A Bibliometric Analysis of the Scholarly Publications of Librarians at the University of Mississippi, 2008–2013

Ashley S. Dees

J.D. Williams Library, University of Mississippi, PO Box 1848, University, MS 38677, USA

ARTICLE INFO

ABSTRACT

This article uses bibliometric tools to analyze the peer-reviewed publications of tenure and tenure track librarians at the University of Mississippi from 2008 to 2013. The purpose of this article is to gain a better understanding of the role of academic librarians including the role that tenure plays in librarian publications and the usage of the collection by librarians for research. Analysis found that 59% of librarians publishing peer-reviewed literature were tenure track and 81% of sources cited from all librarians' peer-reviewed publications were held by the University of Mississippi's J.D. Williams library.

© 2015 Elsevier Inc. All rights reserved.

INTRODUCTION

Academic librarians provide educational and research support services to a broad constituency with diverse needs. A body of literature has been developed in librarianship that analyzes those needs in order to provide the desired services and collections. Librarians use such research in order to provide solutions as to how libraries can continue to accommodate more people and study space, while maintaining their collections. Bibliometric tools offer a way to analyze this data; however, those tools have gone largely unused in the area of librarian interests and publishing behaviors.

This exploratory study will look at the resources, tools and topics librarians in a single institution use to gain a better understanding of the interests and publishing behaviors of academic librarians. As librarians are the most familiar with library collections, analyzing their usage should give insights as to what resources are being used and possibly suggestions for those that could be removed. At the same time, the role of tenure in librarian publications should be considered in order to determine if librarians publish only until tenure is awarded or if they continue to publish and use the collection afterwards.

PURPOSE OF STUDY

The purpose of this study is to examine the scholarly peer-reviewed research published by librarians at the University of Mississippi using bibliometric tools to determine research productivity, types of sources cited, and how many of the cited sources are available through their library.

This study is limited to the scholarly peer-reviewed publications of librarians at the University of Mississippi published between 2008 and 2013. This study does not include book reviews or other publications that have not undergone a peer-review process.

For this study it is assumed that all scholarly publications have been reported by librarians accurately on their University of Mississippi Faculty Activity Report, that all citations on those scholarly publications are cited correctly, and include all sources used in the publications. It is also assumed that librarians with the title of Associate Professor or Professor are tenured and librarians with the title Assistant Professor are on tenure track, but have not yet received tenure. Librarians at the University of Mississippi are considered full time faculty and as such are eligible for tenure, a process that takes place over a five year period at the end of which librarians receive an agreement of perpetual employment provided they have shown satisfactory job performance in the areas of librarianship, research, and service.

RESEARCH QUESTIONS

RQ1 *How many librarians have published scholarly literature between the years of 2008 and 2013?*
RQ2 *What percentage of those are tenured or on tenure track?*
RQ3 *In which journals are librarians publishing?*
RQ4 *On what topics are the scholarly literature published by librarians in this study?*
RQ5 *What types of resources are they citing? Books, e-books, articles, Web sites?*
RQ6 *How many (and what percentage) of cited resources are held by their institution?*

LITERATURE REVIEW

A search of scholarly literature could not locate a previous bibliometric study of the scholarly publications of librarians from a single institution. Bibliometric studies of university faculty and studies of similar methodology are used in lieu of a similar study.

BIBLIOMETRIC STUDIES

Wilson (2012) submits a list of applications for bibliometric research in "Research Methods: Bibliometrics." Those applications include "Improving the bibliographic control of a literature," "Identifying a core literature, especially journals," and "Describing patterns of book use by patrons, and developing and evaluating library collections" (Wilson, 2012, p. 122). Wilson addresses the benefit of bibliometric tools to evaluate and develop library collections. Burright, Hahn, & Antonisse's study uses several of the applications listed by Wilson. Burright, Hahn, & Antonisse (2005) conclude that during the years of their study, 2001–2003, authors' citations were interdisciplinary including a wide range of different scientific fields, journal articles were cited the most with books coming in second, the majority of literature cited was over 15 years old, and coauthorship was high in neuroscience publications.

COLLECTION DEVELOPMENT

Pancheshnikov's (2007) study of a faculty publication and student theses for collection development uses found that faculty use more sources and are therefore seen as a more comprehensive and reliable source for use in collection development analysis. Pancheshnikov compiled citations for both groups by number of citations, material type, percentage of citations to journal articles, percentage of citations to monographs, and age of monographs. While Pancheshnikov's study showed that faculty sources are seen as more reliable, Knievel and Kellsey's (2005) study concluded that citation patterns varied significantly among the faculty of eight different fields within a single humanities department. The study did show that monographs represented the majority of all citations consistently throughout the humanities (Knievel & Kellsey, 2005).

As with Knievel and Kellsey (2005), monographs were found to be the most cited materials in Kayongo and Helm's (2009) study of anthropology faculty publications. Monographs were found to be cited at 47% with journals second at 45% (Kayongo & Helm, 2009); 72% of faculty citations were held by their library; and 41.78% of the cited materials were a minimum of 10 years old. Enger's (2009) study attempted to discern whether collection development decisions based on studies such as those previously mentioned would provide measurable differences in circulation statistics from items selected through traditional methods of collection development such as book reviews and patron requests. Enger found no discernable difference between the different methods.

PUBLISHING BY TENURED AND TENURE TRACK FACULTY

Doty's (2013) study, which surveyed faculty to determine what type of publications they were most likely to publish in, used 15 faculty members, five of which were tenure track assistant professors, four were tenured associate professors, and six were tenured full professors. Only one of the assistant professors had published in an open access journal and 12 were not interested in publishing in open access journals at all (Doty, 2013). One tenured professor was "likely to seriously consider" publishing in an open access journal and reputation of a journal was given by 12 of the 15 as a reason for choosing their last place of publication (Doty, 2013, p. 5). Doty highlights the importance that is placed on not only publishing, but the venue in which one is publishing. Sugimoto et al. (2014) surmised that universities expect librarians to conduct scholarly research due to the amount of tenure track librarian positions that exist and the publishing requirements those positions entail. Brown (2013) states that citation analyses are increasingly suggested as appropriate and helpful when included in tenure and promotion portfolios or dossiers for faculty as they show the importance or impact that a faculty member's research has on their field. Librarians are increasingly tasked with helping faculty members with this type of research and have created many guides to assist faculty who are performing citation analyses (Brown). Doty and Brown highlight the importance of peer-reviewed publications in the tenure process for faculty.

SIMILAR METHODOLOGIES

Choinski's (2007) study compiled pharmacy faculty research articles published in journals over a 3 year period. Journal titles, age of cited materials, format of cited materials, publisher information, and journal subject were collected. Dewland's (2011) study analyzed the citations of business faculty in the fields of management, marketing, management information systems, and finance. Similar to Choinkski, Dewland organized faculty citations by age, publication, publisher, and Library of Congress Classification. Only 22% of all faculty citations were found by Dewland to be non-journal citations.

Hendrix's (2008) study gathered a total of articles published at each medical school, calculated a total number of citations to article citations and the average number of citations per article. Hendrix was further able to calculate the average number of articles per faculty member, average number of citations per faculty member, and other data. The author concluded that a school ranking or just one statistic is not a true representation of the institution's research output and that librarians should use other methodologies with bibliometric tools in order to form an accurate picture of an institution's research output and impact. Hendrix's findings are important to the scope of bibliometric analysis as the studies of Choinski (2007) and Dewland (2011) highlight. These studies show that a vast amount of information must be analyzed in order to determine research output.

Wilson's (2012) applications for a bibliometric study are used in Pancheshnikov (2007), Kayongo and Helm (2009), Knievel and Kellsey (2005), and Enger's (2009) studies which further help to illustrate the benefit of bibliometric tools. This study takes into account the findings of those studies. The separate studies of Doty (2013) and Brown (2013) promote the importance of peer-reviewed publications in the tenure process for faculty. This study is similarly interested in the peer-reviewed publications of tenure and tenure track faculty publications. The methodology used in this study is comparable to that of Choinski (2007), Dewland (2011), and Hendrix (2008) as all compile citations from a set of pre-determined sources and organize the data obtained from those sources into categories such as publication year, material type, and library holdings.

METHODOLOGY

In order to be as comprehensive as possible, the Internet Archive's Way Back Machine was used to capture a list of librarians and their titles for each year from 2008 to 2013 from the University of Mississippi's J.D. Williams Library Web site. The scholarly peer-reviewed publications from those librarians were collected from their 2008–2013 Faculty Activity Reports (FAR) via the online MyOlemiss system. This information is available to employees of the University of Mississippi, but not open to outside access. For this reason, permission for the use of this material was requested from the Dean of the Libraries at the University of Mississippi and granted. At this point, publications were sorted by author in order to determine how many librarians had published scholarly articles in the last five years. A copy of all scholarly publications was retrieved from online databases, print journals, or inter-library loan.
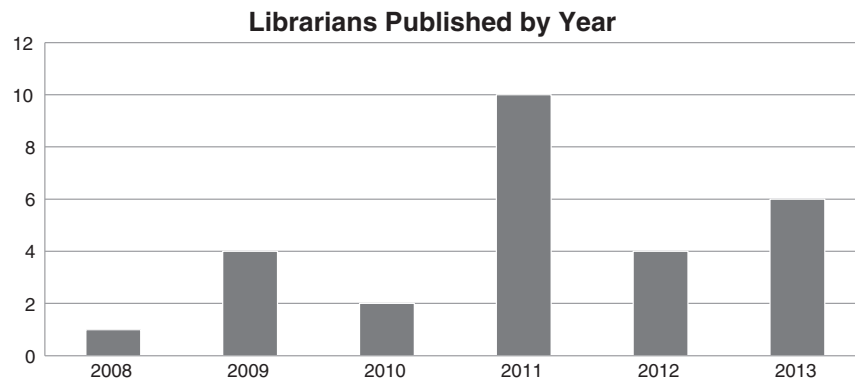
Librarians Published by Year

Fig. 1. Librarians published by year.

To determine productivity, publication data was collected including publication year, journal title, article title, author, and topic of the articles as determined by major subject descriptors. Data was compiled into tenured, tenure track, and non-tenure track categories.

All citations from the above stated publications were collected and categorized into groups based on format of resource and whether or not the source was held by the J.D. Williams Library.

RESULTS

RQ1 *How many librarians have published scholarly literature between the years of 2008 and 2013?*

According to the results of this study, 16 librarians published a total of 32 scholarly articles between the years 2008–2013. The peak year for publishing was 2011 as ten librarians published scholarly literature that year. The year 2008 had the least number of published librarians with one. Fig. 1 shows how many librarians published scholarly literature per year as many librarians published articles in multiple years.

RQ2 *What percentage of those are tenured or on tenure track?*

This study determined that of the 16 librarians who published scholarly articles 59% of those were tenure track librarians and the remaining 41% were tenured librarians. One librarian fell into each category as he or she received tenure during the years of this study and published both prior to and after receiving tenure. Of the 32 articles

published, seven were collaborations between librarians and four of those collaborations were between a tenured and tenure-track librarian. Fig. 2 shows the breakdown of published articles by tenured and tenure track librarians by year.

RQ3 *In which journals are librarians publishing?*

The results found that the journal *Serials Librarian* was the most published in journal with three published articles. See Table 1 for the most commonly used journals.

RQ4 *On what topics are the scholarly literature published by librarians in this study?*

According to the major subject descriptors as provided by databases, the articles used in this study represented a wide array of topics. The most common topic was academic libraries which was used 13 times. The second most common was the University of Mississippi which was used 7 times. Information Literacy, Electronic Publication, Internet, Libraries, Library, and Surveys were each used 4 times. Collection Development was used 3 times (Table 2).

RQ5 *What types of resources are they citing? Books, e-books, articles, Web sites?*

The results of this study found that articles were by far the most cited resources. Table 3 shows that a total of 481 articles were cited while
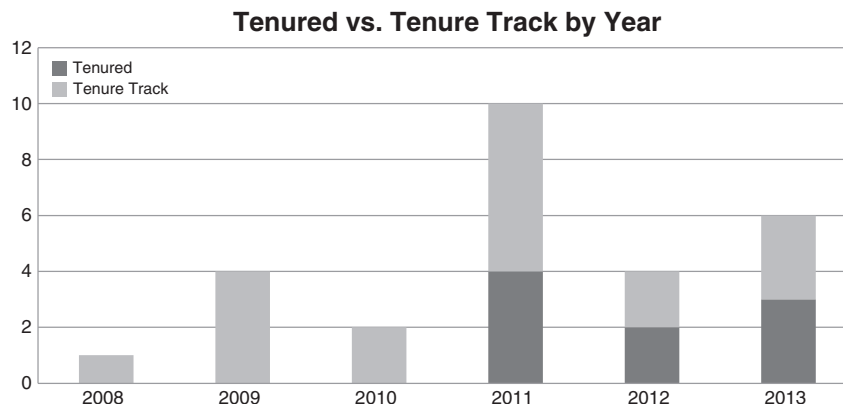
Tenured vs. Tenure Track by Year

Fig. 2. Tenure vs. tenure track by year.

Table 1
Most often published in journals.

Journal	Number of articles
Serials Librarian	3
Communications in Information Literacy	2
Journal of Access Services	2
Journal of Electronic Resources Librarianship	2
Reference Services Review	2
The Journal of Academic Librarianship	2

Web sites and books were the second and third most cited with 60 and 50 resources being in those formats.

RQ6 *How many (and what percentage) of cited resources are held by their institution?*

This study found that of the 553 resources cited, which excludes Web sites and interviews, 447 or 81% of those were held and 106 or 19% of cited resources were not held by the J.D. Williams Library. Librarians cited 480 articles of which 390 of those were held by the J.D. Williams Library as shown in Table 4. Of the 390 articles held by the library 376 of those were available electronically. Books were cited a total of 59 times with 50 of those held by the library. All 7 e-books cited were held. Archival material and government documents were each cited twice with all items held by the library. Of the 7 reports cited 2 were held. The library did not hold copies of either the single dissertation or thesis cited by librarians.

DISCUSSION

This exploratory study set out to determine the research productivity of librarians in regards to tenure and tenure track faculty, types of sources cited by those librarians, and how many of the cited sources were available through the J.D. Williams library. Through the use of bibliometric analysis the number of published librarians from the period of 2008–2013 was found to be 16 with 59% of those being tenure track librarians. The most popular format for sources cited was articles and a total of 81% of the sources cited were held by the J.D. Williams Library.

An average of 28 librarians are employed in the J.D. Williams library during a single year, therefore between the years of 2008–2013 over half of the librarians at the J.D. Williams library produced scholarly literature. However, Fig. 2 reveals that over half of those articles published were in the years 2011 and 2013 with ten and six articles being published in those years. The significant increase in the publication of scholarly articles may be explained by an influx of new tenure track librarians during the year of 2008. Of the 32 peer-reviewed articles published by librarians, seven of these articles were collaborations between multiple librarians and four of those were made up of tenured and tenure track librarians. This indicates a willingness among librarians to collaborate.

The top 6 journals accounted for 40% of librarian publications. While the journal *Serials Librarian* had the highest number of published articles from librarians it did not show a vast majority with only three published

Table 2
Topics of published scholarly literature.

Topic	Frequency
Academic libraries	13
University of Mississippi	7
Information literacy	4
Electronic publication	4
Internet	4
Libraries	4
Library	4
Surveys	4
Collection development	3

Table 3
Resources by format and frequency.

Format	Frequency
Articles	481
Web sites	60
Books[a]	50
E-books[a]	7
Reports	7
Archival material	2
Government documents	2
Dissertations	1
Interviews	1
Theses	1

[a] Six sources were available in both book and e-book format.

articles compared to two published articles in the remaining top five journals. Due to these results it does not appear that librarians dramatically prefer one journal over others. The journals in which librarians chose to publish may be tied or attributed to librarian job responsibilities and not journal preference; however specific job responsibilities were not taken into account for this study.

A number of varying topics represented the makeup of published scholarly articles by librarians. The top two topics were "Academic Libraries" and "The University of Mississippi." As the librarians used in this study were academic librarians employed at the University of Mississippi those statistics do not imply a great deal of information. Neither do the significant topics of "Libraries" and "Library" in their published literature as it makes sense that librarians are writing and publishing about libraries. However, the frequency of the topics of "Information Literacy," "Electronic Publication," "Internet," "Surveys," and "Collection Development" show where the true interest of librarians at the J.D. Williams library reside.

The study showed that the vast majority, 81%, of librarian cited sources were obtained from their own institution. That statistic implies that librarians are not only familiar with their library's collections, but are confident in the scope and knowledge of the resources they are providing. In contrast to this study, Kayongo and Helm's (2009) study of anthropology faculty found that only 41.48% of faculty cited sources were held by their institution's libraries. Choinski's (2007) study of pharmacy faculty reported that journal citations made up 89% of all citations and that 48.5% of those citations were held by main campus libraries. From this limited comparison of other academic faculty citations to those of the librarians in this study, librarians appear to use sources held by the library at a higher rate than other academic disciplines.

As 376 of the sources cited by librarians were electronically available articles, the data showed that librarians used electronically available sources significantly more than print resources. Though books made up a smaller portion of sources cited with a total of 59 cites, than did articles, data showed that print books were used at a higher rate than e-books. There are no policies at the J.D. Williams library that give preference to print over electronic books, therefore it is assumed that the preference librarians have shown to print books is due to a prevalence of print books in the field of library and information science in the library's collection. This study was unable to determine a specific reason

Table 4
Resources by format and number of items held by UM.

Format	Held	Total used
Articles	390	480
Books	50	59
E-books	7	7
Archival material	2	2
Gov. Docs	2	2
Reports	2	7
Dissertations	0	1
Thesis	0	1

for the prevalence of electronic over print resources used by the librarians in this study.

FURTHER RESEARCH

As this study was exploratory and lacks a similar study and results to which it could be compared, similar studies of different academic libraries should be considered in order to determine if the findings from this study are unique or if other libraries show similar patterns. This would also help to determine if librarian's use of library resources should be considered when making collection development decisions as is done with teaching faculty. Mark (2011) suggests that "Academic librarians view peer reviewed information as authoritative while information not vetted by peer review is not considered verifiable or reliable for academic work without stringent critique." This would suggest that academic librarians prefer peer-reviewed or scholarly literature to other forms of publication. A comparison to this study can be made to Dewland's study of business faculty, who also showed a preference for electronic resources such as journal articles over print resources. This could denote a preference in the social sciences for peer-reviewed or scholarly literature such as journal articles over books which are presented as preferred in the humanities by Knievel and Kellsey (2005). Further research could be done to determine if this preference holds true across the social sciences as a whole.

APPENDIX A. DEFINITIONS

Bibliometrics—Reitz (2014a) defines bibliometrics as "the use of mathematical and statistical methods to study and identify patterns in the usage of materials and services within a library or to analyze the historical development of a specific body of literature, especially its authorship, publication, and use" (*ODLIS*, n.p.).

Citation analysis—Reitz (2014b) defines citation analysis as "a bibliometric technique in which works cited in publications are examined to determine patterns of scholarly communication" or "for the purposes of collection evaluation and development" (*ODLIS*, n.p.).

Peer-reviewed—Reitz (2014c) defines peer-reviewed as "said of a scholarly journal that requires an article to be subjected to a process of critical evaluation by one or more experts on the subject, known as

referees, responsible for determining if the subject of the article falls within the scope of the publication and for evaluating originality, quality of research, clarity of presentation, etc. Changes may be suggested to the author(s) before an article is finally accepted for publication. In evaluation for tenure and promotion, academic librarians may be given publishing credit only for articles accepted by peer-reviewed journals" (*ODLIS*, n.p.).

REFERENCES

Brown, J. D. (2013). Citation searching for tenure and promotion: An overview of issues and tools. *Reference Services Review*, 42(1), 70–89.

Burright, M. A., Hahn, T., & Antonisse, M. J. (2005). Understanding information use in a multidisciplinary field: A local citation analysis of neurosciences research. *College & Research Libraries*, 66(3), 198–210.

Choinski, E. (2007). Journal use in pharmacy: A citation analysis of faculty publications at a school of pharmacy. *Science and Technology Libraries*, 27(3), 53–64.

Dewland, J. (2011). A local citation analysis of a business school faculty: A comparison of the who, what, where, and when of their citations. *Journal of Business & Finance Librarianship*, 16(2), 145–158.

Doty, R. C. (2013). Tenure track science faculty and the "open access citation effect". *Journal of Librarianship and Scholarly Communication*, 1(3), 1–14.

Enger, K. B. (2009). Using citation analysis to develop core book collection in academic libraries. *Library & Information Science Research*, 31, 107–112.

Hendrix, D. (2008). An analysis of bibliometric indicators, National Institutes of Health funding, and faculty size at Association of American Medical Colleges medical schools, 1997–2007. *Journal of Medical Library Association*, 96(4), 324–334.

Kayongo, J., & Helm, C. (2009). Citation patterns of the faculty of the anthropology department at the University of Notre Dame. *Behavioral & Social Sciences Librarian*, 28(3), 87–99.

Knievel, J. E., & Kellsey, C. (2005). Citation analysis for collection development: A comparative study of eight humanities fields. *The Library Quarterly*, 75(2), 142–168.

Mark, A. E. (2011). Privileging peer review. *Communications in Information Literacy*, 5(1), 4–8.

Pancheshnikov, Y. (2007). A comparison of literature citations in faculty publications and student theses as indicators of collection use and a background for collection management at a university library. *The Journal of Academic Librarianship*, 33(6), 674–683.

Reitz, J. M. (2014a). Bibliometrics. Online dictionary for library and information science. Retrieved from http://www.abc-clio.com/ODLIS/searchODLIS.aspx

Reitz, J. M. (2014b). Citation analysis. Online dictionary for library and information science. Retrieved from http://www.abc-clio.com/ODLIS/searchODLIS.aspx

Reitz, J. M. (2014c). Peer-reviewed. Online dictionary for library and information science. Retrieved from http://www.abc-clio.com/ODLIS/searchODLIS.aspx

Sugimoto, C. R., Tsou, A., Naslund, S., Hauser, A., Brandon, M., Winter, Danielle, et al. (2014). Beyond gatekeepers of knowledge: Scholarly communication practices of academic librarians and archivists at ARL institutions. *College & Research Libraries*, 75(2), 145–161.

Wilson, V. (2012). Research methods: Bibliometrics. *Evidence Based Library and Information Practice*, 7(3), 121–123.