A bibliometric services workshop for subject librarians
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Abstract

Purpose – The purpose of this paper is to report on the development and analysis of an internal bibliometric services workshop for subject librarians. Primary goals of the workshop were to create an opportunity for collegial knowledge and skill sharing, and to identify discipline specific gaps and future support requirements.

Design/methodology/approach – Two campus librarians who typically offer bibliometric support services used pre- and post-surveys to plan and assess the workshop for subject liaison librarians.

Findings – Subject librarians from across the university expressed interest in developing bibliometric support services. The 12 workshop participants (30 percent of subject librarians) support diverse areas including the humanities, social sciences, life sciences, education and outreach, and the school of business. Post-workshop survey respondents highlighted the contextualization of available measures and the appropriate application of metrics in different disciplines to be the most helpful topics covered. Finally, while the institution subscribes to several citation analysis databases, more familiarity with Google Scholar citations was requested to address user needs and preferences across the various disciplines. Most participants expressed interest in attending additional workshops.

Originality/value – This study showcases the experience of campus librarians working together across academic schools and disciplines to respond to the increasing demand for bibliometric and scholarly impact support services. While services such as citation analysis have typically been siloed in specific job descriptions or subject areas within the library, these are service areas that can benefit from internal library-collaboration opportunities and knowledge sharing.

Keywords Bibliometrics, Altmetrics, Citation analysis, Library services, Workshop, Peer-to-peer training

Paper type Case study

Introduction

Librarians have been involved with citation analysis and tracking publication impact since its foundations. The Journal Impact Factor, widely recognized as a cornerstone of publication impact assessments, originated as a tool for library journal selection and collection development (Garfield, 2006). Librarians select, recommend and maintain citation databases for measuring researcher impact, each of which have been shown to have differences in disciplinary coverage (Bar-Ilan, 2008; De Groot and Raszewski, 2012; Harzing and Alakangas, 2016; Mongeon and Paul-Hus, 2016; Powell and Peterson, 2017; Vieira and Gomes, 2009). Author disambiguation strategies, required for reliable author summary metrics, rely on carefully crafted search queries and author identifiers commonly championed by librarians (Carley et al., 2017; Elliott, 2010; Kendall et al., 2017). The growing complexity of tracking publication impact and rising interest in these metrics at an institutional level have only increased librarians’ involvement (Bronars, 2016; Corrall et al., 2013; Kear and Colbert-Lewis, 2011). For example, several recent social sciences librarian job postings advertised on the Association for College and Research Libraries’ Education and Behavioral Sciences Section listserv have described position responsibilities related to citation analysis services (ebss-1@lists.ala.org). A job description for a Scholarly Impact & Social Sciences Librarian included the responsibility: “Serves library users by helping them navigate various research metrics associated with their field and by helping users to enhance their digital identity” (University of Texas-Arlington, 2016). An advertisement for a Social Sciences & Scholarly Communications Librarian stated: “The successful applicant will...assist faculty with tools to measure their scholarly output” (University of North Dakota, 2016). A listing for a Social Sciences and Professional Programs Department
Director position required, “Leadership and support in development of ... research analytics services” (University of Minnesota, 2017). By including these new position responsibilities in job advertisements, universities demonstrate that they are prioritizing these services.

It is evident that librarians have become increasingly involved in the analytics of research impact at their institutions, with a growing number as dedicated bibliometric specialists. More librarians are serving as leaders for the appropriate application of citation-based bibliometrics in part so that impact can be assessed more fairly across disciplines. For example, librarians working with bibliometrics at this institution have selected, gathered, summarized, visualized, recommended and explained research impact metrics to individual faculty, department chairs, deans, interdisciplinary program directors and cross-disciplinary research councils. In addition to the classic citation-based metrics of impact, new areas of bibliometrics have emerged which focus on alternative measures of success. While still based in traditional publication models, these alternative metrics, or “altmetrics,” showcase non-traditional areas of impact such as social media, public media outlets, and reader tracking (page views, downloads, shares, etc.). Such metrics are gaining traction among the digital humanities and social science fields (Roemer and Borchadt, 2012). Within the larger profession, recent highlights from the Association of College and Research Libraries (ACRL) on trends affecting academic libraries included citation metrics and altmetrics, culminating in a call for librarians to serve as educators and campus collaborators for building institutional expertise (ACRL Research Planning and Review Committee, 2017). Clearly, the development of new measures of research impact, the increasing array of tracking tools and the application of these measures to a greater number of disciplines and scholarly output types have brought new opportunities for library-based services.

When universities adopt the Research Information Management (RIM) software, this also heightens the need for library-based bibliometric support. RIM systems are institutional databases that integrate many campus-reporting sources to provide rich profiles for faculty information across disciplines. An RIM-based faculty profile typically includes a comprehensive list of authored publications drawn from several incorporated literature databases. The institutional RIM here also includes sources of grant funding, courses taught and professional actives, such as certifications, editorial board service and conferences attended. By drawing from such diverse sources across the university, the system provides for faculty impact tracking beyond the standard citation count. Within the institutional RIM instance, data from the standard citation tracking databases Web of Science (WoS) and Scopus are included and also scholarly efforts and impact information from figshare, the Social Science Research Network (SSRN) and Altmetric.com. Since the RIM was implemented, librarians have seen a growing interest in support services for the application and interpretation of RIM-derived research impact sources and measures.

In the past, the librarians who supported health and life sciences departments received the greatest number of impact support requests; however, in recent years, librarians in the social sciences have begun receiving these requests on a regular basis. Even humanities librarians, such as those serving Philosophy and Latin American Studies, are being asked to recommend, provide and qualify measures of scholarly influence and assist in building discipline appropriate narratives of faculty impact. Such requests demonstrate a growing demand for knowledge and skills among subject liaison librarians. This expanding need was also noted in the results of a 2013 survey of bibliometric and research data services offered by over 100 academic libraries worldwide. Without specifically highlighting liaison librarians, the survey noted most service requests originated from individual researchers and staff as opposed to administrative or departmental groups (Corrall et al., 2013). Such individual users may typically be more motivated to reach out to dedicated liaison librarians for one-on-one consultation than seek out a new contact, despite the rise in dedicated job
titles for these services. The observation was further supported in a 2017 follow up survey which found over 62 percent of surveyed libraries now devote more than five staff toward bibliometric or research impact services in a clear indication of expanding duties for reference and subject liaison librarians (Haddow and Mamtora, 2017).

In the health and life sciences at our institution, a significant portion of the expanding demand for impact support has been related to the RIM software currently in use by the Schools of Medicine and Nursing. As other areas of the university are exploring and expected to adopt the software for their reporting needs, the remaining business, social science and humanities librarians have expressed a desire to learn how to offer citation and impact analysis support to their departments and faculty. This growing interest led the University Librarian to request the development of an in-house workshop. Two librarians frequently involved in offering citation analysis and research impact services, a health sciences librarian and a social sciences librarian, teamed up to offer the workshop and surveyed subject librarians in all disciplines on their citation analysis knowledge and interests prior to the workshop. The pre-workshop survey results were then used to determine what topics to cover in a hands-on workshop entitled “Citation Analysis for Subject Librarians.” The primary goals of the workshop were to initiate formal sharing of bibliometric knowledge and experience and to offer collegial training for the skills required to support bibliometric analysis of faculty and departments. Secondary goals were to identify specific areas of interest among the various disciplines, introduce common metrics provided by the university RIM software and identify gaps in subject librarian knowledge toward meeting the increased interest in faculty bibliometrics.

The workshop

Pre-workshop survey

A total of 15 librarians participated in the pre-workshop survey; approximately 38 percent of librarians supporting university departments. Out of 15, 10 (66 percent) identified their levels of experience with citation analysis as “Beginner,” while 5 (33 percent) considered themselves to have an “Intermediate” level of experience. Librarians were then asked, “Have you ever provided citation analysis services for your departments?” Their responses are shown in Figure 1.

Respondents were also asked to share which tools and resources they had used to conduct citation analysis: WoS, Google Scholar, Scopus, SSRN and Other. Their responses are shown in Figure 2. Only one respondent had heard of the SSRN for citation analysis.
Four workshop participants, or approximately 27 percent, had no experience with citation analysis and thus had not used any tool to conduct citation analysis. Most of the librarians surveyed indicated that they would like to offer citation analysis services to their departments (69 percent), while 31 percent responded that they did not currently see a need for citation analysis services for their departments. When asked if they had any concerns about offering citation analysis services to their departments, several librarians expressed that the time commitment and complexity of finding accurate citations for someone with a common name (name disambiguation) were daunting. Subject librarians also expressed that they most wanted to gain “how-to skills,” background information on the development of citation analysis and information on how library services could be integrated into the university’s RIM software implementations.

**The workshop**

**Part I: history of citation metrics.** In total, 12 librarians attended the workshop held on August 16, 2016. Attendees were: two business librarians, one Library Service Desk Manager, one Scholarly Repository Librarian, one Outreach and Education Librarian, one Science Librarian, one Emerging Technologies Librarian, one Social Sciences Librarian, two Humanities Librarians and two Area Studies Librarians. The session started with a brief history of bibliometrics. Next, key definitions and standards for each level of metrics were introduced: journal metrics such as the impact factor, author metrics such as the h-index, and article metrics such as times cited and altmetrics. The metric that provoked the most discussion and confusion was the h-index; diagrams and several examples of researchers’ productivity profiles were used in order to clarify how the h-index is calculated and compared before moving on to the topic of citation analysis tools. Demonstrations were given in WoS, Scopus, and Google Scholar, all of which are available to current university students, staff and faculty. All three were included because while WoS has long been used as the standard citation source, and several recent studies have highlighted the increased coverage offered by Scopus and Google Scholar, particularly within the Arts and Humanities disciplines (Mongeon and Paul-Hus, 2016; Prins et al., 2016). However, the institutional RIM instance currently offers integration with WoS and Scopus only.

**Part II: hands-on comparison of subscription tools.** Two example profiles were pre-identified for the demonstration: one from the Department of Sociology and one from the Business School. For each example, participants built career comprehensive search queries, utilized author disambiguation strategies and filters, and recorded the resulting h-index and journal impact measures from all three reporting sources. Reporting metrics from these
different sources for the same faculty member allowed for comparison analysis, and highlighted the differences in journal coverage and resulting metrics. Workshop participants were then given hands-on exercises for WoS and Scopus, and asked to perform bibliometric analysis on a faculty member from one of their departments. This mediated type of reporting, in which the librarian is asked to produce a citation analysis on behalf of a faculty member or department, mirrors the most common support request received by the librarians offering bibliometric services at our institution.

**Part III: disambiguation and author identifiers.** During the WoS and Scopus demonstrations, participants were shown how to disambiguate names by using search techniques and careful checking of results. Once understood, author disambiguation techniques are an easy extension of the typical query building and database filtering skills traditionally practiced by librarians. Librarians were encouraged to talk with liaison department faculty and graduate students about establishing researcher IDs and ORCIDs (www.researcherid.com; https://orcid.org/). These two profile systems integrate with citation databases and RIMs to help with author disambiguation through faculty self-identification.

**Part IV: discussions of Google Scholar.** Finally, participants were shown how to use Google Scholar to obtain citation analytics and provided with a take home activity introducing Harzing’s Publish or Perish (PoP) (https://harzing.com/resources/publish-or-perish). Commonly referred to as PoP-Google Scholar, this is a targeted search tool used to build a citation profile based on Google Scholar data. Due to Google Scholar’s roots as an internet search engine and not as a curated, authoritative literature database, minimal name disambiguation and filtering options continue to make comprehensive or large-scale analysis in this resource inefficient at best (Halevi et al., 2017; Jacso, 2005; Jacso, 2006; Prins et al., 2016). PoP-Google Scholar offers some additional filtering when reviewing publication results lists, but still requires significant time and effort to obtain a comprehensive and reliable list of faculty authored publications. As such, Google Scholar is generally supported as a resource for which faculty may only independently establish and actively maintain profiles. Even librarians who assist individuals with creating and interpreting Google Scholar profiles do not typically offer reporting services from Google Scholar.

Given that many faculty researchers have anecdotally reported a preference for Google Scholar, by providing all three tools side-by-side, librarians could observe some of the challenges inherent in relying on Google Scholar for clean and accurate metrics data. For example, both faculty members used in the demonstration had been verified to have established Google Scholar Citation profiles, but, as one participant quickly noticed, not all the publications listed in a faculty member’s profile were, in fact, authored by that faculty member. Participants who self-selected faculty examples from liaison departments were also quick to realize the inefficiency of author disambiguation options and available filters when a Google Scholar profile had not been previously established by the individual. By taking the time to explore and discuss the results that all three tools generated, workshop participants could better understand the opportunities and challenges offered by each tool when looking to support their departments with bibliometric services.

**Post-workshop survey**

Following the workshop, the 12 participants were sent a survey to assess the effectiveness of the workshop and determine future directions. Eight responses were received. When asked about the most valuable lesson of the workshop, several respondents expressed appreciation for learning about the h-index and how to calculate it; others acknowledged the importance of knowing about the different tools available to conduct citation analysis; and the remaining respondents stated that learning how citation analysis could be offered as a service for faculty and departments was the chief takeaway. Seven people (87 percent)
showed interest in future workshops on citation analysis and altmetrics. When asked which specific tools and resources should be highlighted in future sessions, Google Scholar received the most requests. Other citation analysis tools that survey participants asked to learn about are shown in Figure 3.

Of the three tools presented in the workshop, WOS, Scopus and Google Scholar, Google Scholar is the least vetted, yet it may still be the best option to reflect impact in humanities and social sciences scholarship since it captures the broadest range of scholarly outputs (Sheppard, 2015; Zuccala, 2016). Librarians who serve researchers in the humanities and social sciences will need to build skills in using Google Scholar in order to best support their faculty and students.

**Discussion and future directions**

Based on the data in both surveys, the “Citation Analysis for Subject Librarians Workshop” was a positive training experience for participants that added to their knowledge and skills. The workshop was also timely as more than half of survey respondents indicated that they had been asked to provide bibliometric support. While almost a third of respondents identified as having an intermediate understanding of citation metrics, there was strong interest in understanding the basic history and application of common metrics, in particular, the h-index. In recognition of field differences (and other inherent biases) in many of these metrics, there was also significant interest in building discipline specific awareness of resource coverage and reporting availability. These understandings will be key to building appropriately targeted services. Those librarians supporting the humanities and certain social science disciplines may also need to develop a keen understanding of Google Scholar in order to provide clean and reliable publication data for their faculty.

The success of the internal workshop, and similar training efforts, was predicted by the larger multi-institutional surveys from 2013 to 2017, both of which reported staff capacity (both in skills and dedicated numbers) as the largest barrier to offering bibliometric and impact services (Corrall et al., 2013; Haddow and Mamtora, 2017). Where both these surveys looked across research environments at the national and internal levels, their results aligned closely with our deep-dive findings at a single research institution; most importantly, that while citation tracking continues to dominate research impact requests and evaluations, subject librarians can offer researchers vital understandings of context and meaningful application of the relevant measures at the disciplinary levels. Similarly, the workshop
provides an answer to the call for increased on-the-job training and peer-to-peer instructional opportunities championed by respondents of both surveys. Workshop participants echoed this call, requesting additional workshops particularly around altmetrics and the possible development of a community of practice targeted toward continuing conversations and knowledge sharing.

Given these results, subject librarians at other institutions who are interested in exploring bibliometric services for their user populations may be well served by building internal collaborations with their peers and counterparts in the sciences and social sciences. Communication among librarians within the institution will help drive responsible application of metrics and ensure that the proper bibliographic resources for tracking disciplinary impact are recognized. Library bibliometric services offer a clear opportunity for internal collaborations, knowledge sharing and skills transfer between disciplines. Such collaborations will become increasingly important for institutions adopting RIM systems. In many of these RIM implementations, the library will have a key role to play in understanding, applying, selecting and interpreting available metrics associated with faculty profiles and standard reporting across the institution. As this workshop demonstrates, librarians can effectively work together to inform interdisciplinary policies and expectations when it comes to understanding bibliometrics and their fair application.

References


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