# Benchmarks for Australian Law Researchers' H-Index and Citation Count Bibliometrics

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## Abstract

This article reports on Australian-based law researchers' bibliometric measures, as recorded on Google Scholar in September 2024. It presents benchmark findings by academic position for H-index and raw citation count. In the context of the shift towards—and the need for—more nuanced and sophisticated research assessment measures, this article provides guidance to the Australian legal academy on Australian-specific data in relation to existing bibliometric measures. At the same time, it acknowledges the significant limits of using Google Scholar as a repository and the use of bibliometric measures more generally. It therefore reflects on ways of living with bibliometrics in the context of the neoliberal university and digital capitalism.

*Keywords*: Law research impact; bibliometrics; benchmarks; H-index; citation counts; Google Scholar.

## 1. Introduction

Assessing the quality and impact of research has become a perennial concern of the contemporary university. The progressive neoliberalisation of the university from the 1980s onwards has been accompanied by an increasing emphasis on the need for accountability assessments of the quality and impact of research produced at institutional and national levels.[1] Universities internalise these drivers by seeking to performance manage academics towards the production of 'high quality' and 'impactful' research, so as to his improve university performance in government research excellence assessments—such as the Excellence in Research for Australia (ERA) or UK Research Excellence Framework (REF) assessments—and other ranking mechanisms such as university league tables. These include the Times Higher Education (THE) World University Rankings and the Academic Ranking of World Universities (Shanghai Ranking).[2] This has given rise to multiple debates about not only what counts as excellence, quality, and impact but whether and how these can be measured. One component of this debate relates to the use of various forms of quantitative indicators, as opposed to the qualitative judgement of peer review assessments. Benefits of quantitative measures of, for example, citation data include an apparent ability to measure academic impact and influence of research in a numerical form and a relatively efficient fashion. Critiques of these approaches include the limits of the datasets used to produce such indicators and questions as to whether the indicators are representative of influence. The impact of the use of such measures on the actual production of quality and impactful (however these terms may be defined) research is also questioned.[3]

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[1] Thornton, Privatising the Public University; Strathern, "Introduction: New Accountablities"; Shore, "Audit Culture and Anthropology."
[2] See Research Excellence Framework, "Research Excellence Framework"; Australian Research Council, "Excellence in Research for Australia"; Times Higher Education, "World University Rankings"; Shanghai Ranking, "Rankings." For critical discussion, see Curry, Harnessing the Metric Tide; Australian Council of Learned Academics, Research Assessment in Australia.
[3] For a critical discussion of research assessment in Australia, including the use of bibliometrics, see Australian Council of Learned Academics, Research Assessment in Australia.

Alongside these developments, the emergence of large online repositories of academic work has generated a new field of bibliometrics. These large datasets have been utilised to identify benchmarks in relation to publishing practices and impact measures within different disciplines.[4] Currently, there are many studies of bibliometric measures for researchers in various science, technology, engineering, and mathematics (STEM) and health disciplines.[5] There have been fewer studies of humanities and social sciences (HASS) bibliometric data,[6] and fewer again for professional HASS disciplines such as law.[7] However, Australian law researchers are using personal bibliometric data in applications for positions, as substantiating evidence in promotion applications, and as evidence of research impact and excellence in competitive grant applications. Further, Australian universities are using bibliometric measures in performance and staff management matters.[8] This is not unique to Australia, with researchers and their institutional managers in other nations also using bibliometric data for similar purposes.[9] Benchmarking studies provide aggregated data that an individual's bibliometrics can be compared to. Without recent and defensible benchmark data, an individual's data tell a partial story. This is particularly so for Australian law researchers, where jurisdictional focuses and diverse specialisations might mean that law researcher bibliometrics look quite different to other disciplines (and may be considered as below expectations, compared to STEM colleagues). Having recent and defensible Australian law-specific benchmark data allows assessment of law researchers and debates about impact and quality of law research in Australia to be guided more on its own terms.

At the same time, there are concerns about the use of bibliometrics as the basis for assessing legal research.[10] These include limitations as to the representativeness and accuracy of certain datasets and whether quantitative or bibliometric measures are appropriate for assessing legal research (and research in the humanities and social sciences more broadly). Bibliometrics may also compound the individualising nature of performance management and research assessment in the context of the neoliberal university and digital capitalism. In this context, there has been a push towards more responsible research assessment mechanisms as well as the development of more transparent and comprehensive datasets (though these are still emerging).[11] Research assessment processes that rely heavily on peer review and qualitative benchmarking impose a significant administrative and academic burden. Thus, new approaches to research assessment are placing greater emphasis on data-driven analysis and university performance measures often still rely on data-driven narratives.[12]

This article reports on a study of Australian-based law researchers' H-index and total citation counts, as recorded on Google Scholar in September 2024, divided by academic position. The study aimed to provide the Australian legal academy, particularly more junior researchers, with more reliable data about Australian law researcher bibliometrics within Google Scholar. These can be used as resources when crafting narratives about research impact and excellence. Our aim was not to directly contribute to the important debate about what should be the measures used to assess impact and excellence of Australian legal research. Rather, this article engages with the 'is' of life as an Australian legal researcher, and only tangentially with the 'ought' propositions about what could be better measures, processes, and datasets. We know and see Australian law researchers using Google Scholar data in grant and promotion applications. We regularly engage with university managers and colleagues from other disciplines who seemingly treat H-index scores as authoritative indications of a researcher's impact and excellence. To be clear, in undertaking this research, we are not endorsing H-indexes, Google Scholar, or bibliometrics as wonderful

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[4] Burrows, "Living with the H-Index?"; Hyland, "Academic Publishing and the Attention Economy."

[5] Neurosurgeons: Jamjoom, "Academic Productivity of Neurosurgeons Working in the United Kingdom"; Psychology: Craig, "Research Productivity, Quality, and Impact Metrics of Australian Psychology Academics"; Psychiatry: MacMaster, "Academic Productivity in Psychiatry"; Pediatrics: Tschudy, "Pediatric Academic Productivity: Pediatric Benchmarks for the H-and G-Indices."

[6] For example, Library and Information Services: Tyson, "Using the H-Index to Measure Research Performance in Higher Education"; Marketing: Soutar, "Research Performance of Marketing Academics and Departments."

[7] Copes, "H-Index and M-Quotient Benchmarks of Scholarly Impact in Criminology and Criminal Justice." For many years law researchers used a draft 2011 report prepared by the LSE Public Policy Group. This report provided a range of impact-related data based on a small sample of researchers. It is the source for a benchmark that the average H-index for a law Professor was 2.83. LSE Public Policy Group, Maximizing the Impacts of Your Research.

[8] Australian Council of Learned Academics, Research Assessment in Australia.

[9] Burrows, "Living with the H-Index?," 361.

[10] McNamara, "Understanding Research Impact in Law."

[11] See, for example, DORA, "San Francisco Declaration on Research Assessment"; Hicks, "Bibliometrics"; Wilsdon, The Metric Tide; Coalition for Advanced Research Assessment (CoARA), "The Agreement Full Text." On the development of new open and transparent platforms for bibliometric analysis, see Curry, Harnessing the Metric Tide, 36–7; Elliott, "Google Scholar Is Not Broken (yet), but There Are Alternatives."

[12] The Australian Universities Accord Final Report, released in February 2024, indicated a greater emphasis on automated collection of data and bibliometrics going forward as part of assessments of research quality and research impact. The report did note the potential inappropriateness of such an approach to certain fields of research, including some humanities, creative industries, social sciences, and First Nations areas. See Australian Government, Australian Universities Accord Final Report, 218–23. See also Curry, Harnessing the Metric Tide, 22.

additions to the rich fulfilment of life as a scholar.[13] In fact, our tendencies are to the opposite, upon which we reflect and theorise in the final section. However, the fact that Google Scholar data and H-indexes are being used daily within the Australian legal academy, often by junior members trying to build narratives about their research, compelled us to undertake this study.

Specifically, this study was conducted after attending a 'How to get an Australian Research Council (ARC) grant' seminar that was organised by the research office at one of our institutions. One of the speakers was a HASS researcher who was a member of the ARC's College of Experts—the peer review body that ranks and recommends applications—speaking about the 'Research, Opportunity and Performance Evidence' section in an ARC application. The speaker was denotive and specific. When it came to performance evidence, they told a room of over 100 (mostly junior) colleagues that researchers need to include their bibliometric data, positioned in relation to the 'benchmark' studies for their discipline. They noted that, in their own discipline, benchmarking studies are published quite regularly. The absence of such benchmarking studies in law instigated our engagement with bibliometric discipline benchmarking and the study presented in this article.

The article is structured in five parts. The background briefly locates the study within the context of bibliometrics as well as broader shifts in research assessment. The second part overviews the study, how the data were gathered, and the limitations. The third part presents the data. The fourth part provides a brief discussion of the data and what they reveal about Australian law schools and contribute to understanding the place of bibliometric data for researchers. The final part concludes by highlighting the limitations in using bibliometric data and its complicity in both the neoliberal university's and digital capitalism's erosion of collectivity, to which we need to respond.

## Background

There are many different bibliometric measures.[14] The simplest measures are total citation counts or total number of publications. Total citation counts are often used to indicate that a researcher has had impact in their discipline through having their work cited in subsequent publications. However, citations, by themselves, do not indicate the level or direction of impact and there have been studies that call into question their representativeness of influence in general.[15] Other disadvantages of total citation counts relate to the effect of outliers, where a single or small number of publications generate the citations. This raises the question of what understanding of impact and quality should be attached to outlier publications in the broader context of a researcher's overall contribution. Total number of publications reveal a continual contribution to a discipline. However, they do not reveal detail about how the researcher's work has been taken up by others, which raises potential concerns of quantity over quality.

Addressing some of these concerns, the H-index was proposed by Jorge Hirsch in 2005.[16] It is a figure produced by ranking a researcher's publication by citation count. An H-index of 10 means that a researcher has 10 publications each with 10 or more citations. Arguments for the H-index, over simpler bibliographic measures, are that it moderates the outlier effect of total outputs and aims to factor in impact within disciple to present a figure about a sustained contribution across a career.[17] However, the H-index has five well-known weaknesses. First, it is weighted towards established researchers who have had the opportunity to publish over a period of time. Second, due to its favouring of established researchers with stable long-term careers, it discriminates against women researchers and others who do not conform to the traditional figure of the 'ideal' academic.[18] Third, it can be seen as favouring researchers working in certain STEM fields where there are large collaborative research teams, publishing many, small, coauthored articles. Fourth, it does not factor for highly cited articles and could therefore be still seen as preferencing quantity over quality. Finally, it is entirely dependent on the underlying repository used.[19] This is particularly significant for Australian law researchers where the established STEM-focused repositories (Scopus and Web of Science) have significantly incomplete coverage of journals in which law researchers, particularly Australian law researchers, publish.[20] Furthermore, like the general point about citations as an indicator of influence noted above, the H-index does not

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[13] Goldenfein, "Google Scholar."

[14] Bihari, "A Review on H-Index and Its Alternative Indices."

[15] Teplitskiy, "How Status of Research Papers Affects the Way They Are Read and Cited."

[16] Hirsch, "An Index to Quantify an Individual's Scientific Research Output."

[17] Hirsch, "An Index to Quantify an Individual's Scientific Research Output," 16570.

[18] Aoun, "Standardizing the Evaluation of Scientific and Academic Performance in Neurosurgery," E87; Kelly, "The H Index and Career Assessment by Numbers," 168; Geraci, "Gender and the H Index in Psychology"; Horney, "Gender and the H-Index in Epidemiology."

[19] Patel, "Measuring Academic Performance for Healthcare Researchers with the H Index."

[20] Barker, "Exploring the Development of a Standard System of Citation Metrics for Legal Academics," 11. In 2016, Bowrey highlighted in her report for the Council of Australian Law Deans on law journal rankings that Scopus's database included only 540 law journals (and only five Australian law journals), which was less than half of the 1,100 law journals in the ERA 2010 list and less than a third of 1,630 titles in the Washington and Lee Library list. Bowrey, A Report into Methodologies Underpinning Australian Law Journal Rankings, 6, 11, 16. In

address the context of why or how particular research outputs are cited. It is also premised on the fact that the acknowledgement of one's influences or sources occurs through the practice of citation, which is different for a range of disciplines and types of scholarship.

Many of the more recent indexes are modifications of the H-index that attempt to incorporate more variables to address some of these criticisms.[21] The G-index, for example, seeks to account for actual citations, including of a small number of highly-cited papers.[22] Further, the HG-index combines the H-index and G-index.[23] The M-index attempts to factor in career length to address the gender discrimination inherent in H-index scores.[24] Issues for M-index calculations are availability of reliable career length data and identifying and factoring in career disruptions. A recent Australian study has identified that women researchers are still more likely to experience career disruptions and are also less likely to disclose disruptions than male researchers.[25] These entrenched patterns of disadvantage and limitations highlight that the H-index—like any other bibliometric or citation measure—are only limited, rough and ready proxies for considering a researcher's contribution. This is one of the reasons that there has been a growing move away from certain forms of bibliographic measures, as well as a greater emphasis on the responsible and contextual use of such indicators.[26] These shifts are aiming to develop more transparent and reflective indicators of research quality and impact.[27] Any bibliometric—including the H-index benchmarks that we present below—may be useful to create narratives and meanings around a researcher's contribution. However, it is important to emphasise that individual, disciplinary, and institutional contexts must be taken into account, and bibliometrics should be treated as a partial, data dependent, abstract figure.[28]

A fundamental reason for this is that underpinning citation-based metrics is an assumption that a cited source has been influential in the development of the work in which it is cited. These indicators have meaning only on the basis of this *assumed* causation. Material is cited for diverse reasons—because the cited material is influential, because it was found and inserted while addressing reader/reviewer comments, or as an opportunity to self-cite.[29] In this sense, one must not take bibliometrics too seriously, believing that both the data and their summary representations have meaning independent of the interpretation and context that we give them. We return to this point in the concluding discussion.

## Study

This study was on law academics based in Australian universities' H-index and total citation count as recorded on Google Scholar in September 2024.[30] Google Scholar was used in preference to other repositories, such as Scopus or Web of Science, as legal research is poorly covered within those repositories (and they have very limited coverage of books and book chapters).[31] This is not to suggest that Google Scholar contains a complete record of all publications within which Australian law academics are cited. It is merely more representative—significantly so for the law discipline—than Scopus or Web of Science.[32] This corresponds with broad evaluations which suggest that Google Scholar captures more citations than other repositories.[33]

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reviewing Scopus's October 2024 list of included sources, only 646 (42%) of the over 1,500 law-coded journals in the ERA 2018 list are included in Scopus's database (though this comparison does not take into account any changes in journals between 2018 and 2024).

[21] Bradshaw, "A Fairer Way to Compare Researchers at Any Career Stage and in Any Discipline Using Open-Access Citation Data."

[22] Egge, "Theory and Practise of the G-Index."

[23] Alonso, "HG-Index."

[24] Hirsch, "The Meaning of the H-Index"; Nocera, "Correlation between H-Index, M-Index, and Academic Rank in Urology."

[25] Barnett, "Meta-Research."

[26] DORA, "San Francisco Declaration on Research Assessment"; Hicks, "Bibliometrics"; Coalition for Advanced Research Assessment (CoARA), "The Agreement Full Text."

[27] Curry, Harnessing the Metric Tide, 36–37.

[28] This reflects the fact that academics, in general, do not find dominant research assessment mechanisms, metrics, and indicators representative of their work and contribution. A survey conducted by the Australian Council of Learned Academies as part of their assessment of research assessment in Australia indicated that 62% of researchers found that 'assessment processes fail to accurately capture the quality of their research' and, furthermore, 70% 'indicated that the amount of time and effort required from researchers for participation was not reasonable.' Australian Council of Learned Academies, Research Assessment in Australia, 98.

[29] Colavizza, "The Case for the Humanities Citation Index (HUCI)"; Whalan, "Context Is Everything." For an applied example of this in the context of the citation practices of the Australian Law Reform Commission, see Tranter, "Citation Practices of the Australian Law Reform Commission in Final Reports 1992-2012."

[30] Queensland University of Technology Human Research Ethics Committee Approval Number 9245.

[31] Barker, "Exploring the Development of a Standard System of Citation Metrics for Legal Academics," 11; Mills, Measuring the Research Quality of Humanities and Social Sciences Publications.

[32] We compared several Australian law professors' H-index score across Google Scholar, Web of Science, and Scopus. The Google Scholar figures were 2–3 times higher.

[33] Martín-Martín, "Google Scholar, Microsoft Academic, Scopus, Dimensions, Web of Science, and OpenCitations' Coci."

There are, however, a number of criticisms of Google Scholar, some of which relate to this greater inclusion. First, Google Scholar includes direct self-citations (generally excluded by Scopus and Web of Science), which some argue distorts the measure of impact. Conversely, other studies indicate that this makes little difference to the comparative quality of the measure and that self-citation that accords with the practices of the discipline is not an issue.[34] Second, Google Scholar sources its material from both indexing of repositories and web scraping. Thus, its algorithms sometimes incorrectly include publications within a particular scholar's profile and citation counts (that it requires the scholar to actively exclude). This has given rise to concerns about its susceptibility to manipulation and inaccuracy—particularly given the rise of artificial intelligence (AI)-generated content—and that Google is not active enough in excluding citation-manipulating entries.[35] This is likely to affect counts of number of outputs significantly more than the H-index scores, which already exclude lowly-cited publications. A third criticism of Google Scholar is that Google's algorithms and inclusion criteria are not transparent and that its own drivers for providing the service are opaque. Meanwhile, it institutionalises 'platform approaches to daily academic practice' that embed platforms like Google Scholar as a key intermediary and source of information about research trends, thus reducing academic autonomy.[36]

In the context of these limitations and the push for more responsible and accurate research measures and indicators, there are a number of alternative databases and platforms being developed. These are generally non-commercial, transparent, and free to use, thus providing strong alternatives to both Scopus and Web of Science *and* Google Scholar. They are also aiming towards a more comprehensive coverage. It should also be noted that Scopus and Web of Science are also working to increase their coverage, including of books and book chapters. In the future, platforms such as OpenAlex, The Lens, and Matilda may provide a stronger basis for bibliographic analysis.[37] Currently, Google Scholar—for all its flaws—provides better coverage of legal research.

In addition to greater capturing of publications and citations, Google Scholar was also used in this study as it provides for individual researchers to establish profiles.[38] These profiles generate a public-facing page that presents bibliometric data for that researcher. These data are generated and 'published' with a form of permission.[39] As such, we believed this was a better source than the bibliometric data generated by Scopus or Web of Science, where the researcher has not undergone a process of permitting access to their bibliometric data. A researcher's Google Scholar profile usually provides the researcher's appointment and institution: ranking of publication by citations; and a data box containing raw citation counts, H-index, I-10 index (and those measures for the last five-year period), and a bar graph with citations by year for the past eight years, which can be expanded to career length.

The population for the study was Australian law academics, defined as researchers publicly listed by an Australian law school's webpage as an academic member of staff. The Council of Australian Law Deans's list of law schools[40] was used to identify the Australian law schools. The list of academic staff was usually a discrete page linked from the law school's homepage. However, in some universities, the staffing list was by larger academic unit and a process of searching staff to identify law researchers was undertaken. In Australia, the five core academic levels are (from junior to senior) Associate Lecturer, Lecturer, Senior Lecturer, Associate Professor, and Professor. Most Australian law schools followed this convention.

Having generated the list of academics associated with a particular law school, the research process involved searching for their names in Google Scholar. If the researcher had a Google Scholar profile, then the research assistant recorded their academic level, H-index, total citations, and I-10 scores. If there was no Google Scholar profile, this was noted, and we moved onto the next name on the list.

In this process, some anomalies were observed and resolved. Foremost, data were only recorded for academics that, from the listing on staff pages, appeared to have a substantial position. Excluded from the study were academics listed as 'Sessional,' 'Adjunct,' 'Emeritus,' or 'Visitor.' There was significant diversity between law schools of the numbers listed with these

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[34] For an overview of the data on self-citations and baseline understandings of acceptable versus unacceptable levels of self-citation across different disciplines, see Ioannidis, "A Generalized View of Self-Citation"; Szomszor, "How Much Is Too Much?"

[35] Elliott, "Google Scholar Is Not Broken (yet), but There Are Alternatives."

[36] Goldenfein, "Google Scholar," 17.

[37] See "The Lens," accessed January 24, 2025, https://www.lens.org/; "Matilda," accessed January 24, 2025, https://matilda.science/?l=en; "OpenAlex," OurResearch, accessed January 24, 2025, https://openalex.org/. For discussion of these developments, see Curry, "Harnessing the Metric Tide," 36–37; Elliott, "Google Scholar is Not Broken (yet), but There Are Alternatives."

[38] Google Scholar, "Google Scholar Profiles."

[39] On comparison of various online academic profile platforms, see Fuhr, "Researcher Profile System Adoption and Use across Discipline and Rank."

[40] Council of Australian Law Deans, "Deans & Law Schools."

categories on staffing pages. Second, staff listed as 'Teaching Assistant' or 'Teaching Intensive' were excluded, on the basis that those roles do not have a substantial research expectation. Third, some law schools had staff with variations on the title 'Research Fellow' and 'Senior Research Fellow.' In Australia, these are generally research-intensive positions, often on contract for several years connected with a distinct project, for example, employed under an ARC-funded research project. Research Fellows are usually paid within the same band as Lecturers, and Senior Research Fellows within the same band as Senior Lecturers. Given this institutional equivalence, Research Fellows were coded as Lecturers and Senior Research Fellows as Senior Lecturers. There were only a small number of Research Fellows and Senior Research Fellows in the cohort. Fourth, some universities had a title 'Distinguished Professor' and a small number of academics with this title were recorded in the sample. As we understand, this title is based on esteem recognition and is not a separate academic band; as such, these were counted within the Professors cohort. Finally, one law school used the title 'Assistant Professor' for junior faculty. The data recorded for those academics correlated with the 'Senior Lecturer' band and were coded as such. From this process, a sample of 1,441 researchers were identified.

The extraction process was undertaken over September 2024 and was conducted by a single research assistant. There are some limitations that should be noted. As Google Scholar is a 'live' repository, citations and calculation of metrics happens continuously. This means that academics' data recorded at the beginning of the study period might have increased by the time of the last recording. Indeed, for one of the authors, their total citation count increased by 50 from when their Google Scholar profile was scraped to the end of September. While extracting all Google Scholar data at a single point in time would have been ideal to claim a precise snapshot, the study's aim was to extract a large dataset for benchmarking purposes. Changes in individuals' figures from the beginning to the end of the recording process—a four-week period—would not have greatly changed the aggregate benchmarking data. Another limitation is the accuracy of staff lists on university webpages. It is acknowledged that the movement of academics between positions often outstrips the public-facing information on Australian universities' websites. Whilst the data excluded teaching-intensive positions, no distinction was made between those who were on balanced, research-focused, or research-only positions. It was also impossible to capture those who may have had extended periods of research-focused or research-only periods in the past, which may have increased research output (and therefore resulted in higher citation and H-index scores). In addition, there was no distinction between different areas or types of legal research (or law academics engaged in research in other fields), which also affect both the number of publications a scholar may have and the level of citations. Furthermore, only 63% of academics searched had a Google Scholar profile. Again, our aim was to construct aggregate benchmarking data, not a complete verifiable snapshot of the Australian legal academy.

To reduce researcher error in finding Google Scholar profiles, or in transferring from Google Scholar profiles into our recording sheet, the raw extracted data were crosschecked by the authors and anomalous records were double checked. The data were recorded in Microsoft Excel and analysis of the data was undertaken in Excel. A research assistant with a background in statistics assisted with the analysis.

**Findings**

There were 913 members (63%) of the Australian legal academy who had a Google Scholar profile. In our primary sample, 528 (37%) did not have a profile. The mean and median total citation counts and mean and median H-indexes are presented in Table 1.

**Table 1. Mean and Median H-Indexes and Citation Counts, Australian Law Academics**

|  | Number (n) | Mean total citation count | Median total citation count | Mean H-index | Median H-index |
|---|---|---|---|---|---|
| Associate Lecturer | 8 | 22.14 | 9 | 1.7 | 1 |
| Lecturer | 188 | 132.26 | 60.5 | 4.44 | 4 |
| Senior Lecturer | 233 | 266 | 119 | 6.36 | 5 |
| Associate Professor | 209 | 477.92 | 302 | 9.4 | 9 |
| Professor | 271 | 1358.2 | 799.5 | 15.99 | 14 |
| **Australian Legal Academy total** | **913** | **611** | **245** | **9.5** | **8** |

*Source:* Google Scholar, September 2024.

Table 1 provides means and medians; it does not show the distribution of bibliometric data across the academy. Figure 1 shows the distribution of H-indexes and Figure 2 shows the distribution of citation counts across the whole of the Australian legal academy.
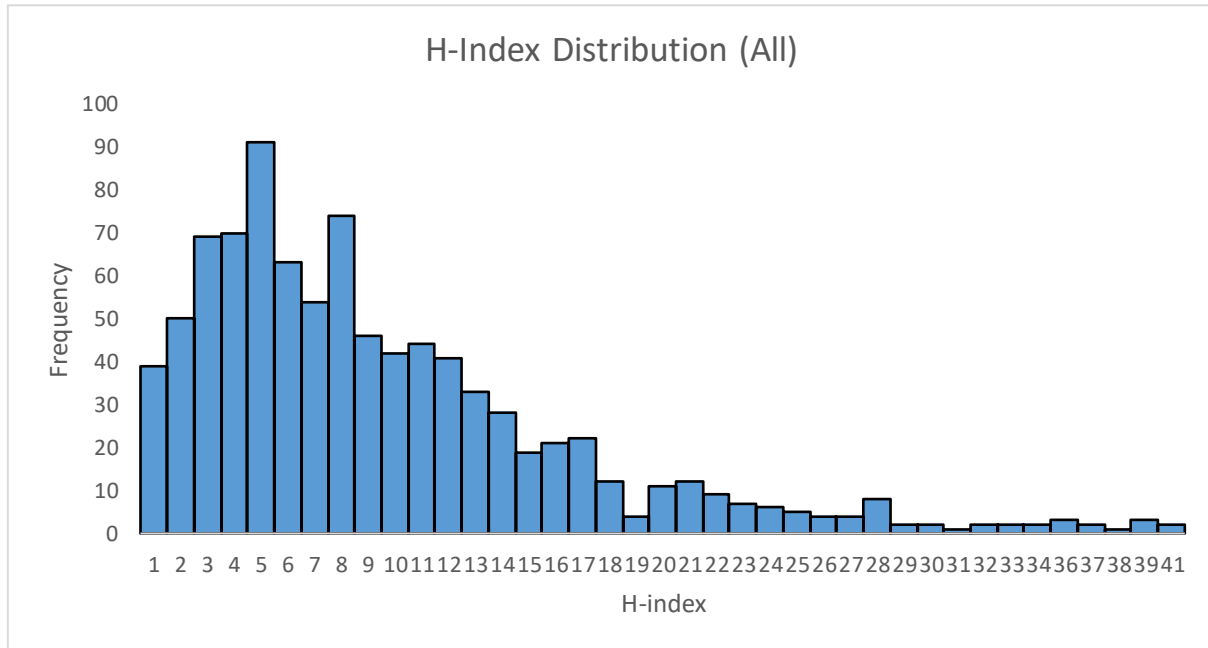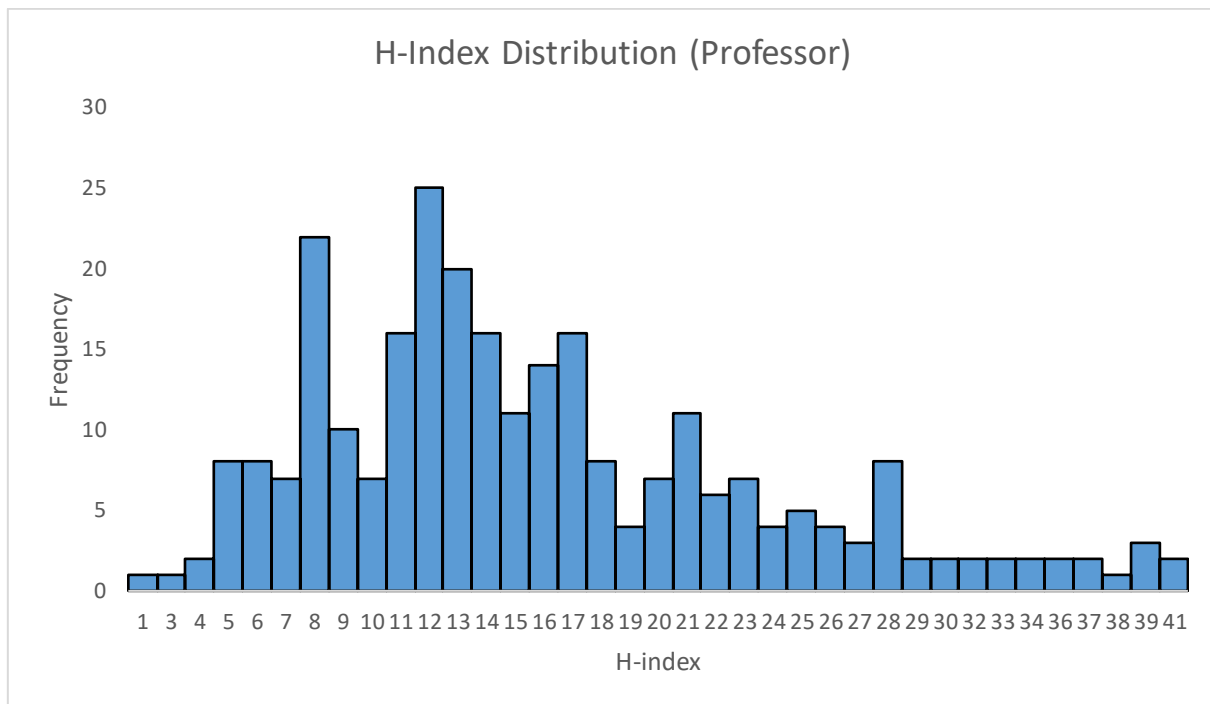


**Figure 1. Distribution of H-indexes, Australian Law Academics**
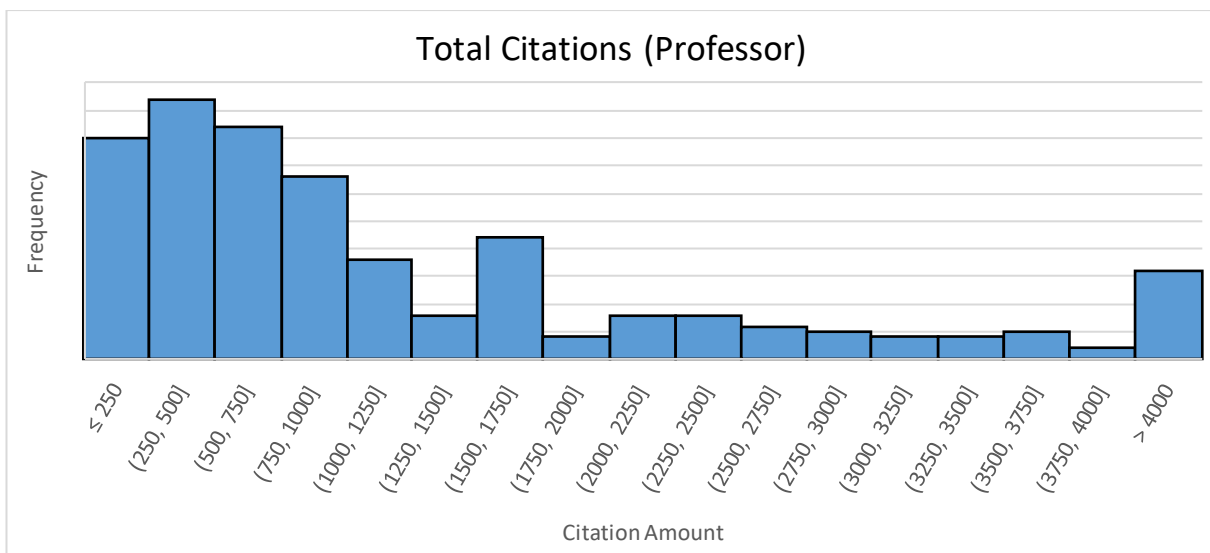*Source:* **Google Scholar, September 2024.**
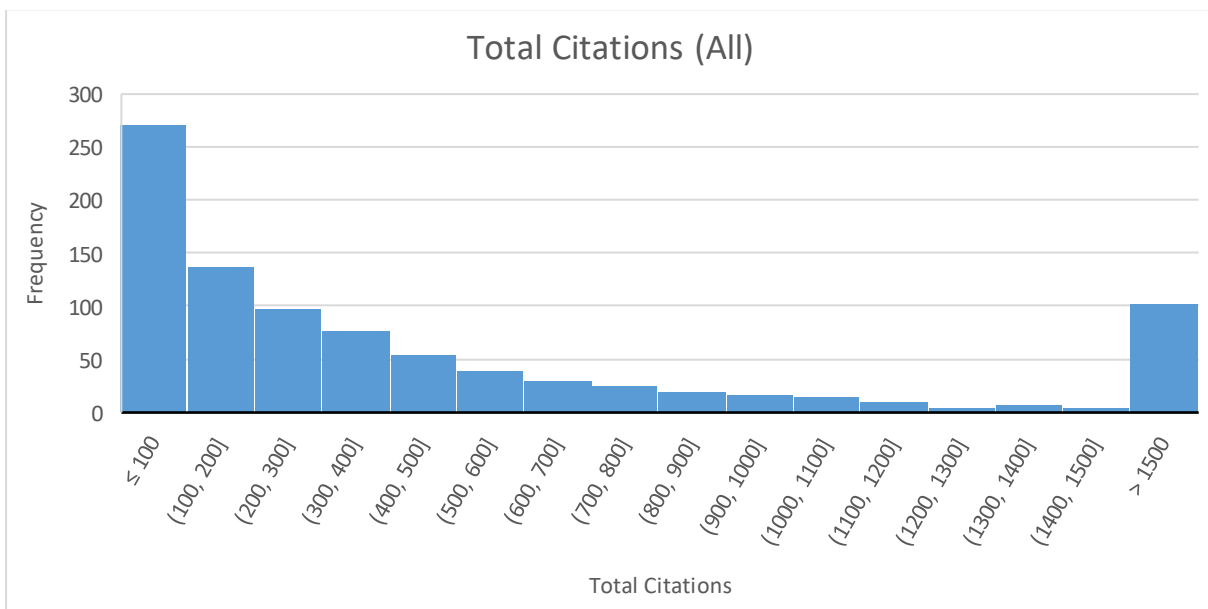


**Figure 2. Distribution of citation counts, Australian Law Academics**
*Source:* **Google Scholar, September 2024.**

Figures 3 and 4 provide the distribution of H-indexes and citation counts for Professors. Table 2 provides the quartile ranges.



**Figure 3. Distribution of H-Indexes, Australian Law Professors**
*Source:* **Google Scholar, September 2024.**



**Figure 4. Distribution of citation counts, Australian Law Professors**
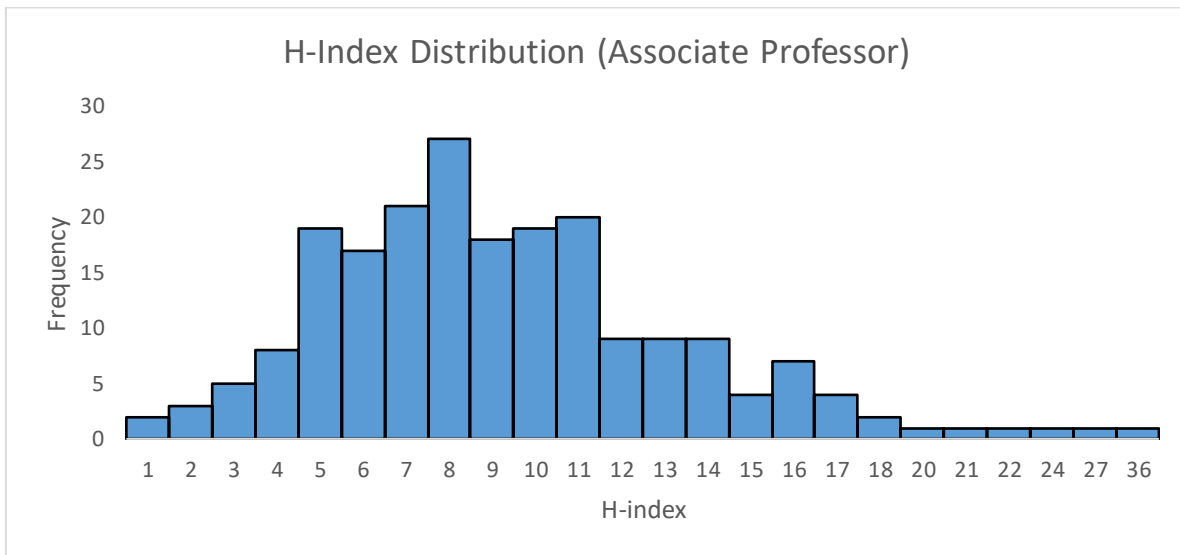*Source:* **Google Scholar, September 2024.**

**Table 2. Quartile division for citation count and H-indexes, Australian Law Professors**
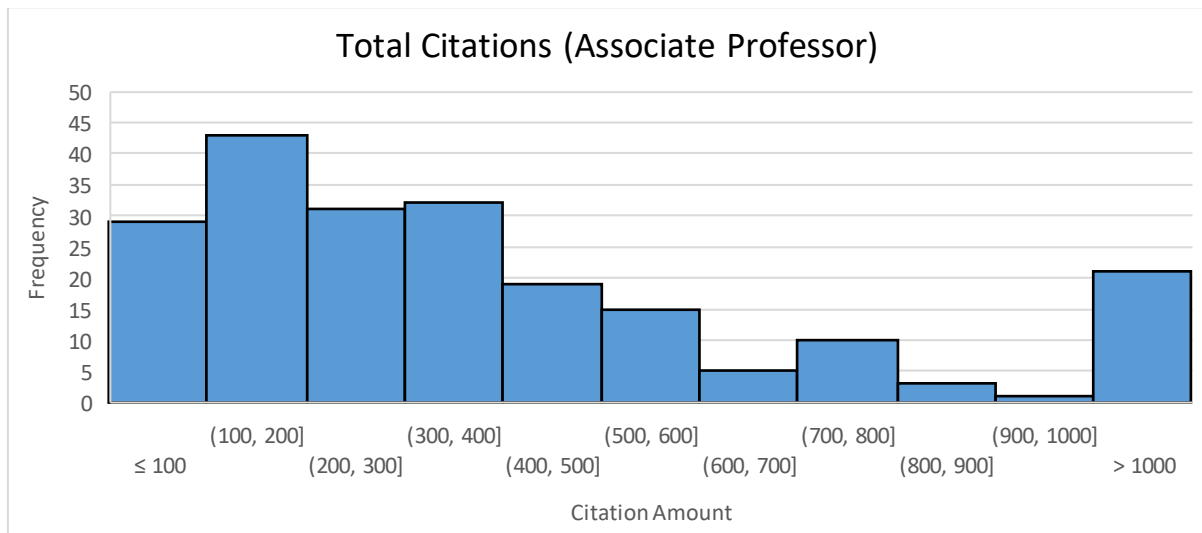
|    | **Citation count** | **H-index** |
|----|----|----|
| Q1 | >1688 | >21 |
| Q2 | 800–1688 | 14–21 |
| Q3 | 417–799 | 11–13 |
| Q4 | <417 | <11 |

*Source:* Google Scholar, September 2024.

Figures 5 and 6 provide the distribution of H-indexes and citation counts for Associate Professors. Table 3 provides the quartile ranges.



**Figure 5. Distribution of H-indexes, Australian Law Associate Professors**
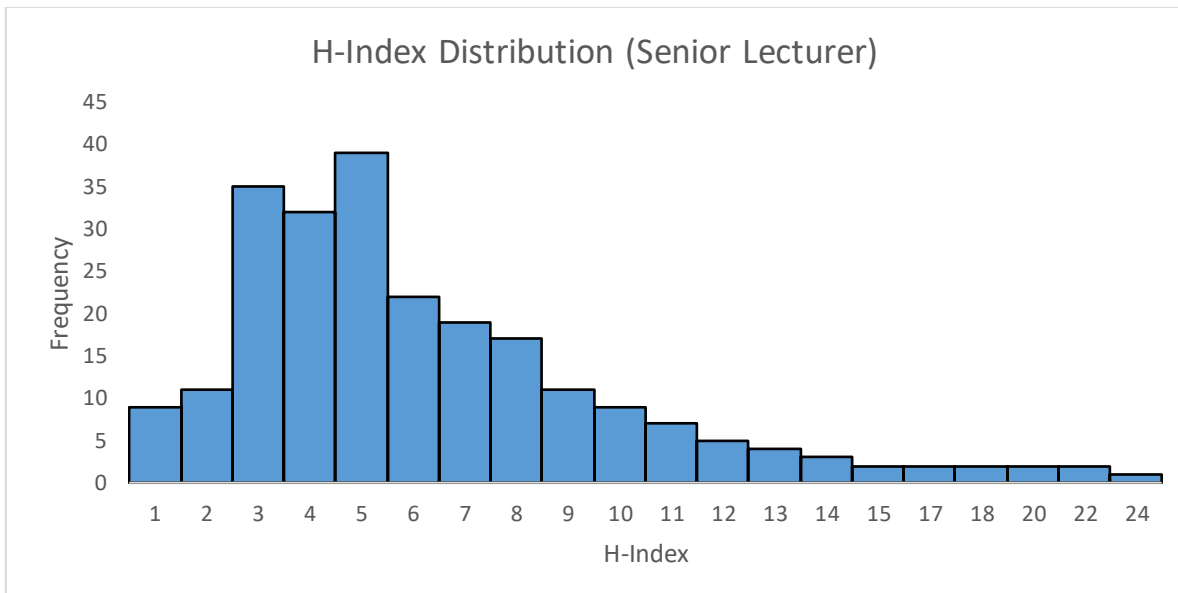*Source:* **Google Scholar, September 2024.**



**Figure 6. Distribution of citation counts, Australian Law Associate Professors**
*Source:* **Google Scholar, September 2024.**

**Table 3. Quartile division for citation count and H-indexes, Australian Law Associate Professors**
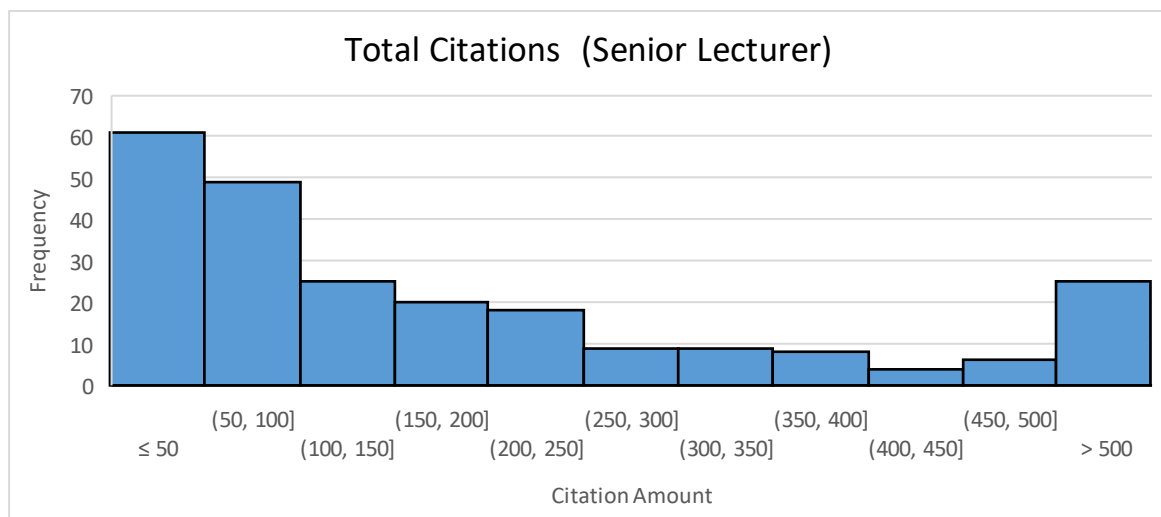
|      | **Citation count** | **H-index** |
|------|------------|---------|
| Q1   | >528       | >11     |
| Q2   | 302–528    | 9–11    |
| Q3   | 155–301    | 6–8     |
| Q4   | <155       | <6      |

*Source:* Google Scholar, September 2024.

Figures 7 and 8 provide the distribution of H-indexes and citation counts for Senior Lecturers. Table 4 provides the quartile ranges.



**Figure 7. Distribution of H-indexes, Australian Law Senior Lecturers**
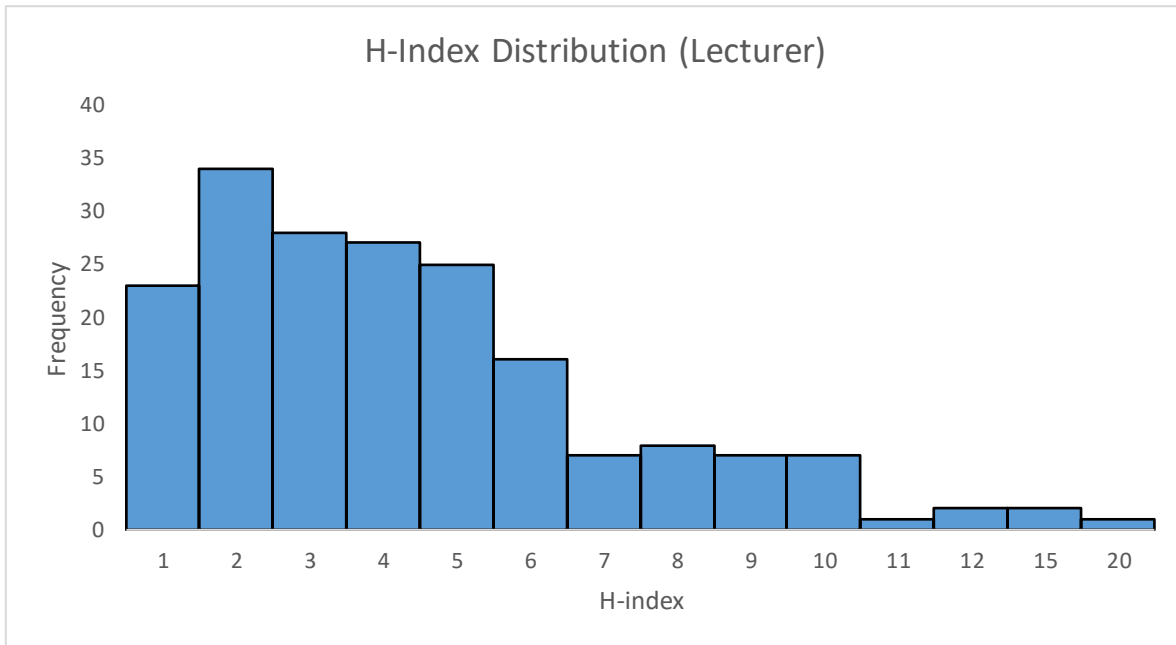*Source:* **Google Scholar, September 2024.**



**Figure 8. Distribution of citation counts, Australian Law Senior Lecturers**
*Source:* **Google Scholar, September 2024.**

**Table 4. Quartile division for citation count and H-indexes, Australian Law Senior Lecturers**

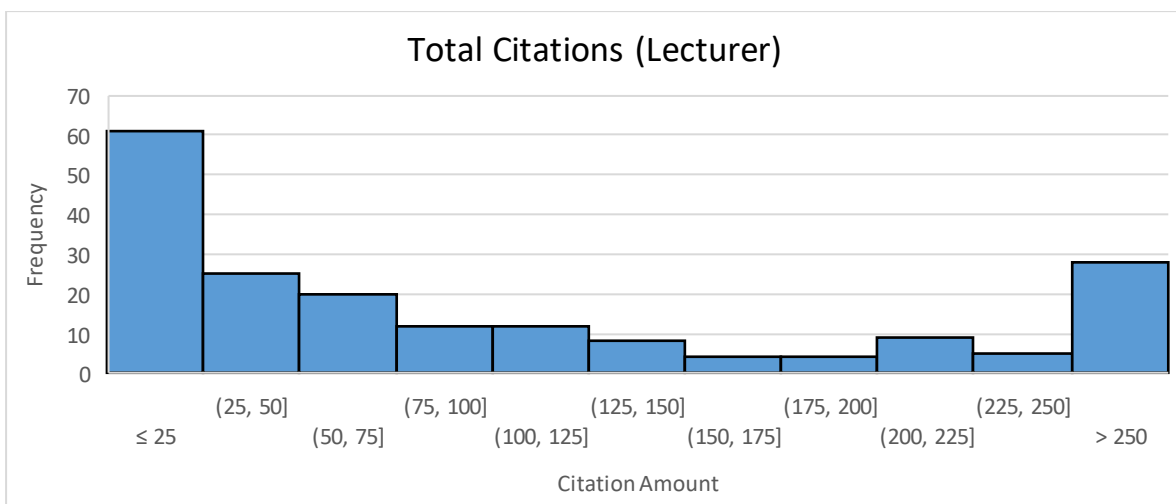|      | **Citation count** | **H-index** |
|------|--------------------|-------------|
| Q1   | >269               | >8          |
| Q2   | 119–269            | 5–8         |
| Q3   | 48–118             | 4–5         |
| Q4   | <48                | <4          |

*Source:* Google Scholar, September 2024.

Figures 9 and 10 provide the distribution of H-indexes and citation counts for Lecturers. Table 5 provides the quartile ranges.



**Figure 9. Distribution of H-indexes, Australian Law Lecturers**
*Source:* **Google Scholar, September 2024.**



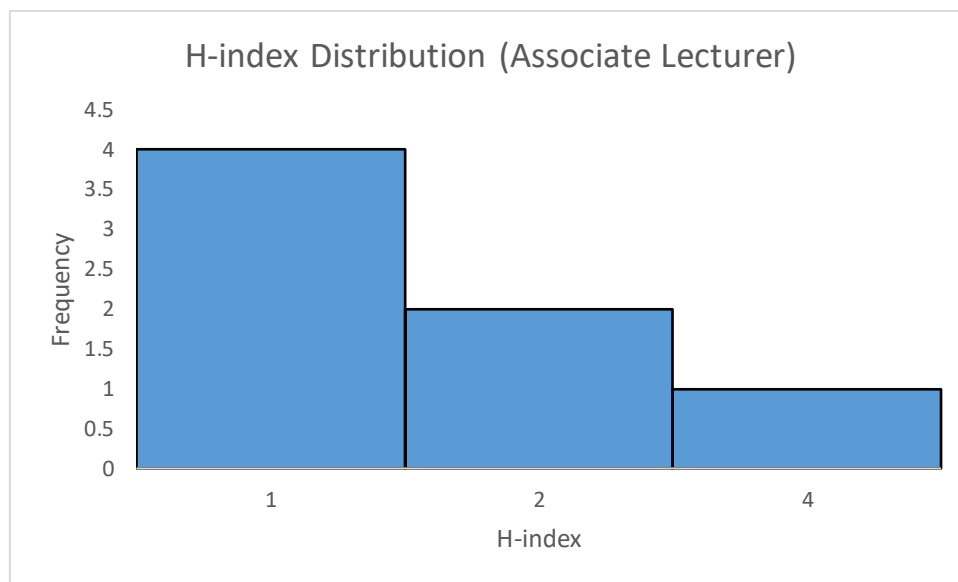**Figure 10. Distribution of Citation Counts, Australian Law Lecturers**
*Source:* **Google Scholar, September 2024.**

**Table 5. Quartile division for citation count and H-indexes, Australian Law Senior Lecturers**
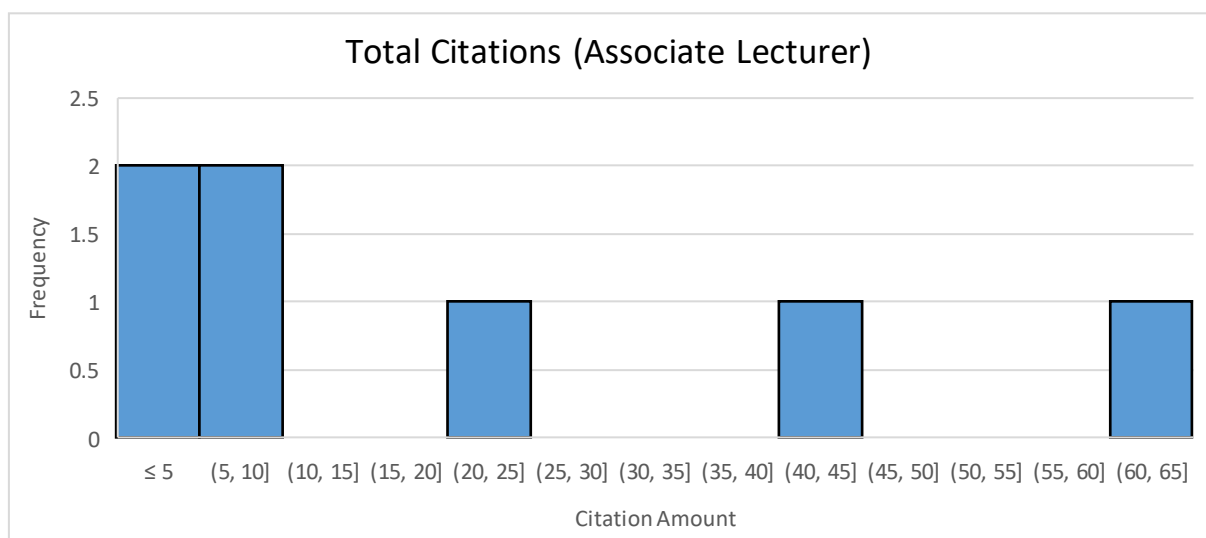
|     | **Citation count** | **H-index** |
| --- | --- | --- |
| Q1 | >172 | >6 |
| Q2 | 61–172 | 4–6 |
| Q3 | 20–60 | 2–3 |
| Q4 | <20 | <2 |

*Source:* Google Scholar, September 2024.

Figures 11 and 12 provide the distribution of H-indexes and citation counts for Associate Lecturers. Due to the small sample at this level, quartiles have not been calculated.



**Figure 11. Distribution of H-indexes, Australian Law Associate Lecturers**
*Source:* **Google Scholar, September 2024.**



**Figure 12. Distribution of citation counts, Australian Law Associate Lecturers**
*Source:* **Google Scholar, September 2024.**

## Discussion

The benchmark data, and the research process we undertook to generate them, have a range of implications for the visibility of Australian law researchers, the Australian legal academy as a whole, and law researchers living with bibliometrics.

### *Visibility of Australian Law Researchers*

First, the process we undertook to find and collate Australian law researchers through using Australian universities' public-facing webpages was enlightening. Most universities had a delineated web presence dedicated to a school or faculty of law. Many then had a clear link from that page to a page displaying staff attached to that law school. However, the visibility of law researchers on the webpages of some Australian universities was less clear. Although offering Bachelor of Laws (LLB) degrees—the primary professional legal degree in Australia—and having active law researchers, pinpointing the law academics on these websites was more difficult. Further searches of staffing profiles were required to identify staff with titles like 'Lecturer in Law' or whose description included law qualification or teaching of law subjects. Further, although we did not rely upon individual staff pages for our data, these revealed significant diversity in the types and veracity of staff data that Australian universities were making available. Some universities did not provide any research-related data about staff, such as publications, grants, or PhD supervisions/completions. Much of the data that were available on the official university pages were dated, with many staff profiles seemingly not updated since the Covid-19 pandemic.

A second point relates to Google Scholar coverage. Within our sample of 1,441 Australian law researchers, 528 (37%) did not have a Google Scholar profile. Within the ranks, 23 Associate Lecturers, 228 Lecturers, 117 Senior Lecturers, 66 Associate Professors, and 94 Professors did not have Google Scholar profiles. This suggests that more senior members of the Australian law academy are more likely to have a Google Scholar profile, possibly reflecting the authorising of a profile to obtain bibliometric data for promotion or grant application purposes.

### *The Australian Law Academy*

Although we recorded the data by university, we have chosen not to present those data in this article. Institutional bibliometric data are commonly used to generate ranking tables of institutions within disciplines.[41] Tensions may arise where junior staff want to authorise Google Scholar profiles for promotion and grant purposes. Institutions may discourage this to maximise institutional data for ranking purposes as junior staff would, on average, have lower bibliometric data then senior researchers. The purpose of this study was to generate benchmarks that could be useful to Australian law academics in navigating institutional performance expectations and to provide resources to help them craft narratives about research impact in promotion and grant applications. It was not conducted for the benefit of university managers to generate ranks of Australian law schools, creating another opportunity for the sort of sordid data gamification that has been evident in relation to research impact assessments.[42]

Within the STEM and health research communities, different cultures of academic publishing have meant that there are concerns about comparing bibliometric data across disciplines.[43] Neurosurgeons, for example, are particular to explain why their average bibliometric data is lower than the averages for researchers in the biological sciences.[44] As has been emphasised by the moves towards responsible research assessment,[45] comparison of citations across disciplines or sub-disciplines is inappropriate. It does not take into account the 'distinctive ecology of citations' and citation practices within each discipline.[46] As we emphasised above, the use of any bibliometric data needs to be situated within a context and narrative, and is only ever a partial and limited indicator. Furthermore, given the differences in coverage, comparisons should not be made between benchmarks that are drawing from different databases as like-for-like comparison is not possible. What can be seen, however, in comparing the Australian data for the law discipline with other discipline-wide data, is that the overall shape of the data is comparable.[47] In Figure 1, there is a long tail on the x-axis of individual researchers with very high H-index values and this pattern is repeated in Figure 2 with total citation counts. As in other disciplines, law in Australia has a very small cluster of

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[41] Jamjoom, "Academic Productivity of Neurosurgeons Working in the United Kingdom"; Ponce, "Academic Impact and Rankings of American and Canadian Neurosurgical Departments as Assessed Using the H Index."

[42] Tulloch, "The Politics of Gamification."

[43] Aoun, "Standardizing the Evaluation of Scientific and Academic Performance in Neurosurgery," E87; Ponce, "Academic Impact and Rankings of American and Canadian Neurosurgical Departments as Assessed Using the H Index."

[44] Jamjoom, "Academic Productivity of Neurosurgeons Working in the United Kingdom," 287–93.

[45] DORA, "San Francisco Declaration on Research Assessment"; Hicks, "Bibliometrics."

[46] Dunleavy, Maximizing the Impacts of Academic Research, 29.

[47] Spearman, "Survey of the H Index for All of Academic Neurosurgery," 931–32.

senior researchers whose bibliometric data significantly outstrips the median. This is clear in the metrics for Professors in Figures 3 and 4 and is the same in all other discipline-wide benchmarking studies.

What the findings from this study *do* facilitate are discipline-specific benchmark resources that Australian law researchers can use in crafting research narratives. This is particularly important for those scholars working in cross-disciplinary environments. It is also of particular importance where centralised decision-making regarding promotion or research performance requires scholars to present their research quality and impact to executive decision makers from other disciplines with different disciplinary expectations. There is a general sense that, in promotion applications in Australia, applicants should be able to show activity that is comparable with the level for which they are applying.[48] For example, a Senior Lecturer applying to be an Associate Professor should show activity that is commensurable with that of Associate Professors. In this study, we have extracted three figures in relation to total citations and H-indexes that applicants could use to craft promotion narratives to evidence that they are 'performing up:' means, medians, and quartiles. Table 1 illustrates differences between means and medians, especially for total citation counts. For example, for Associate Professors, the mean citation count was 477.9 while the median was 302. This is due to the long tail in the sample. There was less of a difference between the mean and median H-indexes across all the levels (for Associate Professors, the mean H-index was 9.4, the median was 9), reflecting that the H-index is a normalised measure that mediates outlier total citation counts. These different measures allow applicants different scope for articulating that they are performing up in a promotion application. Due to the outlier influence of the long tail across all levels, we would suggest that the median figure is better than the mean. The median measures allow claims that an applicant has metrics equal to or better than 50% of the cohort to which they are comparing themselves. For example, a Senior Lecturer with an H-index of 10 could, based on this study, make the argument that their H-index is within the top 50% of Associate Professors. Further, our provision of quartiles allows more granular positioning. A Senior Lecturer with an H-index of 9 could argue that they are positioned in the Q2 range for Associate Professors—and thus are performing appropriately at an Associate Professor level. The quartiles could also be useful in the application for external grants, where an applicant could argue impact and quality through locating their metrics within the bands for their level.

A feature of the Australian legal academy evident from the study is a distinct tiering between the levels. The median total citations for Associate Professor (302) was about double that of Senior Lecturer (119), which was also about double that of Lecturer (60.5). There were also clear steps in the median H-index from 4 (Lecturer) to 5 (Senior Lecturer) to 9 (Associate Professor). This tiering suggests that there is arguably an achievable pathway for a researcher who is publishing consistently and growing their impact over several years to have their metrics indicate their performance at a higher level.

However, looking at H-indexes and citation counts, the step from Associate Professor to Professor is significant. The mean H-index for Professors was 15.99 and mean total citation count was 1,358.2. This is a large increase over the Associate Professor averages of 9.4 H-index and 477.92 citation count. This is because Professor is a terminal appointment—there is no band higher—and is also reflective of the way H-index is affected by time. It is within the Professor cohort that the long tail consisting of a small number of individuals with high H-indexes and citation counts is located (see Figures 3 and 4). Looking at median figures does reduce the extent of the difference between Associate Professor (9 median H-index and 302 median citation count) and Professor (14 median H-index and 799.5 median citation count). Nevertheless, there remains a significant difference that could make it more difficult for Associate Professors to argue that they are performing up in promotion applications. Use of quartiles (Table 2) could provide more meaningful benchmarks for Associate Professors making promotion applications through locating their metrics within the spread of Professors.

A limitation of the data is that they do not distinguish those who have had a period of research-intensive appointment or those that work in different sub-fields within legal scholarship. These factors may affect both the level of output and the level of citations.[49] Whilst the H-index provides some mitigation of these differences, they are still relevant. Thus, a recognition of the context and type of scholarship in which a legal researcher is engaged remains essential. This leads us to our broader reflections below.

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[48] Heffernan, "Working at the Level Above."

[49] Bowrey, Assessing Research Performance in the Discipline of Law, 23–26.

**Concluding Reflections: Exploitation, Digital Capitalism, and Ways of Living with Bibliometrics**

As Troy Heffernan and Kathleen Smithers bluntly point out, the need for Australian academics to demonstrate working at a higher level for promotion purposes is wage theft.[50] The institutions create a structure whereby 'aspiring academics' (read junior) need to donate work at the level above their current pay scale to prove that they should be paid at the higher scale. In producing our benchmark data, we are complicit in the ongoing acceptance of this exploitation.

Engaging with metrics and the quantification of research involves a complicity with ways of thinking and valuing academic work that often run counter to the nobler ideas of the academy, the university, and the office of the scholar. It is, we would argue, something that all contemporary scholars and researchers need to engage with, even if such engagement is critical. Andrew Sparkes describes his own engagement and use of bibliometrics with a confession of self-loathing. He recounts his physiological response to using comparative bibliometrics in making arguments for wage increases: 'I feel a wave of nausea ripple through my stomach . . . I feel even more of a neoliberal-grandiose-charlatan.'[51] For him, drawing upon Jess Moriarty's beautiful work,[52] there is a need to separate the researcher from the abstract 'data double' constructed from bibliometric sources for institutional consumption. To make the point, he recounts the H-indexes of two long retired, but very highly regarded, researchers in his discipline and how the figures do not disclose either their well-recognised impact nor influence (and, in fact, dramatically understate it).[53] Comparable examples in the discipline of law include Herbert Lionel Adolphus (H. L. A.) Hart. On 11 November 2024, H. L. A. Hart had an H-index of 15, 2,669 total citations in Web of Science, and did not seem to be in Scopus at all. This is despite a Google Scholar search at this date indicating that his book, *The Concept of Law*, (across its various editions) had been cited 26,564 times. Sparkes emphasises the sense of 'dis-ease' that comes with engaging with bibliometrics and responds by mocking bibliometrics and the 'artificial' quantified self that the institutions desire.[54]

Nevertheless, the dis-ease that Sparkes earnestly tries to laugh about is from a pathogen beyond the managerial fetishes of the neoliberal university. Geoff Gordon hints at this in reflecting on law journals' impact and metric factors:

> Normative ordering on the basis of numerical abstractions, such as the Impact Factor and h-index, reproduces economic logics; academic production in conformance with the same reinforces the market practices with which the h-index coincides, and entrenches its discontents. Google's h-index privileges Google's position in one such market in particular, albeit an enormous one affecting countless other markets: namely, the global digital information market.[55]

We confess, therefore, a double complicity in our presenting of law benchmarking data using Google Scholar. We seem to be condoning the ongoing wage theft inherent in performing up and the quantification of research(ers) within the Australian academy. Moreover, by presenting these data, we are granting credence to and normalising Google and the global regime of exploitation and harm caused by 'Big Tech.'[56] A specific manifestation of this is with Google Scholar itself. There is no transparency in relation to its search algorithm and reverse engineering studies have struggled to identify an underlying algorithm.[57] Furthermore, it is known that most researchers do not look beyond the first page on Google Scholar. This renders researchers vulnerable to the whims of whatever Google or the iteration of its search algorithm for that day presents.[58] To utilise our benchmarks, we are facilitating Google's colonialism of the datasphere by creating a context where more Australian law researchers will sign up for Google Scholar profiles to enable benchmarking of their metrics. Thus, we are participating in Google's reconfiguration of academic practice and its control over data on academic publishing and citations.[59] In recognising this, we do not want to give the impression that Google's 'competitors' in the academic datasphere—the 'Big Five' academic publishing houses that support Web of Science and Scopus—are forces of unbridled good in the world.[60] These large players

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[50] Heffernan, "Working at the Level Above," 12. Whilst the need to demonstrate performing at a higher level is not uncommon in other forms of employment, the focus on demonstrating this level of performance over a sustained or multiple-year length of time (e.g., three years) exacerbates the issue in higher education.

[51] Sparkes, "Making a Spectacle of Oneself in the Academy Using the H-Index," 1032.

[52] Moriarty, Autoethnographies from the Neoliberal Academy.

[53] Sparkes, "Making a Spectacle of Oneself in the Academy Using the H-Index," 1034.

[54] Sparkes, "Making a Spectacle of Oneself in the Academy Using the H-Index," 1034.

[55] Gordon, "Indicators, Rankings and the Political Economy of Academic Production in International Law," 296.

[56] Crofts, "Negotiating 'Evil'"; Crofts, "Reconceptualising the Crimes of Big Tech."

[57] Beel, "Google Scholar's Ranking Algorithm"; Martín-Martín, "Google Scholar, Microsoft Academic, Scopus, Dimensions, Web of Science, and OpenCitations' Coci."

[58] Elliott, "Google Scholar Is Not Broken (yet), but There Are Alternatives."

[59] Goldenfein, "Google Scholar."

[60] Szadkowski, "An Autonomist Marxist Perspective on Productive and Un-Productive Academic Labour."

are generating excellent profits through researchers gifting their intellectual property and labour, and actively paying for the privilege of contributing to the corporate asset base through article processing charges.[61]

This leads us to our ultimate reflection. The datafication of researchers for the purposes of internal and external research assessment, the necessary complicity of engagement, and the intertwining dance with Big Tech is a manifestation of the fact that Australian law research is occurring not simply within the neoliberal university but within the epoch of digital capitalism.[62] A necessary survival strategy, as Sparkes exemplifies, is to laugh at it but engage anyway. However, there is also something else involved. Digital capitalism is built on two processes. The first is quantification—the rendering of the world to units, datum to be ordered, programmed, and profited from.[63] The second is individualisation; the individual human, alone and separated, is the bearer of meaning.[64] Collectives are only assembled for specific purposes, aggregates of data to train generative AI or temporarily organised into productive work units, to be dissolved and redistributed when needed. Critics of the datafication of human life in the digital and the managerialist impulses that have normalised it identify a eugenics origin—the individual as a bearer of data, from which generalised assumptions can be made.[65] This is particularly evident in the eugenic influences on bibliometrics with its origins in the fixations with the 'great men of science' and mapping their exceptional genius.[66]

Jakub Krzeski argues that identifying the essential relations between capital and the historical processes that have led to the normalisations of bibliometrics is essential for formulating strategies that might go beyond both the variations of cynical compliance and escapist calls to reject them:[67]

> As we have seen through the critique of the political economy of measure, capital reproduces itself on the practices immanent to academia to such an extent that collective action becomes more and more challenging. It corrupts the common that underpins academic endeavour, making it increasingly hard to see through the individualized academic self as artificially created and reproduced.[68]

Krzeski highlights what lies within the affective dis-ease of engagement with bibliometrics. Bibliometrics isolate and individualise researchers, generating narratives that the researcher, alone, is the alpha and omega of research activity. Success or failure, high or low H-index (or whichever other indicator that might be deployed or in favour), is the sole preserve of the individual.[69] The eugenics heritage is palatable. There is either the unachievable paradigm of 'excellence' or there is something less, inadequacies within the self that can only be overcome by more work, more publications, more late-night emails, more 'catching up' with the laptop while on holidays. However, there can never be a winner in the metrics game. There is always another researcher with a higher H-index or more citations. Bibliometrics internalise performance, potentially rendering the researcher anxious and alone. In this, are there ways of responding to bibliometrics that might be more healing and helpful?

Research is, and has always been, collective, despite law's traditional lone-wolf researcher model. This is disclosed in the very practices of academic publishing, where authors and prior research are engaged with (and cited, to the benefit of those authors' bibliometrics). No law researcher in Australia is an island. The artificial researcher constructed from bibliometric data only exists because of researchers' lived experiences and activities. These are supported by colleagues, peers, students, managers, partners, friends, family, and pets, as well as networks, associations, and other configurations of collective academic partnership and exchange. The challenge is to keep a sense of value of the collective that is fundamental for academic work. For Krzeski, it is the need to rearticulate and build the 'collaborative university' as a way of moving beyond the neoliberal university and its rule of the measure.[70]

However, building the collaborative university within an epoch of digital capitalism that erodes collectivity is hard, notwithstanding that collaboration is fundamental to making and disseminating knowledge. One way to resist individual metrics

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[61] Alonso-Álvarez, "The Cost of Open Access"; Butler, "The Oligopoly's Shift to Open Access." At the same time, there are moves towards having non-commerical, comprehensive, transparent, and open access databases that may provide better bases for responsible research assessment. For discussion of these and the broader move towards responsible research assessment, see Wilsdon, Next-Generation Metrics; Bosman, Next Generation Metrics for Scientific and Scholarly Research in Europe. We would note, however, that even more accurate metrics still buy in to a particular view of the world and the nature of scholarly endeavour.

[62] Fuchs, Digital Capitalism.

[63] Lury, "Algorithmic Personalization as a Mode of Individuation."

[64] Catlaw, "The Quantified Self and the Evolution of Neoliberal Self-Government."

[65] van Toorn, "Disablism, Racism and the Spectre of Eugenics in Digital Welfare."

[66] Godin, "From Eugenics to Scientometrics."

[67] Krzeski, "In-against-Beyond Metrics-Driven University," 174.

[68] Krzeski, "In-against-Beyond Metrics-Driven University," 176.

[69] Feldman, "Metric Power and the Academic Self."

[70] Krzeski, "In-against-Beyond Metrics-Driven University," 175. See also Feldman, "Metric Power and the Academic Self."

is to supplement with collective measures. There are a number of attempts to recognise collaboration and collectivity being developed with the push for more responsible research assessment.[71] Here, in the eponymous spirit of Jorge Hirsch, we propose an indicator of contribution to collective academic culture: the T-P index. This would be a figure that reflects the number of peer reviews undertaken over number of publications. The generated ratio would reflect the contribution to the collective through doing peer reviews against the individualism of authored publications (which are usually only published after two or more peer reviews). The T-P index would highlight a researcher's relative contribution to supporting a discipline. It would identify researchers who help others through doing peer reviews and highlight researchers who predominately take from the discipline, providing not only a recognition but also an incentive for the former. Like the M-index which requires data about career progression, the T-P index would depend on having a reliable repository in relation to peer reviewing.[72] There might be a degree of Sparkes-inspired humour associated with our suggestion of the T-P index—and, of course, it is subject to the same critique of bibliometrics as only ever being abstractions—but the point is serious. We need to find ways to value the essential, fundamental collective endeavour that surrounds any 'individual' research. Our role as scholars is the fulfilment of an office and its obligations, a *care for* rather than simply the *production of* knowledge.[73]

Indeed, while it may seem complicit and contradictory on reflection, the benchmark data that we present in this article were built in a collectivist spirit. In a university context ruled by measures, the data are presented to help leaders in the law discipline to advocate for law as a distinct discipline in the Australian university context and to support law researchers in navigating the institution.

Ultimately, the forces that 'reify' bibliographic measures as 'academic value'[74] need to be continuously countered. H-index, citation count, M-index, and even our proposed T-P index are ultimately meaningless numbers. They are meaningless as they only ever report available data. Moreover, those data are only ever a partial extraction from the diversity, vibrancy, and incalculability of human life, which always exceeds that which can be seen, recorded, or captured.[75] This has always been the case, and is becoming more obvious with the unfolding of the digital. There remains a fantastic assumption within any bibliometric measure that the figures produced provide some sort of valuing and meaning of a researcher's contribution to knowledge, the world, or anything else. The meaning is the meaning that we give to them. We therefore ask researchers, when they use the data in this article to help them navigate the labyrinth of success and security endlessly generated, roguelike, by higher education institutions, to remember that they are just a set of abstract signs. Use them to construct an avatar to button-mash through the maze, laugh at them, and understand how they are a manifestation of epoch-defining confluences of the digital and capital that minimalises the collective.[76] Whilst making use of these indicators and benchmarks, we would exhort you not to take them too seriously and to focus, instead, on the collective nature of our academic endeavour and the way we inhabit the office of the scholar.

But please cite this article. All contributions to our personal bibliometrics scores gratefully accepted.

Only joking… sort of.

## Disclosure Statement
The first author serves as an Editor for *Law, Technology and Humans*. To maintain the integrity of the publication process and to comply with the COPE guidelines, the article submission, blind peer review, and revisions were conducted independently of the Journal's publishing environment.

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[71] Australian Council of Learned Academies, Research Assessment in Australia, 66.

[72] For an interesting analysis of the Publons repository managed by Web of Science, see Ortega, "Are Peer-Review Activities Related to Reviewer Bibliometric Performance?"; Ortega, "Exploratory Analysis of Publons Metrics and their Relationship with Bibliometric and Altmetric Impact."

[73] McVeigh, "Office and the Conduct of the Minor Jurisprudent."

[74] Burrows, "Living with the H-Index?," 361.

[75] Tranter, "The Buribunks, Post-Truth and a Tentative Cartography of Informational Existence," 52–54; Peters, "The Theological-Bureaucratic Science Fiction of Philip K. Dick and Carl Schmitt," 76–77.

[76] Cannon, "Measuring Monsters, Academic Subjectivities, and Counting Practices."

## Bibliography

Alonso-Álvarez, Patricia, Pablo Sastrón-Toledo and Jorge Mañana-Rodriguez. "The Cost of Open Access: Comparing Public Projects' Budgets and Article Processing Charges Expenditure." *Scientometrics* 129 (2024): 6149–66. https://doi.org/10.1007/s11192-024-04988-3.

Alonso, Sergio, Francisco Cabrerizo, Enrique Herrera-Viedma and Francisco Herrera. "HG-Index: A New Index to Characterize the Scientific Output of Researchers Based on the H-and G-Indices." *Scientometrics* 82, no 2 (2010): 391–400. https://doi.org/10.1007/s11192-009-0047-5.

Aoun, Salah G., Bernard R. Bendok, Rudy J. Rahme, Ralph G. Dacey Jr. and H. Hunt Batjer. "Standardizing the Evaluation of Scientific and Academic Performance in Neurosurgery—Critical Review of the 'H' Index and Its Variants." *World Neurosurgery* 80, no 5 (2013): e85–e90. https://doi.org/10.1016/j.wneu.2012.01.052.

Australian Council of Learned Academics. *Research Assessment in Australia: Evidence for Modernisation.* (Office of the Chief Scientist, 2023).

Australian Government. *Australian Universities Accord Final Report.* (Australian Government, 2024). https://www.education.gov.au/australian-universities-accord/resources/final-report.

Australian Research Council. *Excellence in Research for Australia*. Accessed January 24, 2025. https://www.arc.gov.au/evaluating-research/excellence-research-australia.

Barker, Susan. "Exploring the Development of a Standard System of Citation Metrics for Legal Academics." *Canadian Law Library Review* 43, no 2 (2018): 10–25.

Barnett, Adrian, Katie Page, Carly Dyer and Susanna Cramb. "Meta-Research: Justifying Career Disruption in Funding Applications, a Survey of Australian Researchers." *Elife* 11 (2022): e76123. https://doi.org/10.7554/eLife.76123.

Beel, Joran and Bela Gipp. "Google Scholar's Ranking Algorithm: The Impact of Citation Counts (an Empirical Study)." Paper presented at the 2009 Third International Conference on Research Challenges in Information Science, April 2009.

Bihari, Anand, Sudhakar Tripathi and Akshay Deepak. "A Review on H-Index and Its Alternative Indices." *Journal of Information Science* 49, no 3 (2023): 624–65. https://doi.org/10.1177/01655515211014478.

Bosman, Jeroen, William P. Cawthorn, Koenraad Debackere, Paola Galimberti, Mikael Graffner, Leonhard Held, Karlijn Hermans, et al. *Next Generation Metrics for Scientific and Scholarly Research in Europe: LERU Position Paper.* (League of European Research Universities, 2024).

Bowrey, Kathy. *Assessing Research Performance in the Discipline of Law: The Australian Experience with Research Metrics, 2006-2011.* (Council of Australian Law Deans, 2012). https://cald.asn.au/wp-content/uploads/2023/11/Prof-Kathy-Bowrey-Research-Quality-Report-to-CALD.pdf.

Bowrey, Kathy. *Assessment of Law Journal Rankings and Methodologies Adopted by Eight Law Schools 2016.* (Council of Australian Law Deans, 2016). http://doi.org/10.26190/unsworks/26176.

Bowrey, Kathy. *A Report into Methodologies Underpinning Australian Law Journal Rankings.* (Council of Australian Law Deans, University of New South Wales, 2016). https://classic.austlii.edu.au/au/journals/UNSWLRS/2016/30.pdf.

Bradshaw, Corey J. A., Justin M. Chalker, Stefani A. Crabtree, Bart A. Eijkelkamp, John A. Long, Justine R. Smith, Kate Trinajstic and Vera Weisbecker. "A Fairer Way to Compare Researchers at Any Career Stage and in Any Discipline Using Open-Access Citation Data." *PloS One* 16, no 9 (2021): e0257141. https://doi.org/10.1371/journal.pone.0257141.

Burrows, Roger. "Living with the H-Index? Metric Assemblages in the Contemporary Academy." *The Sociological Review* 60, no 2 (2012): 355–72. https://doi.org/10.1111/j.1467-954X.2012.02077.x.

Butler, Leigh-Ann, Lisa Matthias, Marc-André Simard, Philippe Mongeon and Stefanie Haustein. "The Oligopoly's Shift to Open Access: How the Big Five Academic Publishers Profit from Article Processing Charges." *Quantitative Science Studies* 4, no 4 (2023): 778–99. https://doi.org/10.1162/qss_a_00272.

Cannon, Susan O. and Maureen A. Flint. "Measuring Monsters, Academic Subjectivities, and Counting Practices." *Matter: Journal of New Materialist Research* 3 (2021): 76–98. https://doi.org/10.1344/jnmr.v2i1.33375.

Catlaw, Thomas J. and Billie Sandberg. "The Quantified Self and the Evolution of Neoliberal Self-Government: An Exploratory Qualitative Study." *Administrative Theory & Praxis* 40, no 1 (2018): 3–22. https://doi.org/10.1080/10841806.2017.1420743.

Coalition for Advanced Research Assessment (CoARA). *Agreement on Reforming Research Assessment.* Accessed February 25, 2025. https://coara.eu/app/uploads/2022/09/2022_07_19_rra_agreement_final.pdf

Colavizza, Giovanni, Silvio Peroni and Matteo Romanello. "The Case for the Humanities Citation Index (HUCI): A Citation Index by the Humanities, for the Humanities." *International Journal on Digital Libraries* 24, no 4 (2023): 191–204. https://doi.org/http://doi.org/10.1007/s00799-022-00327-0.

Copes, Heith, Stephanie Cardwell and John J. Sloan III. "H-Index and M-Quotient Benchmarks of Scholarly Impact in Criminology and Criminal Justice: A Preliminary Note." *Journal of Criminal Justice Education* 23, no 4 (2012): 441–61. https://doi.org/10.1080/10511253.2012.680896.

Council of Australian Law Deans. *Deans & Law Schools.* Accessed October 28, 2024. https://cald.asn.au/home/deans-law-schools/.

Craig, Belinda M., Suzanne M. Cosh and Camilla C. Luck. "Research Productivity, Quality, and Impact Metrics of Australian Psychology Academics." *Australian Journal of Psychology* 73, no 2 (2021): 144–56. https://doi.org/10.1080/00049530.2021.1883407.

Crofts, Penny. "Reconceptualising the Crimes of Big Tech." *Griffith Law Review* (2025): 1–25. https://doi.org/10.1080/10383441.2024.2397319.

Crofts, Penny and Honni van Rijswijk. "Negotiating 'Evil': Google, Project Maven and the Corporate Form." *Law, Technology and Humans* 2, no 1 (2020): 75–90. https://doi.org/10.5204/lthj.v2i1.1313.

Curry, Stephen, Elizabeth Gadd and James Wilsdon. *Harnessing the Metric Tide: Indicators, Infrastructures & Priorities for UK Responsible Research Assessment.* (Loughborough University, 2022).

DORA. *San Francisco Declaration on Research Assessment*. The American Society for Cell Biology. Accessed January 24, 2025. https://sfdora.org/read.

Dunleavy, Patrick and Jane Tinkler. *Maximizing the Impacts of Academic Research.* Red Globe Press, 2021.

Egge, Leo. "Theory and Practise of the G-Index." *Scientometrics* 69, no 1 (2006): 131–52. https://doi.org/10.1007/s11192-006-0144-7.

Elliott, Kristen. "Google Scholar is not Broken (yet), but there are Alternatives." *LSE Impact Blog* (blog), *The London School of Economics and Political Science*, October 22, 2024. https://blogs.lse.ac.uk/impactofsocialsciences/2024/10/22/google-scholar-is-not-broken-yet-but-there-are-alternatives/.

Feldman, Zeena and Marisol Sandoval. "Metric Power and the Academic Self: Neoliberalism, Knowledge and Resistance in the British University." *TripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society* 16, no 1 (2018): 214–33. https://doi.org/10.31269/triplec.v16i1.899.

Fuhr, Justin and Caroline Monnin. "Researcher Profile System Adoption and Use across Discipline and Rank: A Case Study at the University of Manitoba." *Quantitative Science Studies* 5, no 3 (2024): 573–92. https://doi.org/10.1162/qss_a_00319.

Fuchs, Christian. *Digital Capitalism*. Routledge, 2022.

Geraci, Lisa, Steve Balsis and Alexander J. Busch Busch. "Gender and the H Index in Psychology." *Scientometrics* 105 (2015): 2023–34. https://doi.org/10.1007/s11192-015-1757-5.

Godin, Benoît. "From Eugenics to Scientometrics: Galton, Cattell, and Men of Science." *Social Studies of Science* 37, no 5 (2007): 691–728. https://dx.doi.org/10.1177/0306312706075338.

Goldenfein, Jake and Daniel Griffin. "Google Scholar: Platforming the Scholarly Economy." *Internet Policy Review* 11, no 3 (2022): 1–34, https://doi.org/10.14763/2022.3.1671.

Google Scholar. "Aggregated Bibliometric Data from Scholars' Profiles." Accessed September 2024. https://scholar.google.com.

Google Scholar. "Google Scholar Profiles." Accessed October 28, 2024. https://scholar.google.com/intl/en/scholar/citations.html.

Gordon, Geoff. "Indicators, Rankings and the Political Economy of Academic Production in International Law." *Leiden Journal of International Law* 30, no 2 (2017): 295–304. https://doi.org/10.1017/S0922156517000188.

Heffernan, Troy and Kathleen Smithers. "Working at the Level Above: University Promotion Policies as a Tool for Wage Theft and Underpayment." *Higher Education Research & Development* (2024): 1–15. https://doi.org/10.1080/07294360.2024.2412656.

Hicks, Diana, Paul Wouters, Ludo Waltman, Sarah de Rijcke and Ismael Rafols. "Bibliometrics: The Leiden Manifesto for Research Metrics." *Nature* 520, (2015): 429–31. https://doi.org/https://doi.org/10.1038/520429a.

Hirsch, Jorge E. "An Index to Quantify an Individual's Scientific Research Output." *Proceedings of the National Academy of Sciences* 102, no 46 (2005): 16569–72. https://doi.org/10.1073/pnas.0507655102.

Hirsch, Jorge E. and Gualberto Buela-Casal. "The Meaning of the H-Index." *International Journal of Clinical and Health Psychology* 14, no 2 (2014): 161–64. https://doi.org/10.1016/S1697-2600(14)70050-X.

Horney, Jennifer A., Adam Bitunguramye, Shazia Shaukat and Zackery White. "Gender and the H-Index in Epidemiology." *Scientometrics* 129, no 7 (2024): 3725–33. https://doi.org/10.1007/s11192-024-05083-3.

Hyland, Ken. "Academic Publishing and the Attention Economy." *Journal of English for Academic Purposes* 64 (2023): 101253. https://doi.org/https://doi.org/10.1016/j.jeap.2023.101253.

Ioannidis, John P. A. "A Generalized View of Self-Citation: Direct, Co-Author, Collaborative, and Coercive Induced Self-Citation." *Journal of Psychosomatic Research* 78, no 1 (2015): 7–11. https://doi.org/10.1016/j.jpsychores.2014.11.008.

Jamjoom, Aimun A.B., A. N. Wiggins, J. J. M. Loan, J. Emelifeoneu, I. P. Fouyas and P. M. Brennan. "Academic Productivity of Neurosurgeons Working in the United Kingdom: Insights from the H-Index and Its Variants." *World Neurosurgery* 86 (2016): 287–93. https://doi.org/10.1016/j.wneu.2015.09.041.

Kelly, Clint D. and Michael D. Jennions. "The H Index and Career Assessment by Numbers." *Trends in Ecology & Evolution* 21, no 4 (2006): 167–70. https://doi.org/10.1016/j.tree.2006.01.005.

Krzeski, Jakub. "In-against-Beyond Metrics-Driven University: A Marxist Critique of the Capitalist Imposition of Measure on Academic Labor." In *The Palgrave International Handbook of Marxism and Education*, edited by Richard Hall, Inny Accioly and Krystian Szadkowski, 163–82. Springer, 2023.

The Lens. Accessed January 24, 2025. https://www.lens.org/.

LSE Public Policy Group. *Maximizing the Impacts of Your Research: A Handbook for Social Scientists.* (London School of Economics, 2011). https://paulmaharg.com/wp-content/uploads/2016/06/LSE_Impact_Handbook_April_2011.pdf.

Lury, Celia and Sophie Day. "Algorithmic Personalization as a Mode of Individuation." *Theory, Culture & Society* 36, no 2 (2019): 17–37. https://doi.org/10.1177/0263276418818888.

MacMaster, Frank P., Rose Swansburg and Katherine Rittenbach. "Academic Productivity in Psychiatry: Benchmarks for the H-Index." *Academic Psychiatry* 41 (2017): 452–54. https://doi.org/10.1007/s40596-016-0656-2.

Martín-Martín, Alberto, Mike Thelwall, Enrique Orduna-Malea and Emilio Delgado López-Cózar. "Google Scholar, Microsoft Academic, Scopus, Dimensions, Web of Science, and OpenCitations' Coci: A Multidisciplinary Comparison of Coverage Via Citations." *Scientometrics* 126, no 1 (2021): 871–906. https://doi.org/10.1007/s11192-020-03690-4.

Matilda. Accessed January 24, 2025. https://matilda.science/?l=en.

McNamara, Lawrence. "Understanding Research Impact in Law: The Research Excellence Framework and Engagement with UK Governments." *King's Law Journal* 29, no 3 (2018): 437–69. https://doi.org/10.1080/09615768.2018.1558572.

McVeigh, Shaun. "Office and the Conduct of the Minor Jurisprudent." *UC Irvine Law Review* 5, no 2 (2015): 499–511.

Mills, Katie and Kate Croker. *Measuring the Research Quality of Humanities and Social Sciences Publications: An Analysis of the Effectiveness of Traditional Measures and Altmetrics.* (University of Western Australia, 2020). https://api.research-repository.uwa.edu.au/ws/portalfiles/portal/94542741/Measuring_the_research_quality_of_Humanities_and_Social_Sciences_publications_An_analysis_of_the_effectiveness_of_traditional_measures_and_altmetrics.pdf.

Moriarty, Jess, ed. *Autoethnographies from the Neoliberal Academy: Rewilding, Writing and Resistance in Higher Education.* Routledge, 2019.

Nocera, Alexander P., Hunter Boudreau, Carter J. Boyd, Ashutosh Tamhane, Kimberly D. Martin and Soroush Rais-Bahrami. "Correlation between H-Index, M-Index, and Academic Rank in Urology." *Urology* 189 (2024): 150–55. https://doi.org/10.1016/j.urology.2024.04.041.

OpenAlex. "OurResearch." Accessed January 24, 2025. https://openalex.org/.

Ortega, José Luis. "Are Peer-Review Activities Related to Reviewer Bibliometric Performance? A Scientometric Analysis of Publons." *Scientometrics* 112, no 2 (2017): 947–62. https://doi.org/10.1007/s11192-017-2399-6.

Ortega, José Luis. "Exploratory Analysis of Publons Metrics and Their Relationship with Bibliometric and Altmetric Impact." *Aslib Journal of Information Management* 71, no 1 (2019): 124–36. https://doi.org/10.1108/AJIM-06-2018-0153.

Patel, Vanash M., Hutan Ashrafian, Alex Almoudaris, Jonathan Makanjuola, Chiara Bucciarelli-Ducci, Ara Darzi and Thanos Athanasiou. "Measuring Academic Performance for Healthcare Researchers with the H Index: Which Search Tool Should Be Used?" *Medical Principles and Practice* 22, no 2 (2013): 178–83. https://doi.org/10.1159/000341756.

Peters, Timothy D. "The Theological-Bureaucratic Science Fiction of Philip K. Dick and Carl Schmitt: An Economic Theology of Omniscience in the Buribunks." In *Carl Schmitt and the Buribunks: Technology, Law, Literature*, edited by Kieran Tranter and Edwin Bikundo, 60–80. Abingdon: Routledge, 2022.

Ponce, Francisco A. and Andres M. Lozano. "Academic Impact and Rankings of American and Canadian Neurosurgical Departments as Assessed Using the H Index." *Journal of Neurosurgery* 113, no 3 (2010): 447–57. https://doi.org/10.3171/2010.3.JNS1032.

Research Excellence Framework. "Research Excellence Framework." Accessed January 24, 2025. https://2029.ref.ac.uk/.

Shanghai Ranking. "Rankings." Accessed January 24, 2025. https://www.shanghairanking.com/.

Shore, Cris and Susan Wright. "Audit Culture and Anthropology: Neo-Liberalism in British Higher Education." *Journal of the Royal Anthropological Institute* 5, no 4 (1999): 557–75. https://doi.org/10.2307/2661148.

Soutar, Geoffrey N., Ian Wilkinson and Louise Young. "Research Performance of Marketing Academics and Departments: An International Comparison." *Australasian Marketing Journal* 23, no 2 (2015): 155–61. https://doi.org/10.1016/j.ausmj.2015.04.001.

Sparkes, Andrew C. "Making a Spectacle of Oneself in the Academy Using the H-Index: From Becoming an Artificial Person to Laughing at Absurdities." *Qualitative Inquiry* 27, no 8–9 (2021): 1027–39. https://doi.org/10.1177/10778004211003519.

Spearman, Christopher M., Madeline J. Quigley, Matthew R. Quigley and Jack E. Wilberger. "Survey of the H Index for All of Academic Neurosurgery: Another Power-Law Phenomenon?" *Journal of Neurosurgery* 113, no 5 (2010): 929–33. https://doi.org/10.3171/2010.4.JNS091842.

Strathern, Marilyn. "Introduction: New Accountablities." In *Audit Cultures: Anthropological Studies in Accountability, Ethics, and the Academy*, edited by Marilyn Strathern, 1–18. London: Routledge, 2003.

Svantesson, Dan and Paul White. "Entering an Era of Research Rankings - Will Innovation and Diversity Survive?" *Bond Law Review* 21, no 3 (2009): 173.

Szadkowski, Krystian. "An Autonomist Marxist Perspective on Productive and Un-Productive Academic Labour." *TripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society* 17, no 1 (2019): 111–31. https://doi.org/10.31269/triplec.v17i1.1076.

Szomszor, Martin, David A. Pendlebury and Jonathan Adams. "How Much Is Too Much? The Difference between Research Influence and Self-Citation Excess." *Scientometrics* 123, no 2 (2020): 1119–47. https://doi.org/10.1007/s11192-020-03417-5.

Teplitskiy, Misha, Eamon Duede, Michael Menietti and Karim R. Lakhani. "How Status of Research Papers Affects the Way They Are Read and Cited." *Research Policy* 51, no 4 (2022): 104484. https://doi.org/10.1016/j.respol.2022.104484.

Thornton, Margaret. "The Mirage of Merit: Reconstituting the 'Ideal Academic'." *Australian Feminist Studies* 28, no 76 (2013): 127–43. https://doi.org/10.1080/08164649.2013.789584.

Thornton, Margaret. *Privatising the Public University.* Abingdon: Routledge, 2011.

Times Higher Education. "World University Rankings." Accessed January 24, 2025. https://www.timeshighereducation.com/world-university-rankings.

Tranter, Kieran. "The Buribunks, Post-Truth and a Tentative Cartography of Informational Existence." In *Carl Schmitt and the Buribunks: Technology, Law, Literature*, edited by Kieran Tranter and Edwin Bikundo, 41–59. Abingdon: Routledge, 2022.

Tranter, Kieran. "Citation Practices of the Australian Law Reform Commission in Final Reports 1992-2012." *University of New South Wales Law Journal* 38, no 1 (2015): 318–61.

Tschudy, Megan M., Tashi L. Rowe, George J. Dover and Tina L. Cheng. "Pediatric Academic Productivity: Pediatric Benchmarks for the H-and G-Indices." *The Journal of Pediatrics* 169 (2016): 272–76. https://doi.org/10.1016/j.jpeds.2015.10.030.

Tulloch, Rowan and Holly Eva Katherine Randell-Moon. "The Politics of Gamification: Education, Neoliberalism and the Knowledge Economy." *Review of Education, Pedagogy, and Cultural Studies* 40, no 3 (2018): 204–26. https://doi.org/10.1080/10714413.2018.1472484.

Tyson, Amber. "Using the H-Index to Measure Research Performance in Higher Education: A Case Study of Library and Information Science Faculty in New Zealand and Australia." Master of Library and Information Studies, Victoria University of Wellington, 2009.

van Toorn, Georgia and Karen Soldatić. "Disablism, Racism and the Spectre of Eugenics in Digital Welfare." *Journal of Sociology* 60, no 3 (2024): 523–39. https://doi.org/10.1177/14407833241244828.

Whalan, Ryan. "Context Is Everything: Making the Case for More Nuanced Citation Impact Measures." *LSE Impact Blog* (blog), *The London School of Economics and Political Science*, January 6, 2016. https://blogs.lse.ac.uk/impactofsocialsciences/2016/01/06/context-is-everything-more-nuanced-impact-measures/.

Wilsdon, James, Judit Bar-Ilan, Robert Frodeman, Elisabeth Lex, Isabella Peters and Paul Wouters. *Next-Generation Metrics: Responsible Metrics and Evaluation for Open Science: Report of the European Commission Expert Group on Altmetrics.* (European Commission, 2017).

Wilsdon, James, Liz Allen, Eleonora Belfiore, Philip Campbell, Stephen Curry, Steven Hill, Richard Jones, et al. *The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management.* (Higher Education Funding Council for England, 2015).