Academic Law Libraries Special Interest Section

of the American Association of Law Libraries

Scholarly Communications Committee

Report on Citation Metrics of Scholarly Impact

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Introduction

The ALL-SIS Scholarly Communications Committee met during the 2015 AALL Annual Meeting held in Philadelphia to discuss potential projects that would align with the committee's charge. All of the committee members had been asked to assist in the collection of citation metrics for various purposes and by different constituents at their respective law schools. The committee agreed that a document containing descriptions of the various citation metric tools and methods would be beneficial to academic law librarians who may also be called upon to collect and discuss citation metrics. The committee envisioned a descriptive report of the major citation metric tools and methods that would also set forth the strengths and weaknesses of each.

Despite already having a relatively comprehensive list of tools and methods, the Committee distributed a survey to the ALL-SIS membership regarding how different organizations collect information pertaining to their faculty and staff. The primary interest was the tracking of citation statistics, and how that information is gathered and used by both individual organizations and law librarians in general. The committee requested that the person primarily responsible for collecting download or citation statistics for faculty complete a brief nine question survey. The committee sought to determine what methods law librarians are using to measure scholarly impact, how satisfied librarians are with the tools currently available, and how institutions are using the information gathered.

This document is divided into two parts. The first part is an overview of the results of the survey. A copy of the survey instrument is included as Appendix 2. Anonymous responses to questions offering open-ended responses are included as Appendix 3. The second part of this report describes in some detail the list of citation metric tools and methods identified by the committee as well as those that appeared with some frequency in survey responses. In addition to the survey instrument and anonymized responses, there is also a selective bibliography of articles addressing citation metrics as a proxy for scholarly impact included as Appendix 1. The committee hopes you find this report helpful as you engage in conversations with faculty or law school administration about the various citation metrics.

Part I

Citation Metrics – Overview of Survey Results

Overview of Survey Results

The survey remained open for twenty one days, closing on February 2, 2016, and garnered 28 responses. Of those respondents, 75% said that Public Services best described their position. Only 3.6% said Technical Services best described their job. The remaining respondents said that Other best described their position.

Which area best describes your position? (28 responses)

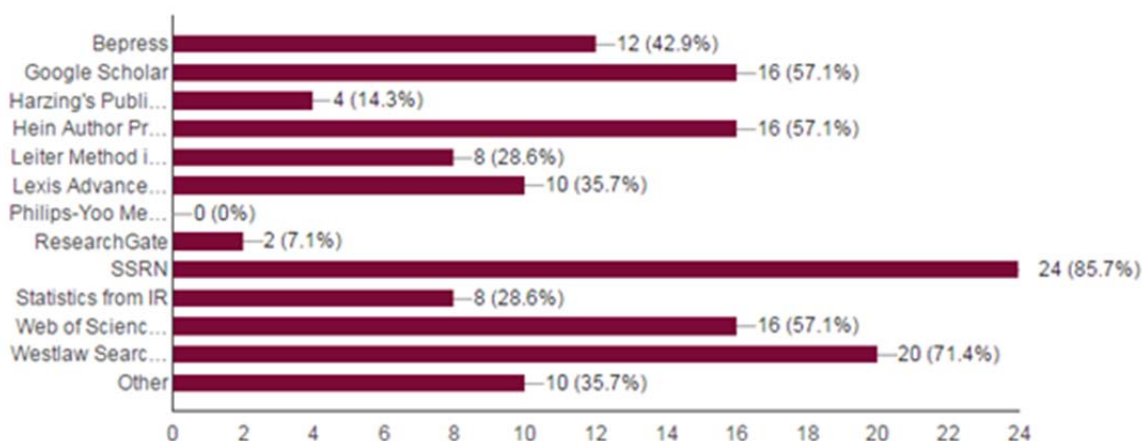- Public Services
- Technical Services
- Other

21.4%

75%
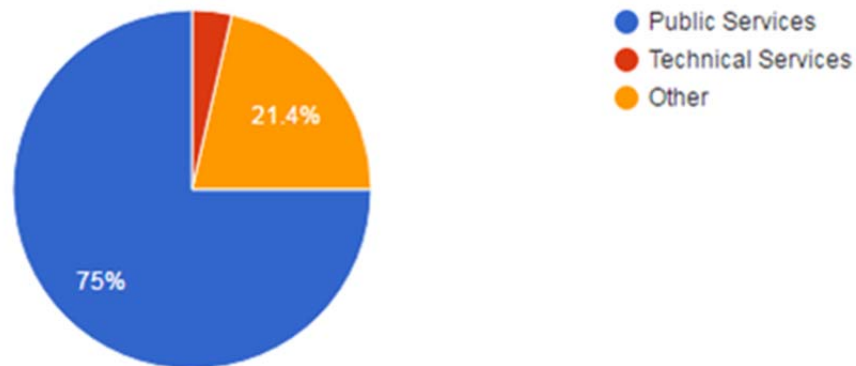
Collection Methods

The survey provided a list of 12 means of calculating or obtaining metrics along with an option for "Other." The 12 options were Bepress, Google Scholar, Harzing's Publish or Perish, Hein Author Profiles, Leiter Method in Westlaw, Lexis Advance Law Review Searches, Philips-Yoo Method, ResearchGate, SSRN, Statistics from IR, Web of Science Social Science Citations, and Westlaw Search in JLR. For more on these methods, please refer to Part II of this report. Respondents were permitted to choose multiple methods and many did. The most respondents (85.7%) said that they used SSRN download counts. Searches on Westlaw were the second highest method of choice with 71.4%. Google Scholar, Hein Author Profiles and Web of Science were the third highest with 57.1% each. The Philips-Yoo Method was the lowest, with no respondents indicating that they used it. 35.7% of respondents selected the Other option.

Please indicate all of the methods you use to collect citation metrics
(28 responses)

Method	Count
Bepress	12 (42.9%)
Google Scholar	16 (57.1%)
Harzing's Publi...	4 (14.3%)
Hein Author Pr...	16 (57.1%)
Leiter Method i...	8 (28.6%)
Lexis Advance...	10 (35.7%)
Philips-Yoo Me...	0 (0%)
ResearchGate	2 (7.1%)
SSRN	24 (85.7%)
Statistics from IR	8 (28.6%)
Web of Scienc...	16 (57.1%)
Westlaw Searc...	20 (71.4%)
Other	10 (35.7%)

We requested that if respondents chose "Other" in the question about methods that they describe the methods that they use. This was a free response question and the responses show the variation, institution to institution, when gathering metrics. Sme additional databases were mentioned, such as Scopus, JSTOR, Google Books, WorldCat, Proquest, PsychInfo, Sociological Abstracts, and World LII. Others used Westlaw, but not the Leiter Method. Instead they used KeyCite (and Shepard's for LexisAdvance) as well as searches in Secondary Sources. One respondent said they used the Leiter Method, but have some variation "depending on how the person's name is used, and also attempt to subtract the articles that only include a 'thanks.'" Another respondent wrote, "We use WestlawNext, I am not sure if it is the Leiter method, as I am unfamiliar with that as a term."

Reasoning

When explaining why they chose the methods participants identified in the previous question, the 25 responses were varied. Some (presumably among those who chose multiple methods) wrote that they tried to obtain the "most comprehensive information possible. While there is a lot of crossover between the platforms, we do find some citations only appear in certain databases." A few respondents mentioned trying to capture citations for faculty who publish in both law and non-law journals. Some wrote that they follow the directives of a faculty committee, survey, or a predecessor who had made the decision. Several answers mention the desire for citation counts to be as accurate as possible.
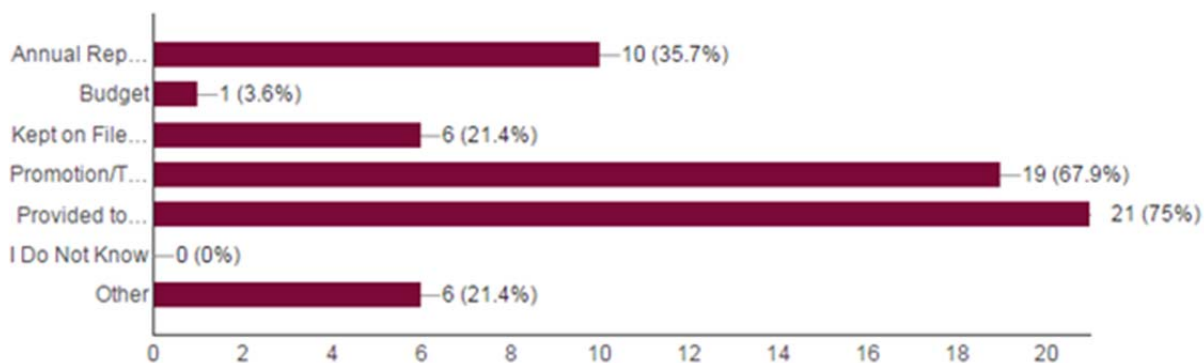
Despite a clear explanation of the thought process behind choosing a collection method, 25 of the 28 respondents expressed a lack of satisfaction with the method currently employed. Several voiced frustrations over how time and labor intensive the methods are. One respondent was concerned about where the data for the metrics was coming from. Another observed, "no current

method is fullproof [sic] and there are still a lot of judgments to be made." Several respondents indicated that they were somewhat satisfied, with one explaining, "I am aware that our methodology does not produce comprehensive results, but with limited staff time, it is working for us now." Two respondents indicated that they were satisfied, although one included a qualifier that they are analyzing how they will use the data and may reevaluate their methods. One comment given from a respondent seems to accurately sum up many of the problems and frustrations, "It would be great if law had an accepted, uniform standard for citation metrics."

Use and Purpose

All 28 survey respondents answered the question concerning the use for the data collected. We provided 5 options as well as an "I Do Not Know" and "Other" responses. The 5 options were Annual Reports, Budget, Kept on File But Not Actively Used, Promotion/Tenure, and Provided to Faculty. This question allowed for respondents to choose multiple answers. The majority (75%) said that the data is provided to faculty. Close behind that response, 67.9% said that the data is used for promotion/tenure.

What is the data you collect used for? (28 responses)

Category	Value
Annual Rep...	10 (35.7%)
Budget	1 (3.6%)
Kept on File...	6 (21.4%)
Promotion/T...	19 (67.9%)
Provided to...	21 (75%)
I Do Not Know	0 (0%)
Other	6 (21.4%)

Of the six respondents who chose "Other" in the above question, responses included internal use, grant applications, potential appointments, lateral appointments, and unit reports to the University.

Part II

Citation Metrics – Descriptions of Citation Metric Tools & Methods

HeinOnline Author Profile Pages

In 2015, HeinOnline debuted Author Profile Pages. An author's profile page (or pages, as will be discussed in more detail below) may be found by doing a search in the Law Journal Library for the author's name. Once you have a list of results, click on the link for the author's name. The goal of this service is to aggregate all of an author's works (and citations to works not available on HeinOnline) in one place and provide metrics at the article and author level. The illustration on the next page is a sample author profile for Roscoe Pound. The metrics provided are:

- The number of **cases** in which works by this author have been cited. Case citations are drawn from the Fastcase case law library. This number is then compared to other authors to provide an overall ranking.
- The number of **articles** in which works by this author have been cited in articles available on HeinOnline. Again, this citation count is compared to that of other authors to provide an overall ranking.
- The number of articles in which works by this author have been cited in articles *written in the last ten years*. This metric is intended to capture the current impact of an author's work.
- The number of times an author's articles have been accessed in the past twelve months (but not necessarily downloaded).
- As of March 2016, author rankings now include the number of times an author's articles have been cited by articles written only within the past 12-24 months. This new currency factor enhances the rankings by considering what's most relevant today in addition to the other metrics, which account for quantitative author influence.
- ScholarCheck rank is intended to be the overall impact factor of this author based on an average of the author's rankings in these five categories. This calculation does not appear to be a simple arithmetic mean.

Recent updates also allow for sorting an author's articles. Previously, the default article display was by number of times cited by other articles and could not be changed. Sorting options now include volume date, document title, and number of times accessed.

Other features of Author Profiles include:

- A public link to the author's profile page. This will allow non-subscribers to see all of the author's work in one place (but not actually download anything).
- Email alerts when new works by this author and when new citing articles (but not cases) have been added to HeinOnline.
- Links to other works by this author that do not appear as part of the Author Profile (and therefore, not included in Author Profile statistics and rankings). For example, there are

works by Roscoe Pound in other libraries on HeinOnline (e.g., Legal Classics, World Constitutions Illustrated, and Spinelli's Law Library Reference Shelf).

Author Profiles are generated automatically by aggregating name metadata in articles available on HeinOnline. While convenient, it does require involvement by the author (or a librarian assisting the author) to identify all of the various ways the author's name appears in HeinOnline. For very prolific authors, this could be quite a monumental task. One of the most common ways authors appear in at least two places is inconsistent use of middle initials.

Another limitation of Author Profiles is that it captures only HeinOnline content and articles indexed in legal periodical indexes. Authors are able to add articles to their profile that are not contained on HeinOnline if they hold the copyright to the article.

Figure 1 – HeinOnline Author Profile Sample

Pound, Roscoe (Edit Author Profile)

Full Name	Pound, Roscoe
Birth Year	1870
University/Affiliation	Harvard Law School
Title	American Legal Scholar
ⓘ Cited by Cases	386 (Rank 17)

This metric counts the cumulative number of times this author has been cited by cases available in HeinOnline or via Fastcase.

ⓘ Cited by Articles	8534 (Rank 7)

This metric counts the cumulative number of times this author has been cited by other articles in HeinOnline. Citation sources include the Bluebook, *Prince's Bieber Dictionary of Legal Abbreviations*, and the *Cardiff Index to Legal Abbreviations*.

ⓘ Accessed (Past 12 Months)	3001 (Rank 26)

This metric counts the cumulative number of times an author's articles have been accessed by HeinOnline users within a rolling 12 month period. In order to count as accessed, the article must be clicked from either search results or by browsing to the article, or retrieved using the citation navigator.

ⓘ Cited by Articles (Past 10 Years)	1371 (Rank 109)

This metric counts the cumulative number of times an author's articles have been cited by other articles in HeinOnline *written in the past 10 years only*. This is also called the "currency factor". Citation sources include the Bluebook, *Prince's Bieber Dictionary of Legal Abbreviations*, and the *Cardiff Index to Legal Abbreviations*.

ⓘ Cited by Articles (Past 1-2 years)	132 (Rank 135)

This metric counts the cumulative number of times an author's articles have been cited by other articles in HeinOnline written in the past 12 - 24 months only.

ⓘ ScholarCheck Rank	15

This is an overall ranking based on the five ScholarCheck metrics. Authors are ranked in each category, and the rankings are then averaged to produce the overall ScholarCheck Rank, or ScholarRank, for each author.

Harzing's Publish or Perish

Harzing's Publish or Perish (PoP) is a free software program[1] that uses Google Scholar and, more recently, Microsoft Academic Search, to gather citation data. Although PoP draws from Google Scholar, a search on PoP will not yield the same results as Google Scholar. The Author impact analysis searches for a particular author's publications and provides, among other metrics, total papers per author, total citations per author, and total years the author has published.
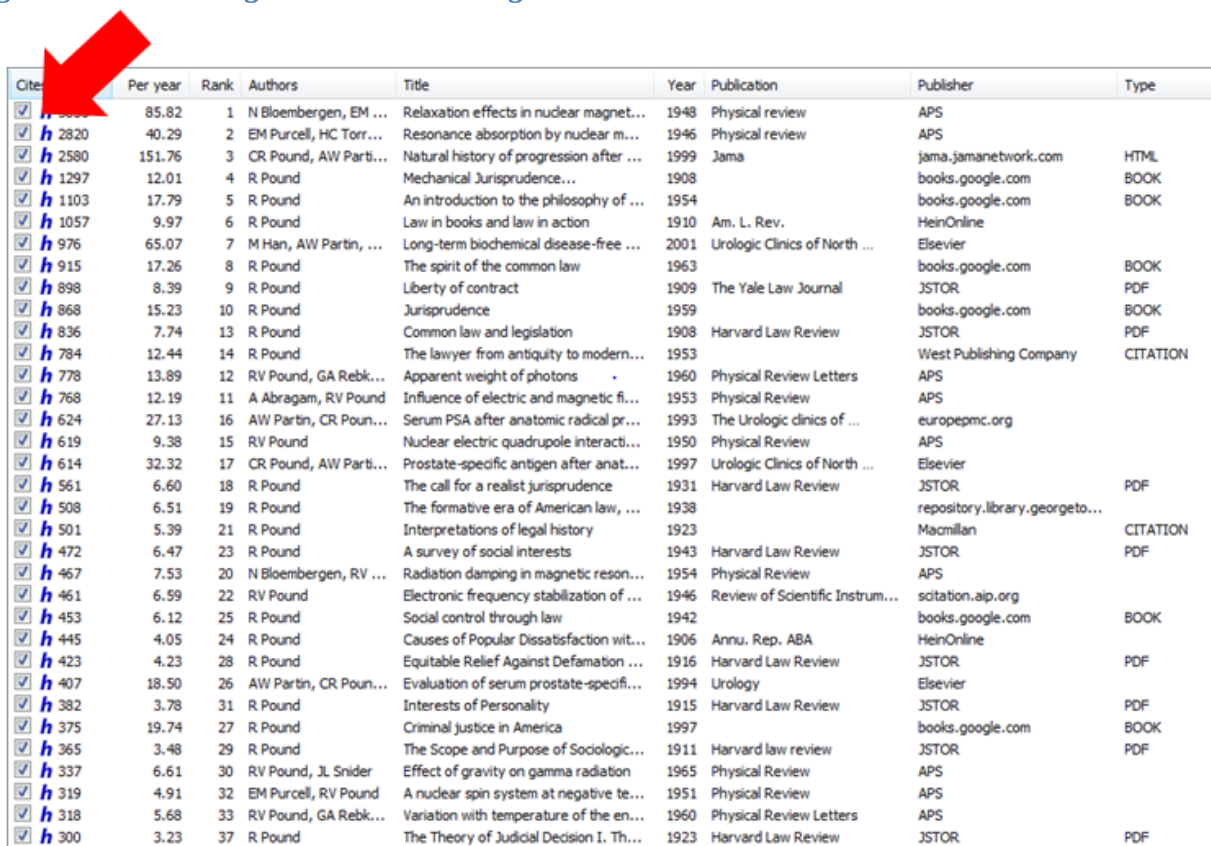
Figure 2 – Harzing's Publish or Perish Interface

When performing a search, PoP recommends using the author's first name as an initial and full last name. More often than not, the results will contain publications by other authors. If this is the case, you can remove the checkmark next to the publication that is not by the author you are searching for.

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[1] Available for download at http://www.harzing.com/resources/publish-or-perish

Figure 3 – Deselecting Authors on Harzing's Publish or Perish

Cites	Per year	Rank	Authors	Title	Year	Publication	Publisher	Type
☑ h ----	85.82	1	N Bloembergen, EM ...	Relaxation effects in nuclear magnet...	1948	Physical review	APS	
☑ h 2820	40.29	2	EM Purcell, HC Torr...	Resonance absorption by nuclear m...	1946	Physical review	APS	
☑ h 2580	151.76	3	CR Pound, AW Parti...	Natural history of progression after ...	1999	Jama	jama.jamanetwork.com	HTML
☑ h 1297	12.01	4	R Pound	Mechanical Jurisprudence...	1908		books.google.com	BOOK
☑ h 1103	17.79	5	R Pound	An introduction to the philosophy of ...	1954		books.google.com	BOOK
☑ h 1057	9.97	6	R Pound	Law in books and law in action	1910	Am. L. Rev.	HeinOnline	
☑ h 976	65.07	7	M Han, AW Partin, ...	Long-term biochemical disease-free ...	2001	Urologic Clinics of North ...	Elsevier	
☑ h 915	17.26	8	R Pound	The spirit of the common law	1963		books.google.com	BOOK
☑ h 898	8.39	9	R Pound	Liberty of contract	1909	The Yale Law Journal	JSTOR	PDF
☑ h 868	15.23	10	R Pound	Jurisprudence	1959		books.google.com	BOOK
☑ h 836	7.74	13	R Pound	Common law and legislation	1908	Harvard Law Review	JSTOR	PDF
☑ h 784	12.44	14	R Pound	The lawyer from antiquity to modern...	1953		West Publishing Company	CITATION
☑ h 778	13.89	12	RV Pound, GA Rebk...	Apparent weight of photons ·	1960	Physical Review Letters	APS	
☑ h 768	12.19	11	A Abragam, RV Pound	Influence of electric and magnetic fi...	1953	Physical Review	APS	
☑ h 624	27.13	16	AW Partin, CR Poun...	Serum PSA after anatomic radical pr...	1993	The Urologic clinics of ...	europepmc.org	
☑ h 619	9.38	15	RV Pound	Nuclear electric quadrupole interacti...	1950	Physical Review	APS	
☑ h 614	32.32	17	CR Pound, AW Parti...	Prostate-specific antigen after anat...	1997	Urologic Clinics of North ...	Elsevier	
☑ h 561	6.60	18	R Pound	The call for a realist jurisprudence	1931	Harvard Law Review	JSTOR	PDF
☑ h 508	6.51	19	R Pound	The formative era of American law, ...	1938		repository.library.georgeto...	
☑ h 501	5.39	21	R Pound	Interpretations of legal history	1923		Macmillan	CITATION
☑ h 472	6.47	23	R Pound	A survey of social interests	1943	Harvard Law Review	JSTOR	PDF
☑ h 467	7.53	20	N Bloembergen, RV ...	Radiation damping in magnetic reson...	1954	Physical Review	APS	
☑ h 461	6.59	22	RV Pound	Electronic frequency stabilization of ...	1946	Review of Scientific Instrum...	scitation.aip.org	
☑ h 453	6.12	25	R Pound	Social control through law	1942		books.google.com	BOOK
☑ h 445	4.05	24	R Pound	Causes of Popular Dissatisfaction wit...	1906	Annu. Rep. ABA	HeinOnline	
☑ h 423	4.23	28	R Pound	Equitable Relief Against Defamation ...	1916	Harvard Law Review	JSTOR	PDF
☑ h 407	18.50	26	AW Partin, CR Poun...	Evaluation of serum prostate-specifi...	1994	Urology	Elsevier	
☑ h 382	3.78	31	R Pound	Interests of Personality	1915	Harvard Law Review	JSTOR	PDF
☑ h 375	19.74	27	R Pound	Criminal justice in America	1997		books.google.com	BOOK
☑ h 365	3.48	29	R Pound	The Scope and Purpose of Sociologic...	1911	Harvard law review	JSTOR	PDF
☑ h 337	6.61	30	RV Pound, JL Snider	Effect of gravity on gamma radiation	1965	Physical Review	APS	
☑ h 319	4.91	32	EM Purcell, RV Pound	A nuclear spin system at negative te...	1951	Physical Review	APS	
☑ h 318	5.68	33	RV Pound, GA Rebk...	Variation with temperature of the en...	1960	Physical Review Letters	APS	
☑ h 300	3.23	37	R Pound	The Theory of Judicial Decision I. Th...	1923	Harvard Law Review	JSTOR	PDF

When a publication is unchecked, the metrics for the author will be recalculated. The results can be downloaded and saved locally. The publication list can be sorted by any of the headings. To narrow results further on a very common name, it is possible to limit the search by year.

One of the benefits of using PoP is that its search results can yield books, journal articles, edited works, and online publications. However, it is not all encompassing. Materials that are open access are far more likely to appear in a search than materials that are behind a paywall. There may also be multiple versions of the same title. While it may not affect the overall citation count, it is problematic if you are seeking citation counts for an individual title. Some of the titles will link out so that you can verify a title is by a particular author. However, you will not be able to see where the citations are used.

ResearchGate

ResearchGate[2] is a social networking platform for scientists and researchers. It was founded in 2008 and, as of July 2016, reports to have over ten million members.[3] It is free to sign up as a member. Each member has a profile where he or she can list publications and works in progress;

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[2] https://www.researchgate.net/
[3] https://www.researchgate.net/about

skills and experience; and education. Members can follow a particular discipline, member, or a publication. Members can receive feedback on their publications and post research-related questions that are open to the membership.

ResearchGate provides metrics on publications listed in a member's profile. Publication listings on a profile may include a full-text upload, an abstract, or just a citation. ResearchGate extracts citations from full-text papers on its network. According to its website, ResearchGate is investigating a way to incorporate external citation data. It also measures "reads." A read is when someone (both members and those who are not logged into ResearchGate are counted in reads) either reads the full-text or summary of a publication entry or downloads a ResearchGate hosted file from a search engine, such as Google Scholar. ResearchGate provides a breakdown of the reads which can be: on-page reads, summary reads, private shares, file downloads, and figure reads.

In addition to citation metrics, ResearchGate also provides an entirely new metric with RG Score, which is meant to be a measure of reputation, of how one's research is received within the community. (In its description of the RG Score, ResearchGate refers to the scientific community.) The RG Score is calculated based on contributions to ResearchGate, such as publications, questions posed to the community, and answers given in response to others' questions. ResearchGate's algorithm incorporates the reputation of those evaluating a particular member and allows a downvoting option for contributions that are not deemed up to community standards. ResearchGate provides RG Scores for members and has a separate RG Score for institutions.

Leiter Method in Westlaw's Journals & Law Reviews Database

Thomson Reuters Westlaw has a database specifically containing law reviews and journals (formerly known as the JLR database on Westlaw Classic). The database contains a number of legal journals with coverage varying by title. Different techniques are employed to create citation counts, as described below. However, Brian Leiter, a law professor at the University of Chicago, developed a specific method for assessing and calculating scholarly impact in the Westlaw JLR database.

His methodology is as follows: within the JLR Database in Westlaw dates are limited to the last five years and names are entered as a proximity search (e.g. **first name/2 last name AND date(aft current year - 5) and date(bef current year**)).[4] The proximity is adjusted in cases where multiple middle initials make a wider scope necessary.[5] To guard against false positives, 10-20 of the hits (usually the first ten and last ten) are reviewed and the percentage of false

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[4] Gregory Sisk, Valerie Aggerbeck, Debby Hackerson & Mary Wells, *Scholarly Impact of Law School Faculties in 2012: Applying the Leiter Scores to Rank the Top Third*, 9 U. St. Thomas L. J. 838, 850-51 (2012).
[5] *Id.*

positives is multiplied against the total number of hits returned and subtracted from the citation total.[6] Generally then, for the school score "a raw score is generated by taking the average faculty citation counts for a particular school, multiplying it by two, and adding the median faculty citation count at that school. These raw scores are then normalized."[7]

One of the most considerable advantages of the Leiter method is that it is highly respected and well-accepted within the legal academic community. "Professor Vikram Amar described the 'Leiter-style rankings of faculty impact (with the implication that impact tracks quality) [as] second among law school rankings in prominence, beneath only *U.S. News* rankings.'"[8] The Leiter method shares the same benefits as using Westlaw JLR for scholarly impact assessment, as well as correcting for certain errors, such as multiple authors sharing the same name, and boasting a more up-to-date assessment, as the results draw only from the previous five years. Limiting to the most recent five years helps to level the playing field for new faculty, as an equal time period is compared for every professor regardless of the number of years of authorship. This method also saves time for the assessor as only a maximum of twenty entries per faculty member will need to be assessed closely, but no more.

Several arguments have been made against using the Leiter method. By looking at the first ten and last ten citations, "Leiter uses a non-random sample to represent the underlying population," which is problematic from a "measurement theory and sampling methodology perspective."[9] The method also considers only the five year period immediately preceding the study. Leiter results can also be skewed in the following ways: "(1) the prolific but uninspired scholar who by sheer volume of work increases his citation count; (2) the treatise writer whose work is 'a recognized reference point in the literature'; (3) the academic ambulance chaser who flits from one topic to the next; (4) really bad work that is frequently cited as an example of poor scholarship; (5) the fact that the longer one has been around, the more citations they are likely to have, thus leading to a bias against younger scholars; and (6) the fact that law reviews tend to publish articles in certain fields, such as constitutional law versus trusts and estates."[10]

Considering that searching for citations in Westlaw is limited to legal content classified by Westlaw as a Law Review or Journal, this method is not sufficient for interdisciplinary citation metrics.

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[6] *Id.*; James C. Phillips & John Yoo, *The Cite Stuff: Inventing a Better Law Faculty Relevance Measure*, 3 (Sept. 25, 2012) (unpublished manuscript).
[7] *Id.* at 4.
[8] Gregory Sisk, Valerie Aggerbeck, Debby Hackerson & Mary Wells, *Scholarly Impact of Law School Faculties in 2012: Applying the Leiter Scores to Rank the Top Third*, 9 U. St. Thomas L. J. 838, 843 (2012).
[9] James C. Phillips & John Yoo, *The Cite Stuff* at 3.
[10] *Id.* at 4.

Phillips-Yoo Method

As mentioned previously, Thomson Reuters Westlaw has a database specifically containing law reviews and journals referred to as JLR. The database contains a number of legal journals with coverage varying by title. As will be discussed in more detail below, Thomson Reuters also offers Web of Science which is a service containing multiple databases including: Science Citation Index Expanded, Social Sciences Citation Index, Arts & Humanities Citation Index, Conference Proceedings Citation Index-Science, Conference Proceedings Citation Index- Social Science & Humanities, and Emerging Sources Citation Index. The Phillips-Yoo Ranking Method assesses a professor's average annual citations in both law (by using the JLR database in Westlaw) and non-law peer-reviewed journals (by using Web of Science). First, all citations in the JLR database that come up for the scholar's name in the last year are counted, without correcting for false positives. Then the scholar's author page in Web of Science is searched. For each article the assessor discounts authors with the same name and law journals (which were theoretically already counted in Westlaw's JLR database) and then adds the number of citations for each remaining article. The Web of Science sum is then added to the Westlaw JLR result. The method then proceeds to rank faculty both overall and in specific categorical areas. The school score is then generated by adding up all the citations for the faculty and dividing by the number of years of experience for faculty.[11]

One of the most considerable benefits of this method is that it measures interdisciplinary scholarship in a way that few other methodologies do. By including Web of Science results, non-law journals are included. There may still be some scholarship which is not counted if it falls outside the areas of law, arts, sciences, and the humanities. However, this broadens the field considerably. The Phillips-Yoo Method analyzes annual average citation rates, diminishing "bias in favor of longevity and prolificacy, bias against immediacy, the disregarding of citation rate half-lives, and ignoring interdisciplinary impacts."[12] The authors also theorized that "measuring the rate of publications per year may be especially important for scholars who target narrower academic audiences and thus are less likely to be widely cited."[13]

Brian Leiter criticized the Phillips-Yoo Method, noting that while interdisciplinary inclusion via Web of Science might have some significant benefits, many Web of Science citations have nothing to do with legal scholarship and include publications which, while written by law faculty, are not interdisciplinary in nature and have no bearing on legal scholarly impact.[14] Several allegations were made that false positives were not corrected for in the original Phillips-

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[11] James C. Phillips & John Yoo, *The Cite Stuff: Inventing a Better Law Faculty Relevance Measure*, 3-8 (Sept. 25, 2012) (unpublished manuscript).
[12] *Id.* at 6.
[13] *Id.* at 12.
[14] *Phillips & Yoo Citation Study Has Some Serious Problems*, Brian Leiter's Law School Reports, Sept. 15, 2012, http://leiterlawschool.typepad.com/leiter/2012/09/phillips-yoo-citation-study-has-some-serious-problems.html

Yoo study.[15] While there may be significant benefits to random sampling in theory, Professor Leiter noted that "in all the years of doing it non-randomly, no one has ever come forward with a single case where this method distorted the results," and noted that, "fail[ing] to correct for huge rates of false positives [is extremely problematic], since such rates are not evenly distributed across all names for the obvious reasons. . ., and several cases of large false positives [Produced by the Phillips Yoo Method] have now been identified."[16] In addition, adding the Web of Science information may add considerable work and time commitment for the assessor in gathering the information.

Westlaw Searches in Law Reviews and Journals

The JLR database mentioned above contains a number of legal journals with coverage varying by title. For example, coverage of the *Penn State Law Review* begins with 1983 (Volume 87). There are also some international law reviews available, but the list is small with only thirty-eight titles as of June 9, 2016. Additionally, some of these international law review titles are actually U.S.-based law reviews covering international law topics.

To run a citation search in Westlaw, select the database for "Law Reviews and Journals." In the box at the top of the screen, search the author and the date period you are looking for. For example, a search for citations to a specific faculty member in articles published after 2012 would look like this: **firstname /2 lastname & da(aft 2012)**. To eliminate articles that the faculty member might have authored himself, you can further limit the search: **firstname /2 lastname & da(aft 2012) % au(firstname /2 lastname).** The more limited search is especially helpful if the faculty member has many publications in the time-frame you are searching.

Running one of these searches will retrieve articles that contain the faculty member's name. Running the second, more limited search, will retrieve articles that mention the faculty member's name in the text of the article or the footnotes, but not in the author field. In some instances, you may have to read through the preview text of the article to determine if the article is referencing your faculty member, most often when the faculty member's name is not unique. Furthermore, these searches will retrieve results where the faculty member has been thanked in the text of the footnotes.

For example, in Law Reviews and Journals, running the search "adam /2 muchmore % au(adam /2 muchmore" retrieves 31 results. There is no date limitation. Out of those 31 results, 13 are citations to articles authored by Adam Muchmore. The other results are articles in which he is thanked by the author.

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[15] *Id.*

[16] *Still More Thoughts on the Phillips-Yoo Citation Study*, Brian Leiter's Law School Reports, Sept. 24, 2012, http://leiterlawschool.typepad.com/leiter/2012/09/still-more-thoughts-on-the-phillips-yoo-citation-study.html.

Searching for citations in Westlaw is also limited to legal content. The search in the Law Reviews and Journals database is only searching across the content that Westlaw has in their system and has classified as a Law Review or Journal. This method is not sufficient for interdisciplinary citation metrics.

Lexis Advance Searches in Law Reviews and Journals

Lexis Advance has a database specifically containing law reviews and journals. The database contains a number of legal journals with coverage varying by title. For example, coverage of the *Penn State Law Review* begins with 1994. One difference between Lexis Advance and Westlaw is that Lexis includes some state bar journals that Westlaw does not have, such as the *New Hampshire Bar Journal*.

To run a citation search in Lexis Advance, select "Secondary Materials" from the content box on the homepage. Then, select the database for "Law Reviews & Journals." In the box at the top of the screen, search the author and the date period you are looking for. For example, search **"firstname /2 lastname"** and filter the date on the side of the results screen. In the advanced search page for Law Reviews and Journals, there is a field segment that you can exclude the author in, similar to Westlaw. However, it should be noted that once the search is completed, there is no option to narrow on the author field on the results page.

Running one of these searches will retrieve articles that contain the faculty member's name. You may have to read through the preview text of the article to determine if the article is referencing your faculty member, most often when the faculty member's name is not unique. Furthermore, these searches will retrieve results where the faculty member has been thanked in the text of the footnotes.

For example, in Law Reviews and Journals, running the search "adam /2 muchmore" retrieves 40 results. There is no date limitation. Out of those 40 results, 15 are citations to articles authored by Adam Muchmore. As mentioned earlier, Lexis includes some sources that Westlaw does not have. In the case of this search, 2 citations that are not returned in a Westlaw search are to the *Food and Drug Law Journal*. However, the search also returns a few results from the *New Hampshire Bar Journal* that relate to a New Hampshire case involving someone with the same name. The rest of the results are either articles authored by this faculty member or articles where he is thanked in the notes.

Searching for citations in Lexis Advance is also limited to legal content. The search in the Law Reviews and Journals database is only searching across the content that Lexis has in their system and has classified as a Law Review or Journal. This method is not sufficient for interdisciplinary citation metrics.

Google Scholar

Google Scholar is a free search interface for scholarship, including journal articles and some scholarly monographs. Search results can be ordered by relevance or date, as well as limited by their publication date. Users with Google Accounts can set up email alerts for individual searches.

Coverage for Google Scholar is difficult to determine as Google does not publicize its total content amount or list individual content collections that are searched. Estimates have suggested that it covers 80%-90% of English-language articles[17], and that the total number of documents being searched was ~160,000,000 in 2014.[18] The search results for all of these articles will include citation counts, but these are based only on how many times a given articles was cited by other articles on Google Scholar.

While Google Scholar searches a large collection of articles, it does not provide free access to all of them. Search results will include freely available articles alongside commercially available articles. The full-text of the latter will only be available to users who have licensed access through other means, usually facilitated by campus link resolvers and/or IP authentication.

Google Scholar allows for authors to create individual profiles. Author profile pages offer a list of their publications along with citation counts, as well as h-index and i10-index metrics. Users with Google Accounts can set up email alerts for individual authors, to be notified when the author is again published or an author's work cited. Authors who have set up their profile pages can get similar citation alerts through the provided Google Scholar Citations service.

Because Google Scholar's citation metrics are all based on how many times articles are cited by other publications on Google Scholar, it will undervalue pieces cited by publications that escaped Google's grasp. Nevertheless, Google does publish rankings for individual publications based on h5-index and h5-median metrics. As Google Scholar explains:

> The **h-index** of a publication is the largest number h such that at least h articles in that publication were cited at least h times each. For example, a publication with five articles cited by, respectively, 17, 9, 6, 3, and 2, has the h-index of 3.

> The **h-core** of a publication is a set of top cited h articles from the publication. These are the articles that the h-index is based on. For example, the publication above has the h-core with three articles, those cited by 17, 9, and 6.

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[17] Madian Khabsa & C. Lee Giles, *The Number of Scholarly Documents on the Public Web,* 9 PLoS ONE, vol. 5 (2014), available at http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0093949.

[18] Enrique Orduña-pMalea, Juan Manual Ayllón, Alberto Martín-Martín, and Emilio Delgado López-Cózar, *About the Size of Google Scholar: Playing the Numbers,* available at http://arxiv.org/abs/1407.6239.

The **h-median** of a publication is the median of the citation counts in its h-core. For example, the h-median of the publication above is 9. The h-median is a measure of the distribution of citations to the articles in the h-core.

Finally, the **h5-index**, **h5-core**, and **h5-median** of a publication are, respectively, the h-index, h-core, and h-median of only those of its articles that were published in the last five complete calendar years.[19]

Google Scholar's ranking of "law" publications (a subcategory under Social Science) includes a Top 20 similar to other attempts at ranking law reviews (See Figure 4). None of these legal publications are included in Google Scholar's Top 100 ranking of overall publications.

Figure 4 – Google Scholar's Top 20 Law Publication Ranking

Top publications - Law   Learn more

Publication	h5-index	h5-median
1. Harvard Law Review	42	82
2. Columbia Law Review	39	61
3. Yale Law Journal	38	67
4. Stanford Law Review	37	62
5. University of Pennsylvania Law Review	36	58
6. Georgetown Law Journal	36	50
7. California Law Review	34	47
8. Texas Law Review	32	50
9. Virginia Law Review	31	47
10. Michigan Law Review	30	56
11. Cornell Law Review	30	41
12. Minnesota Law Review	29	47
13. Duke Law Journal	29	42
14. UCLA Law Review	29	41
15. New York University Law Review	28	49
16. Vanderbilt Law Review	27	41
17. Notre Dame Law Review	27	38
18. Criminology & Public Policy	27	37
19. Iowa Law Review	27	36
20. Boston University Law Review	27	32

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[19] https://scholar.google.com/intl/en/scholar/metrics.html#metrics

Bepress Digital Commons

Many law schools use Bepress Digital Commons to host their Institutional Repositories (IR). The repositories contain abstracts, links, video and multimedia materials, and full-text papers. In addition to individual schools' IRs, Bepress maintains a Commons for every discipline available in their taxonomy. There is a general "Law Commons" as well as more subject-specific areas, such as "Administrative Law Commons." In each Commons area, the top papers (by downloads) and top authors (by downloads) are highlighted.

Bepress tracks downloads of materials in IRs. There are a few ways that faculty can find this information. First, Bepress sends a monthly "Readership Report" to faculty members whose works are uploaded to an IR or Digital Journal. The readership report gives the total number of downloads in the prior month and total number of downloads the author has.

Faculty can also access their author dashboard within their Bepress account to find more detailed download information. The author dashboard has many options for viewing data. When a faculty member logs into their account, there is an option to view the author dashboard. Once in the dashboard, the report defaults to showing data regarding all the works associated with that author. The first thing the faculty member will notice is a large map showing readership distribution. The author will also be able to see institutions associated with downloads (determined by IP address), total number of downloads, referring URLs, and a list of the works associated with their account sorted by number of downloads (highest first). If the faculty member wishes to view the institutional or geographic data about one particular article's downloads, there is an option at the top of the screen to choose an article.

The site IR administrator also has the ability to view an IR-wide dashboard that gives the same data as the author dashboard, only for all articles across the IR, including those in a law school journal or law review associated with the account. The administrator can view this data collection-by-collection or site-wide. The administrator is also able to share a stable link to the repository's dashboard. The administrator is able to login to the repository dashboard, choose "share the dashboard," and create a specific view to distribute. The view can be customized to a specific series in the collection, such as faculty journal articles, and it can be limited by date. The person receiving the link does not need to login to access the dashboard, and they cannot make any administrative changes to the data.

Social Science Research Network (SSRN)

The Social Science Research Network ("SSRN"), recently acquired by Elsevier[20], is an online repository for abstracts, drafts, and final versions of academic papers. Since its creation in the mid-1990s, SSRN has become a go-to source for open access to scholarship. SSRN also enjoys favor as a source for papers that may be essentially complete but unavailable in formal publication due to lags in the publication cycle.

Some SSRN statistics (from July 6, 2016):
- 571,040 full-text papers available
- 680,944 abstracts available
- 313,681 authors represented
- 68,210 papers received in the last twelve months
- 100,751,496 total downloads
- 12,897,685 downloads in the last twelve months
- 927,726 downloads in the last 30 days

SSRN has been widely adopted by law faculty, with over 215,000 of its papers part of the "Legal Scholarship Network" (a collection of "eJournals" into which SSRN collects recently submitted papers). Because SSRN is also heavily used by economics and political science researchers, it also offers interdisciplinary value.

Because SSRN tracks and publishes a count of how many times each PDF file of a paper has been downloaded, SSRN's download counts are a metric by which many authors gauge the size of their readership. SSRN also publishes a variety of download rankings, outlined below.

Users can find rankings for all SSRN papers since January 1997. As of July 8, 2016, the most downloaded paper had 176,865 downloads, the tenth-most downloaded paper had 52,617, and two of the top ten papers were by law faculty. Users can also find a ranking limited to "recent" downloads (downloads from the last three months).

In addition to rankings of individual papers, SSRN posts download rankings for individual authors (based on download counts for all of an author's papers on SSRN). There is a ranking for all authors on SSRN, but there is also a ranking for the top 3000 law authors ("law" assignment based on an author's institutional and departmental affiliations). As of July 2 8, 2016, Cass Sunstein sits atop this top law author ranking.

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[20] https://www.elsevier.com/connect/ssrn-the-leading-social-science-and-humanities-repository-and-online-community-joins-elsevier, last visited June 7, 2016

Individual authors' statistics download and citation statistics can be viewed on their SSRN author pages. Users can find authors' aggregate download and citation counts and ranks along with a list of all their articles posted on SSRN. For each article, SSRN provides the download count, download rank, and citation count. It also links to the citing articles (on SSRN) for each.

This top law author ranking provides the following sortable info: total downloads, total downloads per paper (published by the individual author), total new downloads (from the past twelve months), and new downloads per paper.

To prevent authors and others users from distorting these counts through excessive repeat downloads, SSRN will sometimes require users from particular IP addresses or IP address ranges to log in before downloading. SSRN will then forgo counting repeat downloads from an individual user.

Scopus[21]

Although not included in our list of metrics collection methods, Scopus is a database that many respondents indicated they used. Scopus is a database that contains abstracts and citations of peer-reviewed literature such as scientific journals, books, and conference proceedings. It contains materials related to science, technology, medicine, social sciences, and arts, which makes it one of the most interdisciplinary databases from which to gather citation metrics. Scopus allows researchers to search by document, author, and affiliation. It provides the means to create alerts, save documents into lists, and export data to reference managers like Mendeley, RefWorks, and EndNote. For metrics purposes, Scopus allows a researcher to compare journals, view the citation impact and engagement for a particular article, and track an author's citation history through their Author Profiles.

ORCID[22]

ORCID (Open Research and Contributor ID) is a unique identifier meant to link scholarship to a particular author. Publishers in the sciences have begun to require an ORCID iD for submission.[23] Although it does not provide any metrics, ORCID iDs are recognized by many systems that do, such as Scopus, ResearcherID, Hein Author Profiles, and SSRN. Each ORCID iD is linked to a profile which is similar to a CV, allowing an author to provide education, employment, and funding information. Authors can provide a short bio, any alternative names, and links to other scholarly profiles. ORCID recognizes four broad types of works—

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[21] To read more about Scopus' features, please visit https://www.elsevier.com/solutions/scopus/features
[22] http://orcid.org/
[23] https://orcid.org/content/requiring-orcid-publication-workflows-open-letter

publications, conference, intellectual property, and other, all of which have multiple subsections.[24]

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[24] https://members.orcid.org/api/supported-work-types

Appendix 1: Selective Bibliography

Bernard S. Black & Paul L. Caron, *Ranking Law Schools: Using SSRN to Measure Scholarly Performance*, 81 Ind. L.J. 83 (Winter 2006).

Alfred L. Brophy, *Ranking Law Schools with LSATs, Employment Outcomes, and Law Review Citations*, 91 Ind. L.J. Supp. 55 (2015).

Alfred L. Brophy, *The Relationship Between Law Review Citations and Law School Rankings*, 39 Conn. L. Rev. 43 (Nov. 2006).

Theodore Eisenberg, *Assessing the SSRN-Based Law School Rankings*, 81 Ind. L.J. 285 (Winter 2006).

Theodore Eisenberg & Martin T. Wells, *Rethinking and Explaining the Scholarly Impact of Law Schools*, 27 J. Legal Stud. 373 (June 1998).

Jeffrey L. Harrison & Amy R. Mashburn, *Citations, Justifications, and the Troubled State of Legal Scholarship: An Empirical Study*, 3 Tex. A&M L. Rev. 45 (Fall 2015).

Benjamin J. Keele & Michelle Pearse, *How Librarians Can Help Improve Law Journal Publishing*, 104 Law Libr. J. 383 (Summer 2012).

Brian Leiter, *Measuring the Academic Distinction of Law Faculties*, 29 J. Legal Stud. 451 (2000).

Deborah Jones Merritt, *Scholarly Influence in a Diverse Legal Academy, Race, Sex, and Citation Counts*, 29 J. Legal Stud. 345 (Jan. 2000).

James C. Phillips & John Yoo, *The Cite Stuff: Inventing a Better Law Faculty Relevance Measure*, 3 (Sept. 25, 2012) (unpublished manuscript).

Phillips & Yoo Citation Study Has Some Serious Problems, Brian Leiter's Law School Reports, Sept. 15, 2012, http://leiterlawschool.typepad.com/leiter/2012/09/phillips-yoo-citation-study-has-some-serious-problems.html

Gregory Sisk, Valerie Aggerbeck, Debby Hackerson & Mary Wells, *Scholarly Impact of Law School Faculties in 2012: Applying the Leiter Scores to Rank the Top Third*, 9 U. St. Thomas L. J. 838 (2012).

Gregory Sisk, Valerie Aggerbeck, Nick Farris, Megan McNevin, Maria Pitner, *Scholarly Impact of Law School Faculties in 2015: Updating the Leiter Score Ranking for the Top Third*, 12 U. St. Thomas L.J. 100 (Fall 2015).

Robert Steinbuch, *On the Leiter Side: Developing a Universal Assessment Tool for Measuring Scholarly Output by Law Professors and Ranking Law Schools*, 45 Loy. L.A. L. Rev. 87 (Fall 2011).

Still More Thoughts on the Phillips-Yoo Citation Study, Brian Leiter's Law School Reports, Sept. 24, 2012, http://leiterlawschool.typepad.com/leiter/2012/09/still-more-thoughts-on-the-phillips-yoo-citation-study.html.

Rob van Gestel, Jan Vranken, *Assessing Legal Research: Sense and Nonsense of Peer Review Versus Bibliometrics and the Need for a European Approach*, 12 German L.J. 901 (Mar. 2011).

Citation Metrics Survey

If you are the person primarily responsible for collecting download or citation statistics for your faculty, the ALL-SIS Scholarly Communications Committee would like you to complete the following survey. It should only take 5-10 minutes of your time. The goal of the survey is to inform a report the committee is writing for law librarians about the various types of methods to measure scholarly impact and how institutions are using the information gathered. Responses to this survey are completely anonymous and results will be presented in the report in the aggregate and anonymously.The survey will remain open until Tuesday, February 2. If you have any questions, please contact Jason Sowards at jason.r.sowards@vanderbilt.edu. Thank you in advance for completing the survey!

1. **Your Name**

   _____

2. **Your Title**

   _____

3. **Which area best describes your position?**
   Mark only one oval.

   ( ) Public Services

   ( ) Technical Services

   ( ) Other: _____

4. **Please indicate all of the methods you use to collect citation metrics**
   Please select all that apply
   Check all that apply.

   ☐ Bepress

   ☐ Google Scholar

   ☐ Harzing's Publish or Perish

   ☐ Hein Author Profiles

   ☐ Leiter Method in Westlaw

   ☐ Lexis Advance Law Review Searches

   ☐ Philips-Yoo Method

   ☐ ResearchGate

   ☐ SSRN

   ☐ Statistics from IR

   ☐ Web of Science Social Science Citations

   ☐ Westlaw Search in JLR

   ☐ Other

5. **If you selected Other in the previous question, please describe the method you use**

   _____

   _____

   _____

   _____

   _____

6. **What led you to choose the method, or methods, you currently use?**

_____

_____

_____

_____

_____

7. **Are you satisfied with the method, or methods, you currently use? Why or why not?**

_____

_____

_____

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_____

8. **What is the data you collect used for?**
   Please select all that apply
   Check all that apply.

   ☐ Annual Reports

   ☐ Budget

   ☐ Kept on File but Not Actively Used

   ☐ Promotion/Tenure

   ☐ Provided to Faculty

   ☐ I Do Not Know

   ☐ Other

9. **If you selected Other in the previous question, please describe how the data is used**

_____

_____

_____

_____

_____

Appendix 3: Anonymous Responses to Survey

What follows are responses for the free-form questions of why certain citation metric tools or methods are used (and why) as well as comments about the satisfaction with the tools/methods currently used.

Question: What led you to choose the method, or methods, you currently use?

Responses:

We try to get this most comprehensive information possible. While there is a lot of cross over between the platforms, we do find some citations only appear in certain databases.
KeyCite - I've compared it with the Leiter searches and it seems to correlate pretty well for most of our faculty. It has the advantage of bringing in more metada (dates of publication and citation being the most important). It includes citations from cases, which the larger academic indexes do not include.
Available tools; measure different universes; faculty wishes
We now generally only search JLR on Westlaw and Web of Science. We feel this catches both law and non-law citations without being over burdensome. Others methods are occasionally used when we want to be as thorough as possible. We also stopped removing duplicate citations caught by different database because it took too much of our time to go through.
When I first started collecting statistics Westlaw and Lexis was what was available. I haven't had time to explore other possible means of collecting statistics.
Because none of the methods are without flaws nor comprehensive, we aim for a range of both download and citation examples, and from sources that can be compared over time.
Selection of institutional repository
Prior practice when I took over this responsibility, mainly
faculty who publish in both law and non-law journals
We collect different metrics for different purposes, often at the request of our research dean. Some is on an annual basis (reporting is), while other instances are for special purposes (i.e. junior faculty member up for review).
Availability and an effort to be as inclusive as possible
Historical use of JLR Westlaw search. It also seems to capture most of the legal literature. We're now expanding to Google Scholar because it seems to do the best job of capturing non-law citations. SSRN because faculty pay close attention to this and also we've counted this historically.
SSRN captures download counts and unpublished works, Westlaw covers most law review cites, and Google Scholar covers non-law cites and books.
Ad hoc faculty committee determined process two years ago.
Familiarity and comfort of the faculty/law school administration with the places/methods used

They are typically the sources used when citation counts are requested for as support for P&T.
We decided that Publish or Perish was as comprehensive as we could get because many of our faculty are interdisciplinary and this was the best way to capture the variety of places they publish.
Interdisciplinary authors; attempt to capture as much data as possible
Upon instruction from a previous law library director.
Resources available to us. Faculty preference. Efficacy. Accuracy.
We use these, sometimes all at once, sometimes separately, but only in response to specific requests from the Associate Dean of Research, usually coming from something the Dean's office is working on.
These were the methods established when I arrived and since they are not actively used at this time except to give them to the faculty, we have not made any changes to methods of collection data.
In an attempt to be comprehensive
The procedure was established before I started working in the library. I only expanded searching from Web of Science Basic Search to Web of Science Cited Reference searching and from Scopus documents to Scopus secondary documents. And since Law is not well covered by traditional citation tools, I started using Publish and Perish to determine h-index (if the academic did not have a Google Scholar Citation Profile).

Question: Are you satisfied with the method, or methods, you currently use? Why or why not?

Responses:

No. It is extremely labor intensive, but I have not developed a better system.
Google Scholar results (source for Publish or Perish) are not always complete for law reviews, but other methods are too cumbersome and have similar problems. Use of DOIs for law review articles, as in nearly all other academic fields, would provide much more accurate data and make this process much simpler.
It takes a bit longer than the Leiter method (though WestCheck helps). Since it relies on the Westlaw universe of documents, it doesn't treat scholars that publish outside of law and outside of the U.S. as well.
No, because none are all-encompassing, some need severe consolidation of duplicate author records (Hein) or publications (Google)
Yes, although it would save us a lot of frustration if Web of Science used first names and not just first initials!

Not really. With the advent of electronic databases other than Westlaw and Lexis and the variety of publishing options, I am sure that I am missing important statistics.
We encourage and educate our faculty about various sources and methods for tracking their own data about the use and impact of their scholarship - they decide what audiences and types of data are most important to them individually. The data we collect is for our Dean, and we are satisfied with it for that purpose.
I am not especially satisfied. I rely primarily on Lexis and Westlaw, but find that my monthly searches for citations to faculty publications generate a great deal of repetition.
I wish there were fewer places to look, and I wish there was more consistency in citations reported among the different sources.
No. I would like to have a more systematic method.
No. We have not found a really comprehensive source for citations in books. We have many interdisciplinary scholars and they are publishing in non-legal journals and foreign journals as well. We have been asked to look for cites in government, IGO and NGO documentation. Generally, Web of Science and SCOPUS are set up for science citations not law. We find that Google Scholar is frustrating because of multiple citations to the same paper and references that are not on point and difficult to authenticate.
Not completely. The JLR search is time-consuming if trying to catch multiple citations within the same article. Using Google Scholar is a new thing for us but seems worth doing, given its broad reach. We need to fine-tune how we make the Google Scholar counts for those who do not have a profile. We'll likely use the counts from Hein profiles once more of our faculty have them (there is currently an effort to make this happen in which the library is a partner).
Our current methods are somewhat time-intensive and while I think the methods capture *most* citations, I think there are more citations we could be finding, especially for works published before 1980 and works published outside the legal literature.
Somewhat satisfied, but believe the scope to measure scholarly impact could be expanded with altmetric considerations.
Parts of it, but I'm not sure how accurately they measure the impact of scholarship
Not really. It would be great if law had an accepted, uniform standard for citation metrics.
No. We don't know where the data comes from and even though it's the most comprehensive option available, it's still not really comprehensive.
No; no current method is foolproof and there are still a lot of judgments to be made
Somewhat. I am aware that our methodology does not produce comprehensive results, but with limited staff time, it is working for us for now.
I've never found citation metrics to give a complete and accurate picture of scholarly impact. The points of access are too diffuse and the data points aren't particularly representative of impact, at least not as representative as those available in other disciplines, like the natural sciences. That said, I think it's productive for a scholar to follow assiduously his or her citation metrics like their scores in a video game. Cumulative measurements like these are useful for understanding the scope and activity within a particular discussion, but they shouldn't be relied upon to judge the value of one's input.

No. It doesn't capture inter-disciplinary research well, making comparisons among faculty members (or potential lateral hires) difficult to do. We also find that lack of name authority in certain systems makes calculating reliable citation metrics impossible.

At this point, we are satisfied. An analysis of the data is being done to ascertain how we may use it. We may re-evaluate our methods after the analysis is complete.

We are not satisfied because of the difficulties in: 1. finding and eliminating duplicate records, 2.the level of faculty expectations, 3. the shortcomings of trying to find cites in books, government documents and foreign materials. 4. the lack of transparency in the search policies of online services (what are we searching and how is that done).

I am able to gather around 50% more citations than Google Scholar alone, so the method is more comprehensive. However, it is very time consuming since the need to dedupe the citing references. Zotero helps in the process, but law citations reports are far more time-consuming than reports I have created for other disciplines.