic and research libraries better employ fair use. The recently completed first stage consisted of confidential interviews with 65 librarians to determine how they were interpreting and using fair use in five key areas of practice: support for teaching and learning, support for faculty and student scholarship, preservation, exhibition and public outreach, and serving disabled communities. In the second stage, the project team will convene a series of round-table discussions with academic and research librarians that will serve as the basis for a code of best practices in fair use for academic and research libraries. Finally, the third stage will involve outreach to academic and research librarians, as well as related groups who influence library policy, such as administrators and university counsel, to promote the widest possible understanding and adoption of the code. This article summarizes the findings from the first stage of the project.

Mission

In general, interviewees reported a strong commitment to obeying copyright law; rarely concerned about their own liability, librarians primarily felt responsible for ensuring their institutions were in compliance with the law. Beneath this general agreement about responsibility, we found a wide variety of practice—some interviewees described a world where permissions were required for any and every use, while others reported making fair use the foundation for ambitious projects.

In many cases, however, interviewees expressed ambivalence about fair use. They were aware of the doctrine, of its status as a flexible "rule of reason," and of some general categories of behavior it may protect, but they lacked a reliable method for applying it to particular circumstances. Instead of confidently asserting their rights, some interviewees emphasized minimizing the risk and uncertainty associated with copyright by limiting access to copyrighted materials and following arbitrary (but seemingly well-established) "guidelines" that do not have the force of law, but state clear quantitative limits. Familiarity with (and confusion about) other balancing features in copyright often added to the uncertainty surrounding fair use, leading some interviewees to reject fair use where other doctrines also fell short, or to impose unnecessarily on fair use the formalities and limitations required by other copyright provisions.

…there is enough wisdom and good sense about these issues in the academic and research library community to form the foundation for a clear code of best practices…

Again, interviewees described a wide range of practice, and many were moving forward with confidence on the basis of sophisticated understandings of fair use. What follows is a summary of the cases where practice was not moving forward on that basis, and where a code of best practices might provide significant guidance. While this article will highlight areas where some institutions could use improvement, we were more than convinced by our interviews that there is enough wisdom and good sense about these issues in the academic and research library community to form the foundation for a clear code of best practices that will help all institutions make better choices in fair use.

Teaching and Learning

In teaching and learning, the core library function where fair use was an issue for some interviewees was the provision of electronic reserves, and relatedly,

support for faculty-curated course management systems such as Moodle and Blackboard. Interviewees described a wide range of strategies for mitigating fair use concerns around these practices, but three dominant strategies emerged:

- limiting the quantity of content that could be made available electronically (e.g., by following rigid quantitative guidelines such as "no more than 10% or one chapter");
- limiting student access to electronic resources (e.g., by requiring a password for access to electronic materials, or limiting access to course materials to students currently enrolled in that course); and
- shifting to others the responsibility for selection and placement of materials in electronic format (e.g., by deferring to faculty choices or simply allowing information technology departments to operate these resources without library input).

While many interviewees believed some combination of these strategies would help them employ fair use in good faith and avoid unwanted attention from rightsholders, some lacked a clear rationale for exactly how and why these strategies were employed at their institution. Consequently, these interviewees lacked clear answers for faculty and students who questioned their policies, and they were unable to make the case for progressive reforms that many faculty and students thought were needed.

Questions about e-reserves and course management systems were sharpened where video was involved. High-profile controversies over video streaming had put the subject at the top of many interviewees' minds this summer. Some felt confident that they had chosen a reasonable policy that supported library mission, but others were concerned that they might place their institutions at risk if they provided access to video materials that was on par with textual materials. As a result, some interviewees applied a double standard to video or avoided electronic access to video altogether. Also, some interviewees gave privileged status to video vendors, worrying that small, specialty filmmakers would suffer if libraries used fair use rather than paying for new licenses to use material already in library collections. These interviewees felt a duty to support some vendors, and weighed the possible economic losses of these vendors more heavily than those of other rightsholders.

Finally, some interviewees described difficulty in teaching and advising faculty, staff, and students about fair use. Where interviewees were responsible for teaching classes or workshops on fair use, some said their representations of fair use left these constituencies disappointed. Some taught fair use in terms of strict quantitative guidelines, which prompted the audience to challenge the arbitrary outcomes these guidelines seemed to require. Others taught fair use as an indeterminate and even mysterious doctrine, answering questions about specific situations with probabilistic and non-committal phrases like "it's hard to say," and, "I think so, but you can't be sure." These interviewees sometimes suggested that obtaining permission is the only sure way to avoid infringing copyright. Many interviewees reported users had unrealistic expectations about the certainty of fair use determinations. However, interviewees reported that even library users with reasonable expectations often left these sessions frustrated and discouraged.

Faculty and Student Scholarship

Interviewees expressed concern about employing fair use in support of scholarship in three main areas: digitizing collections, managing access to collections, and operating interlibrary loan (ILL) programs. Those with the greatest uncertainty typically chose one of four strategies:

- favoring public domain, obscure, and licensed materials;
- limiting access to library holdings;
- deferring or canceling projects that raise copyright concerns; and
- with respect to ILL, many interviewees followed an extra-legal norm known as the "rule of five."

Several interviewees described digitization initiatives that were downsized, cut short, or never seriously considered due to costs associated with seeking permission or making what seem to be tedious case-by-case determinations of fair use. Many of these librarians said they were only going forward with projects that involved works they could be sure were in the public domain, e.g., works published prior to 1923. In most of these cases, interviewees were acutely aware that they would make different choices if they could give priority to projects that would attract more scholarly interest.

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Digitization projects were also shaped by some interviewees' risk management choices. These librarians had significant difficulty judging their institution's risk exposure without a clear idea of core legal rights. These interviewees told us that they took the notoriety of the author or rightsholder into consideration when deciding whether to digitize materials. They suggested that famous rightsholders, especially entertainers, are more likely to bring lawsuits over digitized collections. So in a special collection that includes hundreds of items of correspondence, some interviewees said they would go forward with digitization without seeking permission, but only if the authors were relatively obscure. Collections that mixed items of both famous and obscure origin were edited to remove the "risky" items.

Many interviewees described concerns about allowing access to both digital and physical holdings in special or unique collections. These librarians were wary that they would be responsible if a library user were to "leak" digital versions of these holdings on the Internet. To prevent this, scholars were denied access to materials, or put to considerable hardship because of constraints interviewees imposed on the use of copyrighted materials. In some cases, access was limited to the physical site of the institution. In others, digital surrogates were intentionally degraded (scans were conducted at low resolution, images available only as thumbnails). In still others, scholars were required to sign waivers declaring their purely academic and non-commercial interest in the item at issue.

In some cases, licenses prevented interviewees from supporting scholarly fair use. Licenses that govern access to databases of journal articles, for example, sometimes prevented researchers from conducting high-volume computerized retrieval and analysis of articles, an emerging method of meta-research that is becoming well established among professors and graduate students in the sciences. Interviewees described students and professors who got these projects well underway before receiving complaints from the database operator about their activities, which are arguably fair use. Similarly, licensed materials may only be accessed in formats that prevent fair use copying or manipulation. Some interviewees described real frustration at their inability to persuade key stakeholders that some licenses need to be renegotiated to make more allowance for fair use.

Finally, several interviewees described a practice of operating ILL programs in strict obedience to the extra-legal norm known as the "rule of five." The rule was formulated in the late 1970s as a safe harbor for libraries seeking to comply

with part of Section 108 of the US Copyright Act, but it has no legal authority on its own. Still, many interviewees followed it strictly, and some even used ILL software with the rule of five "baked in," and for every loan request that exceeded the rule, those libraries dutifully paid the rightsholder (often the Copyright Clearance Center). While this may not ultimately be a hindrance to library mission, it is noteworthy that most interviewees had not considered whether fair use could be useful in allowing a more flexible ILL practice.

Preservation

Fair use concerns in the area of preservation centered primarily on the relationship between the fair use doctrine and other specific provisions in the Copyright Act that are addressed to library preservation practices. Fundamentally, the question for some interviewees was whether they could rely on fair use to take measures for the sake of preservation that the other parts of the Copyright Act (codified in Section 108) may not specifically allow. More specifically, some interviewees wondered whether they could re-format materials under a fair use rationale in those cases. There were significant consequences for interviewees who believed they could not.

These interviewees described materials with inherent flaws and in near-obsolete formats that they currently allow to languish because of their interpretation of the limits of fair use and of Section 108. Books whose acidic paper would eventually turn yellow and brittle were not digitized because they were not yet damaged. A similar rationale was applied to analog audio and VHS tapes. Where the limits of Section 108 made format shifting untenable, these interviewees simply deferred action. As a consequence, materials were trapped in unpopular formats, and subjected to inevitable degradation.

Fair use was a factor for some interviewees in deciding whether and how to engage in capturing and saving material that is only available online, primarily sites published on the World Wide Web. Important cultural events and movements increasingly take place online or are documented there, and unlike books on a library shelf, these sites can disappear completely without notice. Many felt an ethical obligation to collect and preserve these materials. The uncertain status of the rights associated with them deterred some interviewees from going forward. Others had fairly aggressive plans to capture and collect these materials. There was little consensus, however, as to the best practices in this area, especially under fair use. Here, as in many situations where rights are

uncertain, a clearer understanding of when fair use allows libraries to proceed without permission could be helpful.

Exhibits and Public Outreach

Several interviewees expressed frustration with what they perceived as the limits of fair use for designing and mounting exhibits, either physically at their institutions or virtually online. Many of the problems they encountered in connection with supporting research through collection digitization recurred in the context of creating digital exhibits. Donated collections often include copyrighted works of third parties (for instance, correspondence) that cannot be governed by licenses or copyright transfers made by the donor. Rightsholders are often difficult or impossible to find. Some collections might be exhibited in their entirety, but this raises questions about whether the exhibit is suitably transformative to make a fair use claim.

Interviewees often hesitated over these issues in their exhibition projects. In particular, they worried that digital resources mounted in online exhibits could be downloaded from library servers and redistributed online, and they worried about their institutions' liability for this redistribution. In many cases where interviewees proceeded with exhibits, their institutions incurred extensive costs, including staff time to deliberate on copyright questions, as well as licensing costs, and there were typically significant delays associated with these efforts.

Interviewees responded to these costs and concerns by, reluctantly, distorting their practice in ways that are similar to the response in supporting scholarship: they favored exhibitions of public domain materials over more contemporary works, regardless of community interest or scholarly value; they favored exhibits involving obscure or anonymous persons over those involving high-profile persons who they feared might be more likely to litigate; they favored physical, on-site exhibits over virtual, online ones. Interviewees were aware of the ways in which their choices frustrated their libraries' mission to serve patrons' research and learning needs.

Access for the Disabled

In some cases, works in one format can be made accessible by creating a new, perhaps augmented, copy of the work, but creating that copy would typically violate copyright unless covered by an exception in the law. Knowledge of copyright law is thus essential to facilitating access, a core library function.

However, few interviewees dealt directly with disability policy or even with the needs of disabled patrons. Although many felt this is part of the librarian's mission, in practice another department usually handles the needs of disabled users. Some interviewees were stopped short by concern that their library or university may not satisfy Section 121 of the Copyright Act, an exception which empowers any "authorized entity" to provide accessible copies to the disabled. As with Sections 108 and 110, interviewees hesitated to apply fair use where another rule gave a simpler answer, even if the answer seemed to be, "No."

Issues arose most commonly when disabilities services departments requested materials on behalf of disabled users. In those cases, interviewees again struggled to find the principles governing appropriate fair uses. They sometimes constructed elaborate scenarios to create artificial scarcity. For instance, in cases where a student needed to use an electronic version of a book, some interviewees believed they should take the hard copy of the book off the shelf and make it unavailable to patrons. They suggested this would strengthen the "effect on the market" argument, as the library would get no additional benefit from the digital copy.

Some interviewees described problems associated with licensed materials. Confusing licenses and limitations imposed by vendors on the materials they licensed hindered these interviewees from serving disabled patrons. For some interviewees, electronic journal materials in commercial databases were not available in a format accessible to the print-disabled. In other cases, materials were protected by digital rights management technology that prevented the use of assistive technology. Even where there were no technical limitations, interviewees were sometimes hesitant to make accessible copies of materials from licensed databases because the terms of database licenses were difficult to discern and may forbid such format shifting. This difficulty could arise either because of the sheer volume of subscriptions held by an institution, or else because of the complexity of the individual license.

Conclusions

Overall, we found that a significant number of academic and research librarians were stopping short of what they believed fair use rights may allow, and they were typically aware that they could go further, but they simply did not know how to best determine their rights in particular situations. At the same time, we found that there is sufficient consensus on core library values related to copyright

and access, and there are enough model actors in the academic and research library community, that the community could productively deliberate on a set of best practices in fair use. Academic and research librarians would benefit considerably from this deliberation within their community, and from the best practices in fair use that would result.

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Public Access to Federally Funded Research: Contributions to Economic Development, Competitiveness, and Innovation

Heather Joseph, Executive Director, SPARC

As interest in ensuring public access to the results of research funded with public tax dollars continues to grow, this issue has consistently risen in profile in public policy conversations, in the US and around the world. As research funders, both private and public, gain experience in deploying policies that require expanded access to their funded research, there has been an increasing emphasis on attempting to quantify the social and economic returns to the public that might result from such policies, and the potential contributions that greater access can make to national economic development, competiveness, and innovation efforts. There have been a number of recent reports and initiatives, both domestic and international, that have made substantive contributions to our understanding of this issue, and that are worth noting.

Why Share Research Results?

The basic drivers behind the push for policies that support greater access to the results of research are universal. Scholars conduct research so new ideas can be generated, new discoveries can be uncovered, and our collective understanding of the world and our interactions with it can be enhanced. They have long understood that communication of their findings is part-and-parcel of the research process; they don't consider their work to be finished until the process of sharing their results is complete.

Research funders recognize the necessity of sharing research results as well. Agencies invest in scientific research expecting that it will result in increased benefits, both social and economic, to the public. They recognize that research is

a cumulative process, and that progress can only be made when researchers can not only *see* the work that others have done, but also *use* it—when they can build on prior work to create new knowledge. Likewise, funders understand that their investment in scientific research can only gain in value when the findings of that research are made accessible and allowed to be used to their fullest potential.

Journals have long been the main outlet for communicating scientific research results. As the Internet burst onto the scene, it became possible to share these results with the widest possible audience—to share them with anyone, in any place, at anytime. For the first time in history, it is possible to make scientific findings readily accessible to researchers, faculty, and students in academe, and also to the wider universe of users (entrepreneurs, health care providers, small business owners, patients, and other members of the general public) to whom the cost of subscriptions to journals has been an insurmountable barrier. It is also possible for these research findings to be used in new ways in the digital environment that advance the public purposes of research further than ever before.

This wider group of stakeholders, particularly entrepreneurs and small to medium-sized business enterprises (SMEs), has the potential to provide an important engine for driving economic development, innovation, and job creation. Removing any barriers that these stakeholders face in gaining access to basic and applied research information is an important step in fueling innovation. The innovative development of new products and services, and of new methods and processes, is widely seen as a driving force of economic growth. Because SMEs are such an integral part of this development process, they are increasingly the focus of government policy. The European Council, for example, recently noted, "Small and medium-sized enterprises (SMEs) form the backbone of the European economy and have the potential to contribute significantly to creating more growth and jobs in the European Union."[1]

Removing any barriers that these stakeholders face in gaining access to basic and applied research information is an important step in fueling innovation.

Research Policy Imperatives

Some have argued that journal articles reporting on publicly funded research are of little interest to stakeholders outside of the academy, and that, in any case, these stakeholders have no problem accessing such articles should they want to.

However, a recent report by the Publishing Research Consortium indicated that more than 70% of the SMEs surveyed reported experiencing difficulties in accessing such information.[2] Providing better access for non-academic stakeholders, especially SMEs, is an important consideration in creating an effective innovation agenda.

As awareness of the potential benefits of opening access to scientific research results has increased, a growing number of funders have directly addressed this issue. In its 2005 report on scientific publishing, the international Organisation for Economic Co-operation and Development succinctly captured the policy imperative, specifically noting the potential for improved ROI:

> Governments would boost innovation and get a better return on their investment in publicly funded research if they made research findings more widely available, and by doing so, they would maximize social returns on public investments.[3]

Over the past several years, a number of policies requiring deposit of publicly funded research outputs in open online repositories, and ensuring free access to the general public within a specified time frame have been proposed, and in some cases, implemented. The most visible US policy that addresses this call is that of the National Institutes of Health, which in 2008 required that all researchers funded by NIH deposit a copy of any manuscript reporting on the results of NIH-funded research into the agency's online repository (PubMed Central) to be made publicly accessible no later than 12 months after appearance in a peer-reviewed journal.

The European Union (EU) has taken an even more aggressive stance, by adopting what they term the "Fifth Freedom,"[4] the free movement of knowledge, as a core tenet of the EU's basic mission. The EU has proposed a policy similar to that of the NIH for the results of its funded research, with an even shorter embargo period of six months. These examples are just two of more than three dozen policies that have been established by public funding bodies around the world.[5]

Studies of ROI in Open Access Policies

While there is ample anecdotal evidence of the benefits of policies mandating open access to publicly funded research, the relative costs and benefits and the actual return on investment have not been fully studied. However, in just the

past two years, we have seen significant progress made in attempts to identify metrics for demonstrating the ROI in open access dissemination of publicly funded research, and to quantify the costs and benefits of doing so.

European Studies

The most visible work to date has been done by a team from the Centre for Strategic Economic Studies at Victoria University, lead by economist John Houghton. Beginning in early 2009, studies by Houghton were commissioned by research funders and government agencies in a number of countries interested in exploring the actual costs and benefits to a national economy of opening up access to research results.

A prime example of the kind of project that Houghton's team undertook was an effort funded by JISC in the UK. Houghton and his colleagues sought to describe models of scholarly publishing that result in varying levels of access to articles: the current system of subscription access journals, a system of open access journal publishing, and open access archiving in digital repositories. They attempted to identify, in detail, every dimension of cost and benefit for each of these three models.

The JISC study further examined which stakeholders would be affected, and how, by each of the costs and benefits identified. And perhaps most critically, the team also sought to quantify the costs and benefits and, where possible, to identify these outcomes for each of the three models examined for the main players in the scholarly communication system. The final report, *Economic Implications of Alternative Scholarly Publishing Models: Exploring the Costs and Benefits,* estimates that, in 2007, publication of everything under the subscription model would have cost UK institutions £230 million. In contrast, the estimated cost for publishing everything under the open access model would have been £150 million. The study also looked at the cost for self-archiving the articles instead and estimated this at just £110 million.[6]

Similarly, another study commissioned by the SURFfoundation in the Netherlands, *Costs and Benefits of Research Communication: The Dutch Situation,*[7] also compares the three access models, and concludes that an open access model offers the greatest financial advantage. This report examined the costs of financing an open access model on a national level, and concluded that adoption of this model could lead to an annual saving of €133 million for the Netherlands.

These reports are part of a larger series of similar studies funded by the

European Knowledge Exchange.[8] The series conclusions have been widely reported on, and have resulted in a survey detailing the cost/benefit effects of open access in the countries covered. Perhaps one of the most valuable outputs of these studies has been the open publication of the model used by the researchers who conducted this work. The model was based on the Scientific Communication Life Cycle Model developed by Bo-Christer Bjork,[9] and has been substantially developed and extended to capture all of the activities and related costs throughout the scholarly communication process to highlight the differences between alternative publishing models. The model is freely available online,[10] and can be used by anyone who wants to challenge any of the assumptions made by the researchers, or to examine their own set of economic data.

United States Study

Earlier this year, Houghton's work was applied to a US scenario for the first time. The study, *Economic and Social Returns on Investment in Open Archiving Publicly Funded Research Outputs*,[11] uses the same basic methodology as the European research but has a slightly different focus. Houghton's research this time focused specifically on the proposed Federal Research Public Access Act (FRPAA, H.R. 5037 and S. 1373)—a bill currently before the US Congress that seeks to maximize the public's return on research investment by delivering open online access to the results of research funded by 11 federal agencies, no later than six months after publication in a journal.

The report projects that more than $1 billion in benefits could be returned to the US economy over 30 years—an amount more than five times the costs of archiving the same material over the same period.

Houghton's US study outlines one possible approach to measuring the potential return on public investment in research and development (R&D). It examines the effect of a set of key variables that influence the potential return and looks at variables that affect both *access* to research (including an examination of content embargoes) and the *efficiency* with which research is applied in practice. Similar to the studies conducted in Europe, the US study's preliminary models suggest that FRPAA's enactment could lead to a positive return on the public's investment. The report projects that more than $1 billion in benefits could be returned to the US economy over 30 years—an amount more than five times the costs of archiving the same material over the same period.

To address the efficiency aspect, Houghton's model relies on studies that

Application of ROI Models to the University Environment

This more open model of research is consistent with the research mission of the university to create and disseminate knowledge—and appears to lead to both broader and deeper research while increasing the pace of innovation.*

While the major focus of the series of studies recently carried out by Australian economist John Houghton and his colleagues has been on modeling the potential costs and benefits of open access to national funding agencies, the economics of open access is also of deep interest to the higher education community.

Consequently, Houghton, joined by UK researcher Alma Swan, conducted a follow-up study examining the likely economic outcomes of open access at an institutional level. Houghton and Swan look at the three most common routes by which open access is currently implemented:

- First, through the collection of copies of published articles in repositories while the articles continue to be published in journals and the journals sold on subscription to libraries ("green" open access).
- Second, through open access journals that charge an article-processing fee for each article published ("gold" open access).
- Third, through repositories collecting unpublished articles and using quality-control services to manage the articles through peer review and to apply editorial procedures on the articles before they are opened up from the university repository ("green" open access with overlay services).

Houghton and Swan examined the effects of each potential route on higher education institutions of varying size and research intensity. In their initial findings, the authors find that open access would result in savings for most institutions regardless of the routes that is taken. However, for larger research universities, the level of article processing fee is a key variable—if the charge per article reaches too high a point, "gold" open access may prove more expensive for those institutions.

To encourage individual institutions to examine the potential economic impacts of open access under the circumstances specific to their campuses, Houghton and Swan have also provided a working model for open use by the community, available at http://www.cfses.com/EI-ASPM/Institutional EI-ASPM Cost Model (USA).exe.

* Digital Connections Council, Committee for Economic Development, *Harnessing Openness to Improve Research, Teaching, and Learning in Higher Education* (Washington, DC: Committee for Economic Development, November 2009), 3, http://www.ced.org/images/library/reports/digital_economy/dcc_opennessedu09.pdf.

indicate that freely accessible papers are downloaded and cited more often than papers available only via subscriptions. The study suggests that even a modest 1% increase in the accessibility and efficiency of the papers covered by this proposed legislation could result in a 20% annual return on the 11 agencies' investments in research and development.

Houghton's US study closely examines the model's sensitivity to critical assumptions and broadly concludes that the benefits of public access would exceed the costs over a wide range of scenarios. However, Houghton and his team recognize that these studies represent a starting point for detailed economic analysis. Crucially, the study also defines additional data and model developments that the authors suggest can help to fine-tune future estimates of the policy's impact, and they also encourage the use/evolution of the model by any interested stakeholders. While some publishing trade organizations (most notably STM, the International Association of Scientific, Technical & Medical Publishers) have criticized the report's findings in a press release,[12] no alternative economic data or models have yet been provided.

Conclusion

Collectively, this series of reports and studies focusing on developing effective mechanisms to quantify the potential return on investment in scientific research through providing greater access provides an important new data set to be considered in policy deliberations. Continuing to refine such models, or creating additional models, can only serve to enhance our understanding of the potential impact of opening up access to the results of publicly funded research.

1 Council of the European Union, "Presidency Conclusions of the Brussels European Council," March 13/14, 2008, rev. May 20, 2008, p. 7, http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/ec/99410.pdf.

2 Mark Ware, *Access by UK Small and Medium-Sized Enterprises to Professional and Academic Information*, ([London]: Publishing Research Consortium, August 2009), 13, table 2, http://www.publishingresearch.net/SMEaccess.htm.

3 Organisation for Economic Co-operation and Development, "Governments Should Improve Access to Publicly Funded Research, Finds OECD Report," news release, Sept. 22, 2005, http://www.oecd.org/document/1/0,2340,en_2649_201185_35397879_1_1_1_1,00.html. See also the full report: John Houghton and Graham Vickery, *Digital Broadband Content: Scientific Publishing* ([Paris]: Organisation for Economic Co-operation and Development, 2005), http://www.oecd.org/dataoecd/42/12/35393145.pdf.

4 "Presidency Conclusions of the Brussels European Council," p.5.

5 ROARMAP (Registry of Open Access Repository Material Archiving Policies), http://www.eprints.org/openaccess/policysignup/.

6 John Houghton et al., *Economic Implications of Alternative Scholarly Publishing Models: Exploring the Costs and Benefits*, ([Bristol, England]: JISC, John Houghton et al., January 2009), 167, 224,

http://www.jisc.ac.uk/publications/reports/2009/economicpublishingmodelsfinalreport/.

7 John Houghton, Jos de Jonge, and Marcia van Oploo, *Costs and Benefits of Research Communication: The Dutch Situation* ([Utrecht]: SURFfoundation, May 2009), http://www.surffoundation.nl/en/actueel/Pages/OpenAccesspublicationcansavetheNetherlandsupto133millioneuros.aspx.

8 John Houghton, *Open Access—What are the Economic Benefits? A Comparison of the United Kingdom, Netherlands, and Denmark* ([Copenhagen]: Knowledge Exchange, June 2009), http://www.knowledge-exchange.info/Default.aspx?ID=316.

9 Bo-Christer Björk, "A Model of Scientific Communication as a Global Distributed Information System," *Information Research* 12, no. 2 (January 2007), http://informationr.net/ir/12-2/paper307.html.

10 Ibid.

11 John Houghton, Bruce Rasmussen, and Peter Sheehan, *Economic and Social Returns on Investment in Open Archiving Publicly Funded Research Outputs* (Washington, DC: SPARC, July 2010), http://www.arl.org/sparc/publications/papers/vuFRPAA/index.shtml.

12 "STM, PA & ALPSP respond to Houghton JISC Report," April 6, 2009, http://www.stm-assoc.org/news.php?id=217

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News

National Archives and Records Administration Becomes Newest Member of ARL

The membership of ARL voted in October to invite the National Archives and Records Administration (NARA) to join as the 126th member. David S. Ferriero, Archivist of the United States, accepted the invitation. Located in Washington, DC, NARA serves American democracy by safeguarding and preserving the records of our Government, ensuring that the people can discover, use, and learn from this documentary heritage. For more information, see the ARL press release at http://www.arl.org/news/pr/NARA-nov10.shtml.

ARL Transitions

California, Davis: Randolph M. Siverson, a distinguished professor emeritus and research professor of political science, was appointed Acting University Librarian, effective December 1, 2010. He assumed administration of the General Library from Helen Henry and Gail Yokote, who served as Acting Co-University Librarians since January 2009, when then-University Librarian Marilyn Sharrow went on leave. Sharrow retired as University Librarian Emerita in March 2010.

Harvard: Nancy M. Cline announced her intention to retire from the position of Roy E. Larsen Librarian of Harvard College, effective at the end of this academic year.

Texas A&M: Charles Gilreath, Executive Associate Dean of University Libraries, was named Interim Dean of Libraries, effective December 1, 2010. Dean of Libraries Colleen Cook has been appointed Trenholme Dean of Libraries at McGill University, effective January 2011.

Utah: Joyce L. Ogburn's title has changed from University Librarian and Director of the J. Willard Marriott Library to Dean of the J. Willard Marriott Library and University Librarian

Yale: Jon Butler, the Howard R. Lamar Professor of American Studies, History, and Religious Studies, and former Dean of the Graduate School, was appointed Acting University Librarian, effective December 1, 2010.

ARL Staff Transitions

Sarah Lippincott joined the ARL staff as a Communications Program Associate, effective November 30, 2010, while Kaylyn Groves is on maternity leave.

Lindsay Sarin joined the ARL staff as a Program Assistant, effective November 30, 2010. She is currently an MLS student at the University of Maryland.

Memorial

Frank M. Turner, 1944–2010

Frank M. Turner, Yale University Librarian and John Hay Whitney Professor of History, died of a pulmonary embolism on November 11 at the age of 66. Turner served as University Provost from 1988 to 1992, Director of the Beinecke Rare Book and Manuscript Library since 2003, and Interim University Librarian from January 2010 to September, when he was named University Librarian in September 2010.

ARL Calendar 2011

http://www.arl.org/events/calendar/

January 7	ARL Library Assessment Forum *San Diego, California*
January 7	ARL Survey Coordinators & SPEC Liaisons Meeting *San Diego, California*
January 8	SPARC-ACRL Forum on Emerging Issues in Scholarly Communication *San Diego, California*
January 8–9	ARL Leadership Symposium *San Diego, California*
January 10	LibQUAL+® Training Sessions *San Diego, California*
February 10–11	ARL Board Meeting *Washington, DC*
March 14–18	Service Quality Evaluation Academy *Toronto, Ontario, Canada*
Spring 2011 (*date to be determined*)	XML Development: From Markup to Application Washington, DC
March 23–25	Planning with the ARL 2030 Scenarios *Atlanta, Georgia*
April 4–5	CNI Spring Membership Meeting *San Diego, California*
May 3–6	**ARL Board & Membership Meetings** *Montreal, Canada*
May 26	Entry Deadline for Sparky Awards Student Video Contest
June 27–July 1	METS Workshop: The Basics and Beyond *New Orleans, Louisiana*
July 25–26	ARL Board Meeting *Washington, DC*
October 11–14	**ARL Board & Membership Meetings** *Washington, DC*
December 12–13	CNI Fall Membership Meeting *Arlington, Virginia*

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