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[Review of] Scholarly Metrics Under the Microscope: From Citation Analysis to Academic Auditing

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[Review of] Scholarly Metrics Under the Microscope: From Citation Analysis to Academic Auditing

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Cronin, Blaise and Cassidy R. Sugimoto. (Eds.). Scholarly Metrics Under the Microscope: From Citation Analysis to Academic Auditing. Medford, NJ: Information Today, Inc., 2015. 9781573874991. 976 pages. \$149.50. \$119.60 for ASIST members.

Reviewed by Adrian K. Ho (Director of Digital Scholarship, University of Kentucky Libraries) <adrian.ho@uky.edu>

Scholarly Metrics Under the Microscope is a compilation of 55 classic articles that address different aspects of bibliometrics, which have been commonly utilized in research evaluation and the promotion and tenure process in higher education. **Cronin** and **Sugimoto**, both faculty members at **Indiana University Bloomington**, note in the introduction that this book is meant to raise awareness of the "theoretical, conceptual, methodological, and ethical" concerns about scholarly metrics and "also encourage greater procedural caution among relevant constituencies" (4). The selected articles, published in the years since the 1950s, are sourced mainly from scholarly journals, but some are extracted from other publications (e.g., *The Economist* and *The Chronicle of Higher Education*) and even a blog. The authors range from information scientists to scholars in natural and social sciences.

The first of the 55 articles, written by **Eugene Garfield**, comes after the editors' introduction and provides the historical backdrop of citation indexing and its uses. The remaining articles are categorized into six sections, each of which begins with an illuminating lead-in by the editors to provide the intellectual context. The sections discuss:

- 1. The theoretical underpinnings of various forms of bibliometrics such as citation analysis, Webometrics, and altmetrics.
- 2. The validity issues about citation analysis and metrics, especially the Science Citation Index and the journal impact factor.
- 3. Problems about the data sources for different bibliometric tools, e.g., Web of Science, Google Books, Google Scholar, altmetrics, etc.

- Issues with the *h*-index, the journal impact factor, and the Crown Indicator, which are quantitative measures for evaluating individual researchers, scholarly journals, and research groups respectively.
- 5. Concerns that surface as national governments apply bibliometrics to evaluate research performance in the process of reviewing and setting science policies.
- 6. The politico-economic environment in which the "culture of metricization" has given rise to systemic effects on researchers and academia (755).

The editors wrap up the volume with an enlightening epilogue and explain how "descriptive bibliometrics" can benefit scholars and higher education (936). They also recommend how bibliometrics should be implemented if they are adopted in the exercise of national or institutional research evaluation.

This title will be of much interest to both students and scholars specializing in bibliometrics and research evaluation. While it only delves into some of the scholarly metrics currently in use, readers can still get a sense of the issues with other bibliometric approaches. **Cronin** and **Sugimoto** reiterate that questions about validity, reliability, and transparency seem to be a recurrent thread that runs through the examinations of bibliometrics. The editors also note that there are plenty of papers on this topic published over the years. It would have been more beneficial to the bibliometric community if there were an open online appendix to this book with annotations about relevant and noteworthy writings.

Librarians, higher education administrators, research funding agencies, and government officials responsible for research policies will also find this publication useful. Institutional leaders, faculty members, and graduate students may not be aware of this title or may find the articles overwhelming. Librarians can view it as an opportunity and take the lead to inform and educate them about scholarly metrics by presenting the essence of this compilation in a user-centered manner. This kind of service will likely be welcomed given that evaluation of research performance and scholarly impact has become the norm in higher education. **Cronin** and **Sugimoto**, in an attempt to encourage and support cautious use of bibliometrics, offer possible action items in the epilogue for librarians and information scientists to consider and pursue.

This book is a valuable resource for academic and special libraries because of its appeal to the parties involved in the research lifecycle. It provides readers with the necessary know-how to become discerning users of scholarly metrics.

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