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## **Book Review**

### **Meaningful Metrics: A 21st Century Librarian's Guide to Bibliometrics, Altmetrics, and Research Impact**

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## BOOK REVIEW

# *Meaningful Metrics: A 21st Century Librarian's Guide to Bibliometrics, Altmetrics, and Research Impact*

by Robin Chin Roemer & Rachel Borchardt

2015 | Association of College and Research Libraries | 241 pages, softcover  
ISBN-13: 9780838987551 | \$60.00 print

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Aimed at academic librarians in general and scholarly communication librarians in particular, *Meaningful Metrics* serves as both a primer to introduce key concepts in bibliometrics and altmetrics and a guide to the major tools used to measure the impact of scholarship for both. The book also provides practical guidance and scenarios for librarians providing outreach to faculty, with the aim of helping them understand how impact can be measured in a meaningful way to support their case for tenure and promotion, provide documentation for research grants, and demonstrate institutional impact.

The book is organized into four topical sections: impact, bibliometrics, altmetrics, and special topics. The first three sections include a theoretical chapter to lay the groundwork for readers unfamiliar with the topic, a practice-oriented chapter that includes exercises using metrics tools, recommendations for exploring the tools and concepts in more depth, and a list of additional resources such as websites and key scholarly articles for further exploration. In the first section on impact, the authors set the stage by categorizing traditional impact measures according to four levels—item, venue, individual author, and group (such as department or university)—and then describe appropriate measurement tools for each level.

In the second section, the theoretical chapter on bibliometrics provides an overview of how impact measures have developed from twentieth-century practices of assessing the value of scholarship. This section provides the background librarians need to understand



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how current tools to assess impact still correlate to measures developed in a purely print-based environment. The authors define bibliometrics as “a set of quantitative methods used to measure, track, and analyze print-based scholarly literature” (p. 28). They clearly and succinctly explain metrics commonly used to measure the impact of scholarship at the article, journal, and author level and how tools such as Web of Science, Scopus, and Google Scholar incorporate these metrics into their analysis. The chapter on bibliometrics provides a scenario demonstrating how to help a faculty member search for citations and citation counts and compare the impact rankings of the journals in which they have published using Web of Science, Scopus, and Google Scholar. Another example uses Publish or Perish software to explore an author’s citations and rankings of their publications’ journals based on Google Scholar’s metrics.

The purpose of the examples is to demonstrate how to assist faculty with turning raw metrics into an impact statement that meaningfully describes the faculty member’s scholarship in terms of citations and journal rankings. While bibliometric practices were developed in a print-only world, these practices continue to be applied to scholarly work published electronically. As the authors note, faculty continue to apply assessment measures that focus on the number of citations generated by their work when asked to provide a quantitative measure of their scholarly impact. Tenure and promotion committees continue to attempt to measure the significance of scholarship using the journal impact factor as a surrogate for the individual’s impact, even as many acknowledge that this is a problematic application of the impact factor. This book’s overview of bibliometrics is helpful because it acknowledges the reality librarians face when providing support to faculty. Librarians must first establish their expertise in traditional bibliometrics with key stakeholders on campus before they can participate in the faculty’s efforts to look beyond bibliometrics to get a more complete picture of scholarly impact in today’s world.

In the third section, the authors provide an excellent overview of altmetrics, which seeks to quantify a fuller range of user engagement with scholarly output than traditional bibliometrics. The authors define altmetrics as “a set of methods based in the social web used to measure, track, and analyze scholarly output” (p. 100). This section of the book shows how altmetrics can provide parallel assessment tools for scholarly impact at the item, author, and institution level, using metrics from online social networks and scholarly communication platforms. While the authors do not intend to present altmetrics’ quantitative measures as exact equivalents to traditional bibliometrics, they assert that these measures of engagement are equally viable methods for demonstrating scholarly impact. Examples of altmetrics include capture metrics (such as bookmarks), mentions (such as blog posts), and social media metrics (such as shares or tweets). Specific programs for altmetrics analysis include Impactstory, Altmetric, and PlumX, tools that can combine a

variety of metrics into a score to compare individual scholarly items or aggregate metrics of user engagement within a particular author's profile.

The chapter on altmetrics provides a demonstration of using PlumX to look at an institution's aggregation of its authors' impact through a usage report. Another scenario offers a walk-through of setting up an author profile in Impactstory in order to demonstrate levels of engagement with the author's work. The chapter also gives an example of how a publisher's platform uses Altmetric to visualize the quantity of engagement across online social networks. The authors note that librarians should expect to work with faculty to incorporate traditional bibliometrics and altmetrics into a comprehensive view of their scholarly impact, particularly when bibliometrics do not capture engagement for all forms of scholarship or provide a measure for faculty's newest work. The overall perspective of the book is that the rapid growth of altmetrics tools is a sign that altmetrics fills a need for both individual faculty and institutions to measure and assess the full impact of their scholarship within the online scholarly communication ecosystem.

The final section of the book includes a chapter on disciplinary views of impact metrics, and the relative significance for each discipline of both bibliometrics and altmetrics. The section concludes by focusing on the role librarians play in building relationships among stakeholders, particularly faculty and publishers, in the scholarly communication landscape. The authors view the librarian's role in supporting and collaborating with faculty to explore altmetrics tools as still in the development stage at many institutions. In that light, the traditional responsibility of collection development, as well as the library's implementation of an institutional repository to support the dissemination of the faculty's scholarly output, are means of laying the groundwork for building these relationships.

This book provides a solid introduction to the field of impact metrics and a wealth of practical guidance on working with faculty seeking to assess the impact of their scholarship. Each chapter reinforces key concepts introduced in earlier chapters, though the reader could also dip into a particular section and still come away with a solid understanding of both key terms and the significant tools needed for the major categories of impact measures. Considering the overall structure and topics addressed in the book, it has the potential to be used as an introductory text in a library and information studies (LIS) course on scholarly communication. Though the particular characteristics of the major tools described will change over time, the scenarios for working with faculty will remain helpful. Librarians charged with offering education and support for the wide array of metrics tools, in both bibliometrics and altmetrics, will be well served by this guide to the field.

**BIOGRAPHY**

Lisa Gonzalez is the Knowledge Base and License Manager Librarian for the Private Academic Library Network of Indiana (PALNI) consortium, where she provides electronic resource management support for the libraries. Her research interests include electronic resources and metadata quality, discovery for open access resources, and assessing electronic resource usage.