

Sustainable and Open Access to Valuable Legal Research Information: A New Framework*

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This article evaluates the current status of access to foreign and international legal research information, analyzes the challenges that information providers have experienced in providing valuable and sustainable access, and proposes a model that would help create and facilitate effective and sustainable access to valuable foreign, comparative, and international legal information.

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Introduction

¶1 This article evaluates the current status of access to foreign and international legal research information, analyzes the challenges that information providers have experienced in providing valuable and sustainable open access, and proposes a model based on an open system that takes advantage of the benefits drawn from crowdsourcing and collective wisdom that would help create and facilitate effective access to valuable foreign, comparative, and international law (FCIL) information in a sustainable way.

¶2 In 2015, we conducted an online survey¹ that identified the greatest needs of law librarians and legal information professionals for FCIL information: teaching materials; a list of experts, newsletters, and listservs; and blogs. In addition, respondents commented frequently on the need for primary legal materials, webpage links, listservs, and research guides that include search strategies. Although many of these materials already exist for free on the web, our survey results indicated that professionals who needed valuable legal research information were not finding it. The question became what causes the lack of connection between information provider and target audience?

¶3 We argue that the majority of the information that currently exists is not “valuable information”² that meets researchers’ needs. The key reasons that “valuable information” does not exist are lack of financial and institutional support and lack of an open system to provide such information. At the end of the article, we propose an open framework founded on the concepts of crowdsourcing and collective intelligence using resources from professional organizations, law schools, and libraries to provide more adequate access to useful legal information.

1. In less than two weeks after we distributed the survey by email to three major listservs (IALL, Int-law, and AALL), we received 243 responses composed of academic, firm, court, and corporate librarians, as well as attorneys and independent researchers from the United States, Canada, Europe, Africa, and Asia. The survey respondents expressed an overwhelming interest in four types of legal information: 79% of the respondents indicated a strong preference for teaching materials; 66% indicated strong interest in a list of experts, newsletters, and listservs; and 63% indicated a keen interest in blogs. In addition, the need for primary legal materials, links to webpages, listservs, and research guides that include search strategies frequently appeared in the respondents’ comments. A summary of the survey is available as an appendix to this article.

2. Scholars in different disciplines have attempted to define the term “valuable information.” See, e.g., MARTIN J. EPPLER, *MANAGING INFORMATION QUALITY: INCREASING THE VALUE OF INFORMATION IN KNOWLEDGE-INTENSIVE PRODUCTS AND PROCESSES* (2003); *THE VALUE OF INFORMATION: METHODOLOGICAL FRONTIERS AND NEW APPLICATIONS IN ENVIRONMENT AND HEALTH* (Ramanan Laxminarayan & Molly K. Macauley eds., 2012); DAVID B. LAWRENCE, *THE ECONOMIC VALUE OF INFORMATION* (1999). For purposes of our discussion, we define valuable information as being discoverable, accessible, and useful; coming from reliable sources; up to date; and meeting the needs of its target audience.

Legal Research Information in Dire Need

¶4 We cover two types of legal research information: Type 1 contains substantive materials, such as websites or databases containing primary laws, teaching materials, and research guides; Type 2 contains websites directing users to substantive (Type 1) materials, such as lists of experts, listservs, blogs, and primary legal materials.

Type 1 Information: Primary Laws

¶5 Thanks to the recognition that access to government information, including legal information, is a fundamental right in a democracy, many countries have passed laws or regulations opening up government information, including primary legal materials, to the public and have made it available online.³ For example, Legifrance,⁴ Gesetzim Internet,⁵ and Moniteur Belge⁶ all provide access to primary laws in the vernacular language. Some countries even provide English translations of selective laws on their official government websites, such as Japanese Law Translation⁷ and Korean Laws in English,⁸ offered by the Ministry of Government Legislation of Korea.

¶6 Major international organizations also compile and make available online foreign laws in specific subject areas. The FAOLEX database, for instance, provides access to primary laws of many member states in the area of food and agriculture.⁹ The World Intellectual Property Organization's WIPO Lex database provides access to national laws and international agreements on intellectual property.¹⁰ The World Legal Information Institute (WorldLII)¹¹ also provides access to the primary law of many countries.

¶7 A few major issues to accessing these primary laws remain, however. First, currency and dates of coverage vary widely among the websites. Due to different financial, technological, or institutional barriers, many websites offer neither current legal information nor historical legal information. For example, EUR-Lex, the official European Union database, carries the *Official Journal* in full text going back to the first issue in 1952 and up to the most current issue.¹² Researchers who need

3. See UNESCO, FREEDOM OF INFORMATION: A COMPARATIVE LEGAL SURVEY (Toby Mendel ed., 2d ed. 2008), <http://www.unesco.org/new/en/communication-and-information/resources/publications-and-communication-materials/publications/full-list/freedom-of-information-a-comparative-legal-survey-2nd-edition/> [<https://perma.cc/ZL9F-HMY7>].

4. LEGIFRANCE, <https://www.legifrance.gouv.fr> [<https://perma.cc/G7TL-C3PF>].

5. BUNDESMINISTERIUM DER JUSTIZ AND FÜR VERBRUCHERSCHUTZ, BASIC LAW FOR THE FEDERAL REPUBLIC OF GERMANY, https://www.gesetze-im-internet.de/englisch_gg/englisch_gg.html [<https://perma.cc/WLQ6-7MFW>].

6. BELGISCH STAATSBAD/MONITEUR BELGE, <http://www.ejustice.just.fgov.be/cgi/welcome.pl> [<https://perma.cc/U4A7-Z2TC>].

7. JAPANESE LAW TRANSLATION, <http://www.japaneselawtranslation.go.jp/?re=02> [<https://perma.cc/R8BZ-FSUA>].

8. KOREAN LAWS IN ENGLISH, <http://www.moleg.go.kr/english/korLawEng> [<https://perma.cc/EE3S-2M36>].

9. FAOLEX DATABASE, <http://www.fao.org/faolex/en/> [<https://perma.cc/25Q7-U3UZ>].

10. WIPO Lex, <https://wipolex.wipo.int/en/main/legislation> (last visited Apr. 22., 2019).

11. WORLD LEGAL INFORMATION INSTITUTE, <http://www.worldlii.org> [<https://perma.cc/U3N5-FHS5>].

12. EUR-LEX: ACCESS TO THE OFFICIAL JOURNAL, <https://eur-lex.europa.eu/oj/direct-access.html> [<https://perma.cc/FU2Y-K2Z2>].

to access cases of the Inter-American Commission on Human Rights issued before 1970, however, still need to consult the print *Annual Report of Inter-American Commission on Human Rights*.¹³

¶8 Second, many of these sites need better search features and updated schedules. U.S. legal researchers who rely on *Shepard's* or KeyCite might take those tools for granted and feel helpless when forced to research without them. Unfortunately, with very few exceptions,¹⁴ the reality is that most resources do not have a citator service that allows researchers to easily update primary laws.

¶9 A third issue is sustainability. Websites sponsored and maintained by developed countries and major international organizations tend to be more stable. But even with stable websites, URLs and content could change often, without advance notice. For the government websites that provide the full-text primary laws, the real need is sustainability, easy-to-find guidance, and enhanced research capabilities.

Type 1 Information: Teaching Materials

¶10 Survey respondents cited teaching materials, specifically FCIL teaching materials, as the most popular category of information, and they clearly indicated a need for a portal or website that makes FCIL teaching materials available. By “teaching materials,” we mean anything that contributes to a teacher’s preparation, classroom performance, student readings, exercises, and evaluation (e.g., syllabi, exercises, assignments, exam questions, and readings). A cursory look at what is currently available finds only AALL’s FCIL-SIS syllabi and course materials database, which was last updated in 2015.¹⁵ The website includes material such as syllabi, in-class exercises, interest/experience surveys, assignments, and lecture notes and material on various topics, such as human rights research, international trade research, and immigration law research. Most of the materials are in Word or PDF format, and there are audio materials available as well. In other words, it is a website that includes very helpful and diverse resources at first glance.

¶11 If there is already such a useful website, why did so many respondents indicate strong needs for such a website? There are perhaps three reasons. The first is marketing. It has not been marketed as available to everyone who has such a need. “Available” here means both the ability to inform users of a site’s availability and tools that help users find what they need effectively. FCIL-SIS’s syllabi and course materials database is open to the public, not just AALL or FCIL-SIS mem-

13. ANNUAL REPORTS, INTER-AM. COMM’N ON HUMAN RIGHTS, <https://www.cidh.oas.org/annual.eng.htm> [<https://perma.cc/YU82-8JHC>].

14. The Australasian Legal Information Institute (AustLII) has its own citator tool, which is called LawCite. See AustLII, *LawCite Overview*, <http://www.austlii.edu.au/LawCite/doc/overview.html> (last visited Feb. 18, 2019). The European Court of Justice has an Annotation of Judgments publication that allows researchers to see secondary resources citing a particular judgment. See COURT OF JUSTICE OF THE EUROPEAN UNION, *Annotation of Judgments*, https://curia.europa.eu/jcms/jcms/Jo2_7083/en/ [<https://perma.cc/4QJL-6XJ2>]. EUR-Lex allows users to check the procedure information of a particular piece of legislation, directive, or regulation issued by the European Union. See EUR-LEX, *Lawmaking Procedures*, <https://eur-lex.europa.eu/collection/legislative-procedures.html> [<https://perma.cc/PBM4-97U4>].

15. AM. ASS’N OF LAW LIBRARIES, FOREIGN, COMPARATIVE & INTERNATIONAL LAW SIS, *2015 Syllabi and Course Materials Database*, <https://www.aallnet.org/fcilsis/education-training/teaching-fcil/syllabi-course-materials-database/> [<https://perma.cc/AG82-CNY6>].

bers. Librarians not specializing in FCIL may not realize its existence. Furthermore, few U.S. law librarians specialize in FCIL. In many libraries, general reference or research librarians who have not been actively involved in the FCIL-SIS are unlikely to know of the database's existence.¹⁶

¶12 Second, the database needs more frequent substantive updates. The current FCIL-SIS database was updated as of 2015, but most, if not all, of the materials were produced from 2010 to 2014. However, international and foreign legal research changes regularly. In the past two years, for example, many resources have changed, such as the revamping of the UN's Official Document System in 2016. Teaching materials on UN legal research produced in 2014 or 2015 are unlikely to reflect that change. Furthermore, many of the FCIL-SIS syllabi and course materials available in the database still discuss print resources that have ceased print publication, such as the *Foreign Law Guide*.¹⁷

¶13 Legal research instruction should also teach research strategies and solutions to practical legal research problems as well as train students to use databases skillfully.¹⁸ Recently overhauled ABA Standards 303 and 304¹⁹ call for courses that are “primarily experiential in nature,”²⁰ and the AALL Principles and Standards for Legal Research Competency contain a number of competencies that require high-level cognition. Principle III, for instance, requires a legal professional to know how to evaluate the authority, credibility, currency, and authenticity of the information retrieved. The terms “synthesize,” “articulate,” “craft arguments,” and “resolve” used in the Standards for Legal Research Competency²¹ are sophisticated cognitive skills that go substantially beyond rote memory. New teaching materials that have incorporated methods and strategies that apply these standards would undoubtedly enrich the existing FCIL teaching database and attract more users. The FCIL website, however, includes few or no teaching materials that address improving students' ability to synthesize, articulate, and solve legal research problems.

16. There are 326 members of the FCIL-SIS out of 4277 members of AALL. See AM. ASS'N OF LAW LIBRARIES, *By the Numbers*, <https://www.aallnet.org/community/membership/by-the-numbers/> [<https://perma.cc/WD3K-Y26L>].

17. See BRILL, *Foreign Law Guide: Access to Global Legal Information*, <https://brill.com/view/db/flg> [<https://perma.cc/RN5U-K6V6>].

18. See Paul D. Callister, *Thinking Like a Research Expert: Schemata for Teaching Complex Problem-Solving Skills*, in *TEACHING LEGAL RESEARCH* 30, 30–50 (Barbara Bintliff & Duncan Alford eds., 2011); Susan S. Katcher, *Reflections on Teaching Legal Research*, in *EXPERT VIEWS ON IMPROVING THE QUALITY OF LEGAL RESEARCH EDUCATION IN THE UNITED STATES*, 45, 45–52 (1991).

19. AM. BAR ASS'N, SECTION OF LEGAL EDUCATION AND ADMISSIONS TO THE BAR, *ABA STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHOOLS 2015–2016*, https://www.americanbar.org/content/dam/aba/publications/misc/legal_education/Standards/2015_2016_aba_standards_for_approval_of_law_schools_final.authcheckdam.pdf [<https://perma.cc/P9E7-GXNN>].

20. See *id.* at Standard 303a(3).

21. Principle IV requires legal professionals to synthesize “legal doctrine by examining cases similar, but not identical, to cases that are the current focus of research, in order to articulate how courts should apply current authoritative and relevant case law” and to use “research results to craft or support arguments that resolve novel legal issues lacking precedent, when appropriate.” See AM. ASS'N OF LAW LIBRARIES, *PROMOTING THE AALL LEGAL RESEARCH PRINCIPLES, COMPETENCIES AND STANDARDS FOR LAW STUDENT INFORMATION LITERACY TASK FORCE*, <https://www.aallnet.org/wp-content/uploads/2017/11/2012-2013-CommFR-Promoting-the-AALL-Legal-Research-Principles-Competencies-and-Standards-for-Law-Student-Information-Literacy-Task-Force.pdf> [<https://perma.cc/34J2-EQD2>].

¶14 Finally, there may be room to improve the searchability of the current FCIL website. Currently, browsing and clicking are the only ways to access each of the resources. Adding full-text searching to the database would greatly improve its usability and efficiency. Using our definition of “valuable information,” we see room for improvement in making the existing FCIL teaching database truly valuable. Although the information available in the FCIL-SIS teaching database meets the needs of its intended audience in some ways (e.g., it is authored by reliable FCIL experts and provided by an authoritative organization), it nevertheless lacks timeliness, comprehensiveness of the content, sufficient discoverability, and advanced searchability.

Type 1 Information: Legal Research Guides

¶15 The survey also revealed a strong interest in legal research guides, especially ones that include tips and strategies for conducting legal research. Current choices are few.

¶16 EISIL (Electronic Information System for International Law), a free resource from the American Society of International Law, provides links to standard, foundational texts, particularly treaties and research guides, and a list of research resources on many areas of law in the field of public and private international law. It was considered one of the best starting points for international law research until it stopped updating in 2013.²²

¶17 GlobaLex, maintained by New York University’s Hauser Global Law School Program, collects legal research guides in the FCIL areas.²³ Research guides are created and updated by legal researchers and subject specialists globally. GlobaLex guides are generally updated every two or three years. Guides often include an overview of legal system, background information, and a list of pertinent primary and secondary resources.²⁴ GlobaLex is an outstanding example of providing sustainable access with good financial and institutional support.

Type 2 Information: Links to Substantive Legal Research Information

¶18 Quite a few websites offer links to freely available primary legal information in the United States and worldwide. For example, the Law Library of Congress’s *Guide to Law Online* provides access information to the three branches of government of each country in the world.²⁵ But it does not link to any specific legal information. Instead it links to government sites that might include primary sources of law. As a result, users need to muddle through the sites to pinpoint the exact information they are looking for.

22. Currently, under the extraordinary leadership of Barbara Bean, a retired librarian from Michigan State University Law Library, and Don Ford of the University of Iowa Law Library, the EISIL website is undergoing massive content updates and is expected to be available for access soon.

23. GLOBALEX, <http://www.nyulawglobal.org/globalex/> [<https://perma.cc/3KU4-FM6N>].

24. For more discussions about GlobaLex, see Heidi Frostestad Kuehl, *GlobaLex: A Unique and Valuable Tool for Foreign, Comparative, and International Law Research*, 34 INT’L J. LEGAL INFO. 473 (2006); Mirela Roznovschi, *The 10th Anniversary of GlobaLex: A Portal Dedicated to Foreign, Comparative and International Law Research*, 14 LEGAL INFO. MGMT. 300 (2014).

25. LIBRARY OF CONGRESS, *Nations*, <https://www.loc.gov/law/help/guide/nations.php> [<https://perma.cc/K7NH-9ZPU>].

¶19 Another well-known resource that provides links directly to government publications, including primary law, is *Government Gazettes Online*.²⁶ Unfortunately, due to a need for funding and human resources, the website stopped updating in 2003. Here, we have a good example of failure to maintain sustainable access due to lack of financial and institutional support.²⁷

¶20 We conclude that current websites do not meet users' needs due to the lack of (1) sufficient discoverability, (2) assurance of the currency of information, and (3) more advanced searching functionalities. Each of these weaknesses is reasonably attributable to lack of institutional support and human and financial resources, which are discussed in detail next.

The Economic Model for Providing Free Access to Legal Information

¶21 Providing free access to international and foreign legal research is easier said than done. What are the justifications for providing free access to legal research information, and are they strong enough to overcome the costs? In this section, we argue that the types of legal information discussed thus far are analogous to legal scholarship and source code, which should be made available under open access principles and open source principles, respectively. Further, law schools and professional associations such as AALL and the ABA should bear the costs to provide free access to their stakeholders and legal researchers in general because doing so is an obligation consistent with their fundamental missions.

¶22 Open access, along with the closely related concept of open source, traces back to at least the mid-1980s (but the concepts predate software and even computers).²⁸ In 1986, the Free Software Foundation published the famous *Free Software Definition*, authored by Richard Stallman. The gist of the *Free Software Definition* is that free software is “free as in freedom,” but not “free as in beer.” More specifically, four freedoms define free software or, in a broader term, open source: (1) “the freedom to run the program, for any purpose” with no restriction in terms of purpose; (2) “the freedom to study how the program works, and adapt it to your needs” with no restriction on the understanding and modification of the program; (3) “the freedom to redistribute copies” with no charge; and (4) “the freedom to improve the program, and release your improvements to the public” to benefit the entire community.²⁹

¶23 Twelve years later, Jon Hall and others founded the Open Source Initiative (OSI), using the term “open source,” rather than “free,” software.³⁰ According to OSI, “open source” means free distribution of software with a license that includes source code, with no discrimination against persons or groups or specific fields of endeavor, and with no restrictions to specific products or software on a technology-

26. GOV'T GAZETTES ONLINE, <http://www-personal.umich.edu/~graceyor/doctemp/gazettes/index.htm> [<https://perma.cc/FPA6-H9ZQ>].

27. Email exchange between Alex Zhang and Grace York, the documents webmaster (on file with authors).

28. WIKIPEDIA, *History of Free and Open-Source Software*, https://en.wikipedia.org/wiki/History_of_free_and_open-source_software [<https://perma.cc/J6EL-2R62>].

29. FREE SOFTWARE FOUND. EUR., *What Is Free Software?*, <http://fsfe.org/about/basics/freesoftware.en.html> [<https://perma.cc/ZX8L-PK9Z>].

30. Henrik Udsen, *Open Source Licenses*, in *USER GENERATED LAW: RE-CONSTRUCTING INTELLECTUAL PROPERTY LAW IN A KNOWLEDGE SOCIETY* 99, 103 (Thomas Riis ed., 2016).

neutral platform.³¹ Despite some philosophical differences between free software and open source software, the practical implication is the same: to encourage sharing software or code freely. But the sharing is not without cost.

¶24 “Open access” is probably a more familiar term to librarians than “open source,” as it is mainly about sharing resources and collections. Peter Suber initiated a timeline of the open access movement in 2009, which is available in the Open Access Directory (OAD) for crowdsourcing editing efforts.³² According to this timeline, the U.S. Department of Education and the National Library of Education pioneered the open access effort by launching the Educational Resources Information Center (ERIC). The project first focused on disseminating documents relevant to special education teachers and then expanded to a larger database that covers publications and materials related to education more generally and freely available to anyone to browse and download without a license.³³

¶25 Since 2000, there have been quite a few attempts to define the term “open access” in the field of legal information and scholarship.³⁴ In 2008, U.S. law library directors met at Duke School of Law in Durham, North Carolina, and drafted the Durham Statement on Open Access to Legal Scholarship, calling for free access to law reviews and journals in stable, open, and digital formats.³⁵

¶26 We argue that Type 1 material is likened to the legal scholarship embraced by the Durham Statement (and other open access principle statements), which encourages us to share under the open access principle; Type 2 material, we argue, is more akin to source code or software to be shared openly under open source principles. The ultimate goal we strive to achieve is to make both types of information freely available and with unrestricted use.

¶27 We advocate for the free availability of legal information, including both Type 1 and Type 2 materials, without incurring financial cost on the part of consumers or users. In other words, anyone in the world should be able to access these materials online when needed. More important, by “availability” we include that users should be able to read, download, and easily understand the information provided. By “unrestricted” we mean that users should be able to reuse or modify the information to serve their own purposes, without any conditions or discrimination against anyone or any specific field. By “use” we mean that users can make informed decisions on whether and how to reuse or modify the information for their own purposes effectively at any time, including reprinting and redistributing on the web with proper credit given.³⁶ It is about the credibility, reliability, and

31. *Id.* 103–04.

32. OPEN ACCESS DIRECTORY, *Timeline of the Open Access Movement*, <http://oad.simmons.edu/oadwiki/Timeline> [<https://perma.cc/8CB7-7HF6>].

33. 50 YEARS OF ERIC: 1964–2014, https://eric.ed.gov/pdf/ERIC_Retrospective.pdf [<https://perma.cc/8NLS-XHSA>].

34. See, e.g., JOHN WILLINSKY, *THE ACCESS PRINCIPLE: THE CASE FOR OPEN ACCESS TO RESEARCH AND SCHOLARSHIP* (2006); BERLIN DECLARATION ON OPEN ACCESS TO KNOWLEDGE IN THE SCIENCES AND HUMANITIES (Oct. 22, 2003), <https://openaccess.mpg.de/Berlin-Declaration> [<https://perma.cc/NE65-R2VB>]; BUDAPEST OPEN ACCESS INITIATIVE DECLARATION (Feb. 14, 2002), <https://www.budapestopenaccessinitiative.org/read> [<https://perma.cc/8WL5-K35D>].

35. DURHAM STATEMENT ON OPEN ACCESS TO LEGAL SCHOLARSHIP (Feb. 11, 2009), <https://cyber.harvard.edu/publications/durhamstatement> [<https://perma.cc/PE6Y-JK27>].

36. Proper balance and healthy interplay between copyright and open access can be tricky but is very important for sustainable development of open access. For more discussions on the interplay and

trustworthiness of the information provided. This is especially important with legal information, including any information that directs users to primary or secondary legal resources.

¶28 On the other hand, free access is “free” as in “free speech,” not as in “free beer.”³⁷ The access to information may be available to users for free. But the information itself and the process of creating and updating information, and the resources and tools to keep the information open, are not free at all. Next, we show that the value of legal research information on demand is strong enough to justify the cost of providing sustainable, free access to the information. Institutions such as law schools, libraries, and professional organizations should collaboratively bear the cost.

Price of Providing Sustainable Free Access to Legal Research Information

¶29 Providing free access to Type 1 and Type 2 materials carries many associated costs. Jessica Litman argues that the “price of legal scholarship is not, however, set in the marketplace for legal periodicals but in the marketplaces for the people who write and edit them.”³⁸ We believe this applies to both Type 1 and Type 2 materials; that is, there are financial costs, including operational costs and opportunity costs, incurred among authors, mostly law librarians, creating Type 1 materials such as research guides and teaching materials, and among people collecting and making available Type 2 materials, such as compiling a list of experts or of access points to primary legal sources.

¶30 These costs include librarians’ salary and time spent on creating these materials, as opposed to time and energy spent on other job duties. These financial expenses are somewhat covered by law schools and law libraries supporting their law librarians’ professional development through salaries or other benefits, such as extra payment for teaching, paid leave for research, and reimbursement for professional conferences and involvement. However, not all such expenses are paid through the above measures because tasks related to creating free access are rarely part of the main job responsibilities for law librarians. They therefore often do not take priority over other important law librarian duties, and the time that a librarian can spend on them is minimal. This likely also explains why many resources we examined previously are not up-to-date, making them of diminishing value to their target audience. To provide sustainable and timely access to legal information materials meeting the real needs of our intended audience, we need to find additional sources of funding.

¶31 On the other hand, creating and maintaining media (such as a website or database) to provide access to or about valuable information is different from creating the content itself. It requires additional expenses such as maintaining a website or a server, and additional skill sets, such as building and maintaining a scalable website, building a searchable database, and updating the website (which is differ-

relationship between copyright and open access, see Robert C. Denicola, *Copyright and Open Access: Reconsidering University Ownership of Faculty Research*, 85 NEB. L. REV. 351 (2006); Greg Lastowka, *Digital Attribution: Copyright and the Right to Credit*, 87 B.U. L. REV. 41 (2007).

37. GNU OPERATING SYS., *What Is Free Software*, <https://www.gnu.org/philosophy/free-sw.en.html> [https://perma.cc/CS2B-4AWW].

38. Jessica D. Litman, *The Economics of Open Access Law Publishing*, 10 LEWIS & CLARK L. REV. 779, 787 (2006).

ent from updating the content itself). Law libraries and law schools supporting librarians creating and sharing course materials and research guides may not support the same librarians spending time and resources on building, updating, or marketing resources and websites that are not affiliated with their institutions. Such a situation might lead to increased costs.

¶32 Many of the overhead costs of making these types of information available on the web for free are already paid by libraries, schools, or governments as part of their primary missions. So the price of the resources needed to create and put the kind of information on the web for free is a small part of the whole cost. The biggest exception, other than an increase in time and energy expended, might be specialized software, for instance, for supporting complex searching or creating citators. Thus, for some institutions, any additional cost is marginal.

¶33 As Greenleaf, Chung, and Mowbray of AustLII explain, the “main constraining factor on the non-government (‘independent’) LIIs involved in large-scale free access publication is funding: their systems are free to use, but not free to build. Every LII looks after the funding of its own system.”³⁹ Many different financial models support LII platforms, with some models working better than others. The effectiveness of the models directly impacts the value of the resources created. For example, AustLII relies on multiple funding sources, most of them entities such as academic and nonprofit institutions, primary firms and publishers, and governmental groups.⁴⁰ No single type of funding source is close to covering ten percent of its funding stream. CanLII, on the other hand, largely relies on individual contributions through its legal professional membership fees.⁴¹ As a result, the scope of content is largely based on its members’ needs and preferences and focuses mostly on practical legal resources.⁴²

¶34 These are relevant success stories. The current model determines its intended audience. They are sustainable because they have secured sufficient funding under the current model to provide timely and reliable content freely to their intended audience, their financial contributors. But LIIs focus on primary sources of legal information and offer little to no secondary resources. Because primary legal information is created and often made available by government agencies, offering access to it costs significantly less than offering access to secondary information. Certainly, transferring primary source information to LII platforms and keeping those platforms up to date costs something. But LIIs are more information curators than information creators, which results in fewer costs.⁴³

¶35 Nevertheless, websites and resources have become obsolete or faded away due to a lack of sustainable funding sources. For example, the Global Legal Infor-

39. Graham Greenleaf, Philip Chung & Andrew Mowbray, *UPDATE: Legal Information Institutes and the Free Access to Law Movement*, GLOBALLEX (Feb. 2018), http://www.nyulawglobal.org/globalex/Legal_Information_Institutes1.html [<https://perma.cc/6L57-59SU>].

40. AustLII, *2017 Funding Sources*, <http://www.austlii.edu.au/austlii/contributors/> (last visited Feb. 19, 2019).

41. See Sean Hocking, *Funding the LIIs*, SLAW (July 26, 2011), <http://www.slw.ca/2011/07/26/funding-the-liis/> [<https://perma.cc/3SC5-CMMV>]; Colin Lachance, *\$34 Well Spent*, SLAW (July 28, 2011), <http://www.slw.ca/2011/07/28/colin-lachance-34-well-spent/> [<https://perma.cc/3R5M-YVL2>].

42. See Lachance, *supra* note 41.

43. Some LIIs invest in providing citator tools, which will incur additional financial costs. But that is not the focus of this article.

mation Network (GLIN), a superstar network/database in 2009,⁴⁴ provided free access to the laws of many countries from official sources, but it has provided no updates since 2014.⁴⁵ A lack of long-term institutional support appears to be the main factor in GLIN's failure to maintain its database. Another example is *Official Government Gazettes Online*, once maintained by Grace York, then government documents librarian at University of Michigan. It became obsolete after York retired in 2003.⁴⁶

¶36 In sum, financial funding and institutional support are two critical factors for providing sustainable resources. The question then becomes whose obligation is it to provide the funding and support. We answer this question next.

Who Should Bear the Cost?

¶37 Institutional stakeholders such as law schools, law libraries, and professional organizations should bear the cost collectively and individually, for three primary reasons: (1) Free access to both Type 1 and Type 2 legal information is indispensable for promoting legal education and fulfills the core missions of these institutions. (2) The majority of beneficiaries are legal (and legal information) professionals, who also represent the key stakeholders of professional organizations such as AALL and ABA. (3) Free sustained access ultimately benefits the public and enhances access to justice, a social obligation these institutions share.

Access to Free Legal Research Information Promotes Legal Education

¶38 Academics and practicing professionals uniformly recognize the value of legal scholarship. Writes Joseph Scott Miller, "Open access scholarship, by virtue of its openness on the web, can spark the creation of a new social layer of metadata that connect and comment on that scholarship."⁴⁷ More specifically, promoting open access scholarship enhances the dissemination of knowledge both horizontally and vertically. Horizontally, it helps make the scholarship available to all legal professionals, faculty members, students, judges, and attorneys worldwide. Vertically, it encourages additional layers of comments and feedback on a legal issue or topic, which then stimulates deeper thoughts and analyses.

¶39 Legal research scholarship meets all the criteria of legal scholarship. Although there is no uniform standard in evaluating legal scholarship, Edward L. Rubin argues that excellent legal scholarship must meet four criteria: normative clarity, persuasiveness, significance, and applicability.⁴⁸ The first two criteria evalu-

44. LIBRARY OF CONGRESS, *Introduction to the Global Information Network* (June 4, 2009), https://www.loc.gov/today/cyberlc/feature_wdesc.php?rec=4596 [<https://perma.cc/242Q-4WMP>].

45. RUTGERS UNIV. LIBRARIES, *Global Legal Information Network (GLIN)*, <http://www.libraries.rutgers.edu/indexes/glin> [<https://perma.cc/RLF3-RFNE>].

46. See OFFICIAL GOV'T GAZETTES ONLINE, <http://www-personal.umich.edu/~graceyor/doctemp/gazettes/> [<https://perma.cc/2UNX-SADA>]. The project was originally initiated by two University of Michigan School of Information students as an intern project at the Dag Hammarskjold Library. After the students graduated from the School of Information, the University of Michigan Government Document Librarian took over the project. *Id.*

47. Joseph Scott Miller, *Foreword: Why Open Access to Scholarship Matters*, 10 LEWIS & CLARK L. REV. 733, 737 (2006).

48. Edward L. Rubin, *On Beyond Truth: A Theory for Evaluating Legal Scholarship*, 80 CAL. L. REV. 889 (1992).

ate descriptive scholarship, and the latter two look at legal scholarship as a “performance” and measure its utility and practical value.

¶40 A close review of the two types of legal research scholarship discussed in this article demonstrates that legal research scholarship meets Professor Rubin’s criteria. First, legal research scholarship, such as research guides, is a type of normative legal scholarship. It includes a clear statement of how people should conduct their legal research and provides specific examples of resources to support their statement of legal research process. Therefore, it meets the criterion of “normative clarity,” that is, “identifying . . . controlling norms with clarity and . . . explaining their relationship to . . . specific arguments.”⁴⁹

¶41 Second, legal research scholarship is persuasive when it provides clear and useful statements regarding research strategies and the research process. Our strengths as law librarians lie in the breadth and depth of our knowledge of legal resources and our abilities to create research plans and smart, cost-effective research strategies, which comes from extensive legal research experience. The more frequently we show our strengths through our scholarship, the more likely we are to persuade our intended audience. Unfortunately, librarians’ other job responsibilities often leave little time or energy to produce scholarship that showcases our understanding of legal resources and research strategies. As librarians, we need to allocate more time and resources to create research guides that provide clear strategies, identify pertinent and thoroughly vetted resources, and thoughtfully test research processes for readers.

¶42 Third, Professor Rubin defines significance as “a work’s relationship to the ongoing development of the field.”⁵⁰ Legal research scholarship, such as research guides or annotated bibliographies, relates closely to the development of legal information and legal research. It is also important for the development of substantive law. For example, an annotated bibliography offering a deep understanding and analysis of current substantive legal scholarship, such as treatises and law review articles in the area of administrative law, will certainly promote scholars’ and practitioners’ understanding and further their own contributions to that area of law. Finally, legal research scholarship can apply to any area of legal research, giving it obvious practical value. In sum, legal research scholarship clearly meets at least one commentator’s well-thought-out system for assessing legal scholarship.⁵¹

¶43 Open access to Type 2 legal information (“source code”) requires additional justification and explanation, however. Unlike legal research scholarship, a list of access points to primary laws or experts doesn’t look like scholarship in the first place. A pure compilation of a list does not seem to have added value or reflect additional efforts by authors or compilers. However, let’s think about the example of West’s Key Number System. By thoroughly indexing the body of U.S. case law, West’s Key Number System fundamentally changed the way people understand the U.S. legal system and how they research substantive areas of law.⁵² Furthermore, an

49. *Id.* at 915.

50. *Id.* at 931.

51. Similar analyses can be applied to legal research teaching materials. Teaching materials are directly tied to the law schools’ teaching missions. No further analyses or further explanations are needed for this part as most, if not all, law schools offer legal research courses.

52. See, e.g., Robert C. Berring, *Legal Research and the World of Thinkable Thoughts*, 2 J. APP. PRAC. & PROCESS 305 (2000); Joshua M. Silverstein, *Using the West Key Number System as a Data*

annotated list of access points changes the nature of the product. The annotation itself becomes the added value and increases the normative clarity as well as the practical value of the product.

Access to Free Legal Research Information Promotes the Core Missions of AALL and ABA

¶44 Professional organizations are empowered financially and politically to represent their members, to advance the profession, and to make social contributions and devote public services to the profession. For example, AALL's mission is to "advance[] the profession of law librarianship and support[] the professional growth of its members through leadership and advocacy in the field of information and information policy."⁵³ As a result, it hosts annual conferences and webinars, supports publications to disseminate knowledge,⁵⁴ and recommends guidelines such as *Competencies of Law Librarianship*.⁵⁵ The ABA's mission "is to serve equally our members, our profession and the public by defending liberty and delivering justice as the national representative of the legal profession."⁵⁶ It has created hundreds of professional publications, organized conferences, set accreditation standards, and recommended rules of professional conduct for attorneys and judges.

¶45 Both organizations allocate resources to create knowledge and set professional standards, but neither has spent significant time or resources on providing free legal resources. To our disappointment, AALL does not allocate funding for special interest sections, such as FCIL-SIS, to update their websites or create or disseminate specialized knowledge and information. And while ABA does have a section on legal education, it does not appear to focus on research.⁵⁷ Is it because legal research is not an integral part of the legal or legal information profession? The answer, of course, is no. Common characteristics of what constitutes a profession are that it is intellectual, learned, and practical.⁵⁸ Knowledge is an essential element for law librarianship to be recognized as a profession.⁵⁹ There is no doubt that legal research information is an important and indispensable part of the knowledge that law librarians should build and develop. It is also important and essential for attorneys and other practitioners to develop such knowledge for their practice. The importance of legal research is recognized by the profession as a whole, demonstrated by the 1992 MacCrate Report⁶⁰ and the more recent ABA Standards incor-

Collection and Coding Device for Empirical Legal Scholarship: Demonstrating the Method via a Study of Contract Interpretation, 34 J.L. & COM. 203 (2016).

53. AM. ASS'N OF LAW LIBRARIES, *Strategic Directions*, <https://www.aallnet.org/about-us/what-we-do/strategic-directions/> [<https://perma.cc/UF73-P8RL>].

54. AM. ASS'N OF LAW LIBRARIES, *Publications*, <https://www.aallnet.org/resources-publications/publications/> [<https://perma.cc/AQ57-EUVK>].

55. AM. ASS'N OF LAW LIBRARIES, *Public Policies*, <https://www.aallnet.org/about-us/what-we-do/policies/public-policies/> [<https://perma.cc/5JYN-5H4M>].

56. AM. BAR ASS'N, *About the ABA*, https://www.americanbar.org/about_the_aba/ [<https://perma.cc/CC28-VNUY>].

57. See, e.g., AM. BAR ASS'N, SECTION OF LEGAL EDUCATION AND ADMISSIONS TO THE BAR, *About Us*, https://www.americanbar.org/groups/legal_education/about_us/ [<https://perma.cc/4PZR-3XBB>].

58. Alex "Xiaomeng" Zhang, *Discovering the Knowledge Monopoly of Law Librarianship Under the DIKW Pyramid*, 108 LAW LIBR. J. 599, 2016 LAW LIBR. J. 29.

59. *Id.* at 606, ¶ 22.

60. AM. BAR ASS'N, SECTION OF LEGAL EDUCATION AND ADMISSION TO THE BAR, LEGAL EDUCATION AND PROFESSIONAL DEVELOPMENT: REPORT OF THE TASK FORCE ON LAW SCHOOLS AND THE PROFESSIONS:

porating experiential education requirements to improve students' practical skills, including legal research skills.⁶¹ The concern regarding students and attorneys lacking sufficient legal research skills is spread across all legal professionals and institutional stakeholders, including law firms,⁶² judges,⁶³ and law professors.⁶⁴

¶46 By “research” we do not mean merely the rote memorization of the characteristics of certain tools. One must also understand the organization of legal knowledge and vocabulary of law.⁶⁵ One must be able to combine them with the most appropriate search capabilities and tools. One must be able to create effective search strategies. These are important skills for conducting legal research.

Access to Free Legal Research Information Benefits the Public and Enhances Access to Justice

¶47 AALL and ABA each expresses its firm commitment to supporting access to justice and providing legal services to the public.⁶⁶ Moreover, both organizations have a strong interest in providing leadership in international legal development.⁶⁷

NARROWING THE GAP (1992), https://www.americanbar.org/content/dam/aba/publications/misc/legal_education/2013_legal_education_and_professional_development_maccrate_report.auth_checkdam.pdf [<https://perma.cc/XUW8-A62M>].

61. See AM. BAR ASS'N, 2018–2019 STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHOOLS, https://www.americanbar.org/groups/legal_education/resources/standards.html [<https://perma.cc/J8T8-QABU>].

62. Jill L. K. Brooks, *Great Expectations: New Associates' Research Skills from Law School to Law Firms*, 28 LEGAL REF. SERVS. Q. 291 (2009).

63. See, e.g., *Total Television Entm't Corp. v. Chestnut Hill Vill. Assocs.*, 145 F.R.D. 375, 385 (E.D. Pa. 1992) (“The frequency with which Jackson has appeared as counsel in this district . . . reinforces the need for him immediately to take steps to rectify the poor legal research ability he has demonstrated in this case, . . . and . . . several other cases as well.”).

64. See, e.g., Richard A. Danner, S. Blair Kauffman & John G. Palfrey, *The Twenty-First Century Law Library*, 101 LAW LIBR. J. 143, 147, 2009 LAW LIBR. J. 9, ¶ 19 (“[O]ne of the things I've heard from our alumni is that we're sending out too many students into law firm practice who don't have the best research skills and, in fact, too often have to learn legal research on the job.”); Joan S. Howland & Nancy J. Lewis, *The Effectiveness of Law School Legal Research Training Programs*, 40 J. LEGAL EDUC. 381, 383 (1990) (“The study confirmed the consensus of many law faculty, attorneys, and law librarians that summer clerks and recent graduates lack knowledge of available sources and are unable to develop efficient research strategies.”); Marilyn R. Walter, *Retaking Control Over Teaching Research*, 43 J. LEGAL EDUC. 569, 571 (1993) (“The seductive characteristics of CALR are documented in a 1990 article which supports the generally held view of law professors, lawyers, and law firm librarians that the research skills of law students are weak and that the students' overreliance on computers has only made them worse.”); Christopher G. Wren & Jill Robinson Wren, *The Teaching of Legal Research*, 80 LAW LIBR. J. 7, 9 (1988) (“Throughout the period the bibliographic emphasis has prevailed in legal research instruction, law students, law professors, librarians, and employers have lamented the inadequacy of students' and recent graduates' research skills.”).

65. See ROGER H. BRUNING, GREGORY J. SCHRAW & ROYCE R. RONNING, *COGNITIVE PSYCHOLOGY AND INSTRUCTION* 55–59 (3d ed. 1999); NATIONAL RESEARCH COUNCIL, *HOW PEOPLE LEARN: BRAIN, MIND, EXPERIENCE, AND SCHOOL: EXPANDED EDITION* 32–44 (2000); Earl Hunt, *What Is a Theory of Thought?*, in *THE NATURE OF COGNITION* 3, 32 (Robert J. Sternberg ed., 1999).

66. See AM. ASS'N OF LAW LIBRARIES, *SPECIAL COMM. ON ACCESS TO JUSTICE, LAW LIBRARIES AND ACCESS TO JUSTICE* (2014), <https://www.aallnet.org/wp-content/uploads/2017/11/2013-2014-Com-mFR-Access-to-Justice-Special-Committee.pdf> [<https://perma.cc/8VJV-T6U6>]; AM. BAR ASS'N, *Resource Center for Access to Justice Initiatives*, https://www.americanbar.org/groups/legal_aid_indigent_defendants/initiatives/resource_center_for_access_to_justice.html [<https://perma.cc/9TDC-WCQE>].

67. See AM. ASS'N OF LAW LIBRARIES, *Foreign, Comparative & International Law SIS*, <https://www.aallnet.org/sections/fcil> [<https://perma.cc/FAZ5-B5SR>]; AM. BAR ASS'N, *International*

Providing free access to international legal research information should be an integral component of promoting legal development in international and foreign law.

¶48 If AALL's mission is to "advance the profession of law librarianship," then providing access to legal information, especially legal research information, should certainly be a priority of the organization. If the ABA's mission is to enhance the legal profession, then providing access to legal information should be its priority, too, because the profession it represents heavily relies on access to legal information, including legal research information.

¶49 Their actions, however, do not match their mission statements. The ABA does not, for instance, have a group for professionals interested in legal research, as the American Society of International Law does.⁶⁸ Although it has a substantial publishing program, very few of the items in it appear to provide the kind of material discussed in this article. AALL does a little better. After all, *Spectrum*, *Law Library Journal*, the various SIS newsletters, and blogs do sometimes have articles on legal research in specific areas. But they seem randomly scattered throughout AALL publications. AALL has no central portal with citations or links to these places, and neither AALL nor the SISs attempt to sustain any of them. So they do not fit our definition of discoverable, accessible, or sustainable. The organization that comes closest to providing research guides, teaching materials, or links to substantive legal research information is the Legal Writing Institute. Its *Second Draft* publication is an e-journal of original articles on a variety of topics related to legal writing; many of them deal with the importance and role of research in teaching legal writing, and many of those articles are written by law librarians.⁶⁹ It has many other excellent resources that might contain articles on legal research, but our cursory examination did not reveal any that appeared to fit into our categories of interest.⁷⁰

A New Framework: Crowdsourcing and Collective Wisdom

¶50 So how can we create a framework or system to pull together the profession's unmet legal information needs and achieve the goal of providing free access to legal information in a timely and sustainable fashion? We recommend an open system framework to encourage collaboration among all the stakeholders we have identified: law librarians, law schools and libraries, and professional associations. The goal of this framework or system is to ensure sustainable sharing of legal

Law Committees, https://www.americanbar.org/groups/international_law/committees.html [https://perma.cc/S8FC-UNP4].

68. AM. SOC'Y OF INT'L LAW, *International Legal Research Interest Group*, <https://www.asil.org/community/international-legal-research> [https://perma.cc/QEH5-PRZ9].

69. LEGAL WRITING INST., *The Second Draft*, <https://www.lwionline.org/publications/second-draft> [https://perma.cc/Y85D-LX3B].

70. One could add a number of other organizations for whom research is part of their missions, though none fit our definitions. For instance, even though AALS has a Section on Legal Writing, Reasoning, and Research, it does not appear to provide research guides, teaching materials, or links to substantive legal research information. If it does, it is behind a members-only paywall, thus failing our definition of accessible. See AM. ASS'N OF LAW LIBRARIES, *Section on Legal Writing, Reasoning, and Research*, https://memberaccess.aals.org/eWeb/dynamicpage.aspx?webcode=ChpDetail&chp_cst_key=b1def4dc-ec71-4168-8d29-a5517d2a18c7 [https://perma.cc/6VBZ-Q4XH].

research information that meets the demands of legal and legal information professionals.

¶51 We are not trying to create a formal organization; instead, we picture the framework as an open system, an informal but collaborative framework driven by the common interest of its stakeholders, both individuals and institutions. The open system approach to organizations is not new in the organizational studies field. In 1966, Daniel Katz and Robert Kahn identified nine common characteristics of an open system: importation of energy; throughput; output; systems as cycles of events; negative entropy; information input, negative feedback, and the cooling process; the steady state and dynamic homeostasis; differentiation; and equifinality.⁷¹ We believe the framework we propose possesses the nine common characteristics, and the model is founded on the concept of crowdsourcing and collective intelligence. The key elements of both theories are human participants supported by technology tools to support commonly shared goals.

An Open System

¶52 The system must be open in order to be sustainable. An open system model looks at an organization as an “energetic input-output system in which the energetic return from the output reactivates the system.”⁷² It is based on the assumption that an organization is about relationships, which include the constant and changing interaction of individual components both within an organization and between the organization and external environments. An organization is not merely a sum of individuals.

¶53 A closed system cannot achieve the ultimate goal of providing sustainable and timely access to valuable legal research information because information needs change over time. Therefore, the scope and definition of valuable legal research information is dynamic. Only an open system can constantly embrace the changing needs of the end users. The system we propose is composed of a few subsystems, such as law schools, law libraries, and professional organizations. The smallest units of the system are individual law librarians and legal researchers contributing to the development of valuable legal research information. However, individual efforts are not sufficient to guarantee sustainable access. Using the language of Katz and Kahn, we need an open system that imports energy and feedback from external forces, transforms the energy into products, and exports the products to the external environment to finish a cycle of events and then start a new cycle of events. The system must be open so that it can develop negative entropy and maintain a dynamic homeostasis through interactions within and outside the system.

Theoretical Foundation: Crowdsourcing and Collective Intelligence

¶54 But we do not need just any open system, be it part of a formal or informal organization. In fact, no existing formal or informal organization can do it alone. Law schools are not doing it; law libraries are not doing it; and professional associations are not doing it. Their current structure, competing goals, and sources of finance make them incapable of doing it independently. Commercial companies, such as Lexis, Westlaw, and Bloomberg, provide legal (research) information, but

71. DANIEL KATZ & ROBERT L. KAHN, *THE SOCIAL PSYCHOLOGY OF ORGANIZATIONS* 19–26 (1966).

72. *Id.* at 16.

not for free. Startups striving to provide open access of legal information are often purchased by one of the giant commercial companies⁷³ or end up providing only partial information for free. When it comes to legal research and practice, relying on partial information can be more dangerous than acting without information.

¶55 Instead, we call for an open system founded on a crowdsourcing framework. Crowdsourcing is a buzzword now, but it is not a new idea. The earliest major event using crowdsourcing dates back to 1714, when the British government offered a monetary prize to the public to solicit ideas to measure a ship's longitudinal position.⁷⁴ There are many types of crowdsourcing activities: crowdsourcing answers,⁷⁵ crowdsourcing data and information,⁷⁶ and crowdsourcing knowledge.⁷⁷ In the library and information field, the crowdsourcing principle has been applied in a number of ways. For example, collaborative online communities such as Mendeley⁷⁸ have met scholars' emerging research needs. Collaborative library services allow libraries to share their collections via interlibrary loan. Listservs are another great example demonstrating crowdsourcing value.

¶56 But not all crowdsourcing efforts are successful, and there are underlying difficulties due to the nature of crowdsourcing framework. It is not perfect and it does not guarantee success. There are crowdsourcing issues being discussed by experts in many disciplines, including information, management, and business. Many scholars have attempted to define the term "crowdsourcing" from various perspectives.⁷⁹ The key elements of crowdsourcing are commonly agreed to include crowd wisdom or collective intelligence, a shared problem that needs to be solved, a mass collaboration, and a low-cost (and somewhat regulated) infrastructure.

¶57 The assumption is that a smart or wise crowd is possible if the group and its opinions and ideas are diverse, come from independent sources, are decentralized, and can be aggregated.⁸⁰ Similarly, Don Tapscott and Anthony D. Williams argue that collective intelligence, through mass collaboration in an open, volunteering, and widespread environment, can generate better activities than the sum of individual intelligence.⁸¹ Other authors argue even that the collective intelligence

73. For example, LexisNexis recently acquired Ravel. Connie Loizos, *Ventured-Backed Ravel Law Sells to LexisNexis* (June 10, 2017), <https://techcrunch.com/2017/06/10/venture-backed-ravel-law-sells-to-lexisnexis/> [<https://perma.cc/K42Y-VXBU>].

74. LONGITUDE PRIZE, *About Us*, <https://longitudeprize.org/about-us/history> [<https://perma.cc/L6PR-DP64>].

75. See, e.g., QUORA, <https://www.quora.com/> [<https://perma.cc/EHH4-G8QK>].

76. See, e.g., Danielle Kim, *Crowdsourcing to Preserve Our Nation's History*, DATA-SMART CITY SOLUTIONS (Oct. 28, 2014), <http://datasmart.ash.harvard.edu/news/article/crowdsourcing-to-serve-our-nations-history-553> [<https://perma.cc/77TH-K8ZA>].

77. Examples of knowledge crowdsourcing include sharing knowledge at conferences or via listserv, on the web, and through calls for papers.

78. MENDELEY, <https://www.mendeley.com/> [<https://perma.cc/9BQT-R982>].

79. For instance, Enrique Estellés-Arolas, Raúl Navarro-Giner & Fernando González-Ladrán-de-Guevara listed 28 definitions of crowdsourcing in their chapter, *Crowdsourcing Fundamentals: Definition and Typology*, in, *ADVANCES IN CROWDSOURCING* 33–48 (Fernando J. Garrigos-Simon, Ignacio Gil-Pechuán & Sofia Estelles-Miguel eds., 2015).

80. See JAMES SUROWIECKI, *THE WISDOM OF CROWDS: WHY THE MANY ARE SMARTER THAN THE FEW AND HOW COLLECTIVE WISDOM SHAPES BUSINESS, ECONOMIES, SOCIETIES AND NATIONS* (2004).

81. See DON TAPSCOTT & ANTHONY D. WILLIAMS, *WIKINOMICS: HOW MASS COLLABORATION CHANGES EVERYTHING* (2006). Anita Williams Woolley and her coauthors verified the idea. See Anita Williams Woolley et al., *Evidence for a Collective Intelligence Factor in the Performance of Human Groups*, 330 *SCI.* 686, 687–88 (2010) (showing neither average nor maximum intelligence of those in the

may be enhanced by the average social sensitivity of group members; women as a group are more highly socially sensitive than men.⁸² We should harness this power to a greater extent to improve the performance of our profession.

¶58 Furthermore, to attract volunteers in the long term, the benefits of volunteering must outweigh the costs (e.g., time, lack of compensation). Researchers have identified a series of intrinsic and extrinsic motivation factors that drive the growth of crowdsourcing initiatives. These factors include altruistic factors, such as a sense of obligation to the profession and community, and not-so-altruistic factors, such as enjoyment of the work itself, desire for recognition and visibility by peers, opportunities that may come in the future due to the volunteering activities, skills development, and networking opportunities.⁸³ In a conference paper exploring motivation factors for sustained participation in crowdsourcing, the authors added the following additional motivation factors driving sustained engagement: a sense of becoming and continuing to be the center of a community, identity formation, and increased skills and knowledge.⁸⁴

A New Framework

¶59 It is time to picture our framework, which aligns all stakeholders' interests to create sufficient incentives for them to make contributions in a sustainable way. The goal is to provide sustainable and valuable legal research information at the lowest possible cost. In order for a framework to be sustainable in the first place, the infrastructure must allow the import of energy, the transformation of the energy into tangible services and products, their export to the external environment, and a feedback and response mechanism to maintain sufficient negative entropy to maintain a steady state and dynamic homeostasis. All these features are essential elements for an open system.

¶60 Furthermore, the system must be based on a crowdsourcing framework founded on the concept of the wisdom of crowds and collective intelligence. We propose a framework that uses the wisdom of the information research expert crowd, not just any crowd. This factor helps eliminate the quality concerns that bother many experts studying crowdsourcing initiatives.⁸⁵ This does not mean there would be no quality control in the system, but soliciting expert teams helps

crowd is significantly correlated with the collective intelligence factor and not predictive of criterion task performance). The idea has also been confirmed in David Engel et al., *Reading the Mind in the Eyes or Reading Between the Lines? Theory of Mind Predicts Collective Intelligence Equally Well Online and Face-to-Face*, 9 PLoS ONE (2014), doi:10.1371/journal.pone.0115212, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0115212>.

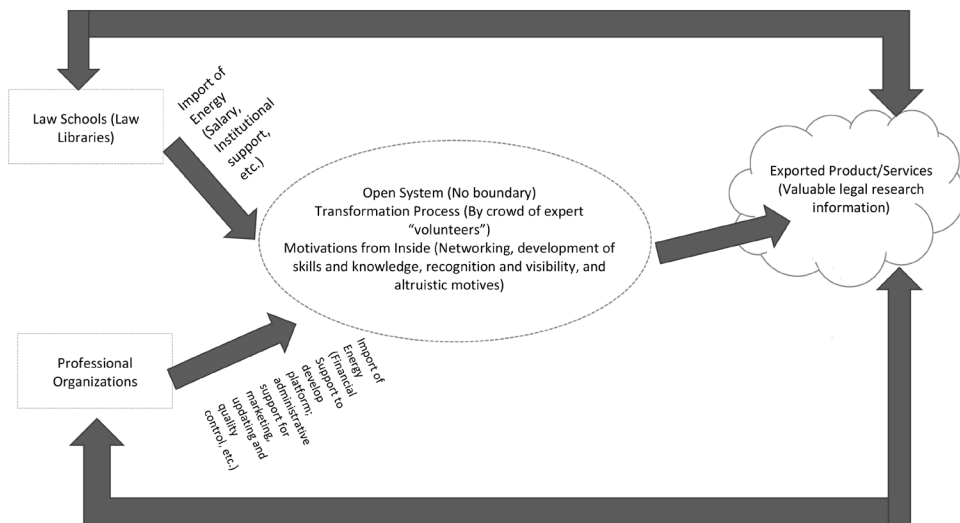
82. See Anita Williams Woolley et al., *Collective Intelligence and Group Performance*, 24 CURRENT DIRECTIONS IN PSYCHOL. SCI. 420 (2015); Woolley et al., *supra* note 81.

83. For more discussion on motivations and the effectiveness of motivating factors to attract people to crowdsourcing communities, see Yannig Roth, Daren C. Brabham & Jean-François Lemonie, *Recruiting Individuals to a Crowdsourcing Community: Applying Motivational Categories to an Ad Copy Test*, in ADVANCES IN CROWDSOURCING 13, *supra* note 79.

84. Corey B. Jackson et al., *Motivations for Sustained Participation in Crowdsourcing: Case Studies of Citizen Science on the Role of Talk*, in 48TH HAW. INT'L CONF. ON SYS. SCI. (2015), <https://static1.squarespace.com/static/51eaf71e4b08ce140f8f6ce/t/560ea8a6e4b0a053ccfd529e/1443801254416/7367b624.pdf> [<https://perma.cc/829Q-EGAD>].

85. Jing Wang, Panagiotis G. Ipeirotis & Foster Provost, *Quality-Based Pricing for Crowdsourced Workers*, NYU WORKING PAPER No. 2451/31833 (2013), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2283000 [<https://perma.cc/8W7Z-6VF7>].

Figure 1
Feedback and Response



to minimize the risks and costs of quality assurance. The system must also provide sufficient motivations to make it work in the long term and must allow the contributors to justify their costs, including financial and opportunity costs. Figure 1 illustrates the organization, structure, and movement of energy and information of such a system.

¶61 First, law schools, law libraries, and professional organizations should import a lot more energy than they have done thus far. Energy includes financial support (from both law schools/libraries and professional organizations for developing and maintaining the content), professional support (from law libraries/schools to support more professional involvement and volunteering by making professional development one of the priorities and evaluating factors for librarians' professional and career advancement), and administrative support (such as funding and technical support provided by professional organizations to create a platform or database for information sharing).

¶62 Second, the exported product and services must meet the needs of our targeted audience, the audience identified in the survey. For the system to be sustainable, the professionals, their organizations, and the law schools would have to exercise persistent effort to stay attuned to the changing needs of the audience. However, there appears to be a mismatch between information currently available and the actual needs of the audience. Legal researchers need more than just a list of resources for any specific legal topic; they need to benefit from legal information experts' demonstrated understanding of resources and research strategies. Constantly monitoring and understanding their needs requires understanding of the legal development of specific subject areas, the legal publishing landscape, and the resources available. This should be part of the professional development goal of any law librarian or legal information expert and should be supported by law schools

and libraries. Opportunities to develop the skills should be provided by professional organizations.

¶63 Third, the interactivity of the system necessitates constant communication between information creators and the targeted audience, including proactive listening and active responses to needs and feedback. This is critical to keep the feedback and response section of the system working and to keep a homeostatic system.

¶64 Fourth, the motivational equation includes nonfinancial aspects as well as professional advancement and rising salaries. The framework will not be sustainable if there are no ongoing and strong intrinsic motivation factors even with sufficient financial, professional, and administrative support. A recent *Harvard Business Review* article adds two more factors that separate sustained crowdsourcing efforts and failing crowdsourcing efforts: proactive attention and reactive attention.⁸⁶ Proactive attention means give to get. The organization should present its ideas first and then invite people to discuss them. In our context, it requires the teams that coordinate the crowdsourcing efforts, such as volunteers of AALL's special interest sections, to periodically contribute to the framework, as opposed to passively calling for contributions. Reactive attention means responding publicly to suggested ideas or comments. In other words, there should be a mechanism that requires coordinators to provide public feedback to encourage and stimulate work and contribution. Feedback not only shows that the team cares but also helps contributors to develop, which is one of the primary motivations for many contributors. There should also be an award system that allows long-term contributors to move gradually closer to the center of the framework or the community to ensure sustained participation in the framework as described above.

¶65 Finally, emerging technologies need to play a role. Technology tools are changing the legal information and legal services fields. Effective utilization of technology tools requires both institutional support and individual skills and techniques. As the entire legal profession is being transformed by artificial intelligence and big data analytics,⁸⁷ and with commercial legal information providers swamped to make adjustments to gain competitive power in the (future) market,⁸⁸ we see little change along these lines in the law librarianship field. There appear to be no attempts to use artificial intelligence or big data to predict legal education and legal research needs, or attempts to use crowdsourcing platforms to share and promote

86. Linus Dahlander & Henning Piezunka, *Why Some Crowdsourcing Efforts Work and Others Don't*, HARV. BUS. REV. (Feb. 21, 2017), <https://hbr.org/2017/02/why-some-crowdsourcing-efforts-work-and-others-dont> [<https://perma.cc/X8X3-9PCE>].

87. See, e.g., Julie Sobowale, *How Artificial Intelligence Is Transforming the Legal Profession*, ABA J. (Apr. 2016), http://www.abajournal.com/magazine/article/how_artificial_intelligence_is_transforming_the_legal_profession [<https://perma.cc/3PXX-LDS3>]; Dennis Garcia, *Preparing for Artificial Intelligence in the Legal Profession*, LEXIS PRAC. ADVISOR J. (June 7, 2017), <https://www.lexisnexis.com/lexis-practice-advisor/the-journal/b/lpa/archive/2017/06/07/preparing-for-artificial-intelligence-in-the-legal-profession.aspx> [<https://perma.cc/2CUQ-F7QA>]; Elaine Ding & Daniel Castro, *How Data Analytics will Change the Legal Profession*, CTR. FOR DATA INNOVATION (July 4, 2016), <https://www.datainnovation.org/2016/07/how-data-analytics-will-change-the-legal-profession/> [<https://perma.cc/E9UE-M976>].

88. See, e.g., Ricci Dipshan, *LexisNexis Integrates Lex Machina Analytics Across Platforms, Under-scoring Big Data Demands*, LEGALTECH NEWS (Jan. 31, 2017), <https://www.law.com/legaltechnews/almID/1202778050618/?slreturn=20180021145733> [<https://perma.cc/R6KH-K7GE>] (archived on Lexis Advance).

legal research deliverables. We call for a framework that integrates emerging technologies seamlessly to further sustainable open access to valuable legal research information.

¶66 With all that said, we hope that our idea, despite being rudimentary, can generate more discussion and feedback on the dire issue of the lack of free, open, and sustainable access to valuable legal research information. More important, we urge individual stakeholders, such as librarians and legal researchers, and institutional stakeholders, such as law libraries, law schools, and legal professional organizations, to actively participate in this framework to create and maintain sustainable access to valuable legal research information.

Appendix: Summary of the Survey

The Survey and the Respondents

¶67 The survey used twelve questions with two cross tabulations.⁸⁹ It was distributed via an invitation to respond to the survey that included a link. The invitation was sent to the AALL Members Open Forum, the FCIL-SIS listserv, the ALL-SIS listserv, the Asian American Law Librarians Caucus, the Private Law Libraries SIS listserv, Int-Law, and the IALL listserv.

¶68 There were 245 respondents, although not all responded to all questions. Question 7 concerns the degree to which respondents deal with FCIL in their work. Forty-four percent said that they spent a minority of their time on FCIL, and 36% said that they spent no time on FCIL. Eight percent spend all their time on FCIL, and 12% spend the majority of their time in that field. Those who spend the minority of their time on FCIL issues are those whose primary responsibility is in another field of librarianship (e.g., general reference). The surprise is that 36% (81) spend no time at all on FCIL and still responded to the survey. Remarkable!

¶69 Question 8, institutional affiliation, is a text response question. Of the 243 total responses, 185 (76%) gave their institutional affiliation. Of those, 95 (51%) were from the United States, and 74 (40%) were from U.S. academic law libraries, which is the core of our intended audience. If we add other types of libraries such as firm, court, or corporate, then 68% were from the United States. This is a good indicator that the responses reflect the opinions of that audience well. Responses from the U.S. academic libraries came from schools ranged throughout the *U.S. News* law school rankings.

¶70 On the other hand, some of the nonacademic libraries and libraries from outside the United States indicate that some prominent foreign and international institutions are interested in a portal. Twelve responses were from Canada, 14 from Europe, 7 from Africa, and 6 from Asia. Six were from international organizations, 24 from firms, 11 from government libraries, 6 from corporations, and 2 from courts.

¶71 Regardless of the location or type of institution, the respondents to the survey included some of the most important and prestigious participants in FCIL research in the world. The interest of parties of this caliber suggests this endeavor could garner substantial support.

What Respondents Want

¶72 Respondents clearly favored the creation of a single, comprehensive portal that would itself point to the myriad sources of information on FCIL research. Question 1 asked respondents to rate their interest in five types of FCIL information in four ratings: uninterested, neutral, interested, or highly interested. In response, respondents indicated a strong preference for teaching materials (79%)

89. The survey was conducted using Qualtrics, with great help from colleagues affiliated with the AALL FCIL-SIS. The authors would like to express special thanks to Sarah Ryan, former empirical research law librarian at Yale Law Library, for her assistance, and Teresa Miguel-Stearns, Director of Yale Law Library, for her support. The survey report was prepared by James Hart. We were unable to pretest the questions or to interview respondents because we had neither the funds nor the time to use these methods. However, a sample size of 244 gives us a confidence level of 95% and a margin of error of 6.11%. Therefore, we believe the survey results in general rendered sound, consistent, and relevant information.

over the other options: a list of experts, newsletters, blog, and listservs. Indeed, teaching materials is the only option in which the “highly interested” response outscored “interested.” The preference for teaching materials creates an opportunity to use the portal to give our community support in adapting to the new ABA experiential learning standards. Respondents preferred a list of experts (28.44%) next, then listservs (23.2%), blogs (20.35%), and newsletters (19.64%) at the bottom.

¶73 Question 2 asked respondents what other types of FCIL information, resources, or links they may find valuable. Primary legal materials with links received the largest number of votes by far, with 34%. Links to webpages, other portals, and listservs finished second at 26%. “Overviews” and research guides, including search strategies, was a close third with 22%.

¶74 It is difficult to integrate the responses to these two questions because of their different formats. But let us try. Teaching materials appear to have garnered the most interest. Primary materials had the next highest number of votes (34%) regardless of the format of the question. But it seems reasonable that open text questions do not have the power of suggestion that multiple-choice questions do, and when the two types of question are compared, the result of the open text questions should be weighted to compensate for the difference. An expert list (28.44%) came in third. Links to listservs (23.2%) is difficult to rank because it earned 23.2% of the votes in the multiple-choice question (Q.1), but it belongs to a group of three (links to webpages, other portals, and listservs) that earned 26% in the open text question (Q.2). Although we can't separate the percent attributable to each of them from the others in the group, we think that we are justified in ranking them fourth in interest. Overview and legal research guides, including search strategies, finished next.

¶75 A cross-tabulation of questions 1 and 7 showed that full-time FCIL librarians had the least interest in all five types of information (7.6%); those who spend the majority of their time on FCIL had more interest (12.5%); those who spend a minority of their time had the most interest (43.3%); and those who spent no time on FCIL librarianship ranked between majority and minority (36.1%). It turns out that all five types of information were seen as equally valuable to all the librarians. In other words, there was no material difference in full-time FCIL librarians' interest in the list of experts, teaching materials, newsletters, blogs, or listservs, and the same for librarians who spent the majority, minority, or no time on FCIL librarianship. So the differences in question 1 were not apparently related to the time respondents spent on FCIL work.

¶76 Ten percent of those who answered question 3 (quantity of use) said that they would use the portal daily or quarterly; 37% percent said that they would use the portal weekly; 36% said that they would use the portal monthly; and 8% would use it less often than quarterly. Therefore, 73% would use the portal weekly or monthly, which indicates that it would get substantial use.

¶77 Question 4 asked respondents if they would be willing to help work on a portal. Thirty-seven percent said that they would probably or certainly work on the portal. Thirty percent would not be willing to work on it. The number who would be willing to work on it and the number who would use it, as indicated in question 3, are inversely related: 73% to 37%.

¶78 Questions 3 (How often do you think you'd use the portal?) and 4 (Would you be willing to help work on it?) were cross tabulated. Twenty-eight percent of those who would use it weekly or monthly would also certainly or probably be will-

ing to help create and maintain it. One could conjecture that these are the same people who spend either all or none of their time on FCIL.

¶79 Question 5 found that 4 hours per week is the maximum time respondents would be willing to work on such a portal. This would be 10% of a standard work-week, which seems about right to us. On the other hand, many of the responses to this question were less than 4 hours, which seems too small to make much of a difference. The conflict between the responses to this and question 4, “would you be willing to work on it,” could also indicate that respondents did not understand this question.

¶80 We then cross tabulated question 7 (Do you specialize in foreign, comparative, and international law?) with the following (see table 1):

- Question 3: how often respondents would use the portal,
- Question 4: how many said they would be willing to work on it, and
- Question 5: how many hours it would be worth working on it.

The most obvious explanation for full-time FCIL librarians (7.3%) and those who spend the majority of their time on FCIL (11.8%) using the portal less than others (minority 44%; and not at all 36.9%) is that those who spend all or most of their time in the field would need the portal less than others. Those who spend all or a majority of their time in the field should well know more than others do. Indeed, many of them are the experts listed in one of the five types of information in question 1. This conclusion appears to conflict with that of question 8 (What is your institutional affiliation (employer?): the importance and the prestige of the respondents appear to give the portal substantial support. The only explanation for this apparent anomaly would appear to be that those who work full or majority time on FCIL are not the respondents from the most important and prestigious institutions. Yet this does not make sense.

¶81 The same observation may explain why the putative amount of use is inversely related to the time respondents say they actually spend on FCIL librarianship. Full-time FCIL librarians say they would use the portal least; those who spend the majority of their time in the field say they would use the portal a little more; and those who spend the minority of their time in the field say they would use the portal most. Indeed, it appears as if the same inverse relationship applies to the amount of time respondents would be willing to spend on overseeing the portal for a year. This is likely to be because of the importance of such a portal to job responsibilities and because the less time one spends on FCIL, the less one knows about the field and the more likely one is to rely on something like the portal.

¶82 Question 12 asked whether there was anything else respondents would like us to know. There were 82 responses to this question. A number of the items included more than one response, which increased the number of classified items to 94. Forty-three responses were positive about the portal while 6 were neutral and only 4 were opposed. Most of the questions were requests that the portal offer certain types of material. For example, “Will it be designed such that videos of web navigation or a flipped classroom lecture could be included in teaching materials?” Those who opposed the portal thought that it wouldn’t offer anything that isn’t already available.

Table 1**Do You Specialize in FCIL Librarianship?**

		How often do you think you'd use the portal?					Total
		Daily	Weekly	Monthly	Quarterly	Less than Quarterly	
Do You Specialize in FCIL?	Full-Time	3	8	2	1	2	16
	Majority of Time	6	11	6	2	1	26
	Minority of Time	8	43	32	11	3	97
	Not at All	4	18	39	9	11	81
	Total	21	80	79	23	17	220

		If there is enough interest in it to create and maintain the portal, would you be willing to help...				Total
		Not at All	Slightly	Probably	Certainly	
Do You Specialize in FCIL?	Full-Time	2	5	4	6	17
	Majority of Time	6	6	13	2	27
	Minority of Time	18	38	26	14	96
	Not at All	41	23	10	7	81
	Total	67	72	53	29	221

		How likely would you be to volunteer to oversee the portal for a year?				Total
		Not at All	Slightly	Probably	Certainly	
Do You Specialize in FCIL?	Full-Time	6	4	3	4	17
	Majority of Time	12	10	5	0	27
	Minority of Time	42	29	21	5	97
	Not at All	61	12	5	2	80
	Total	121	55	34	11	221