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INSTITUTIONAL ALTMETRICS & ACADEMIC LIBRARIES

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"NO ONE CAN READ EVERYTHING."
So begins the Altmetrics Manifesto, first published online in late 2010 by the pioneering quartet of Priem, Taraborelli, Groth, and Neylon.[1]

While the concept of altmetrics has matured considerably in the three years since the manifesto's release, the idea of the "one"—that solo he or she who turns to altmetrics to filter or analyze a collection of sources—has remained largely consistent in the movement's development. The result of this focus has been, on one hand, a positive growth in the number of altmetrics tools customized to the needs and products of individual users. On the other hand, proportionately little attention has been paid to date to the development of core altmetrics tools for scholars identified in the institutional aggregate.

From the perspective of academic librarians—a professional group that has long championed the importance of scalable scholarly filters—this contrast is part of a larger challenge that altmetrics faces in the tenure–and–administration dominated world of higher education. In this article, we take a moment to examine a few ways in which altmetrics has begun to address the needs of institutions and, more specifically, the key roles that librarians can play as partners, liaisons, and advocates in such endeavors.

A Brief Look Back: Libraries and Bibliometrics

In order to understand the current state of the relationship between academic institutions and altmetrics, it is helpful to begin with a quick look at the state of institutional bibliometrics, and the role that libraries have played in shaping it over time. As Galligan and Dyas–Correia point out in their recent altmetrics-focused guest column in *Serials Review*, librarians have traditionally served two functions in the institutional spread of scholarly metrics: the first, as "communications partner[s] with researchers," and the second, as providers of functional "learning support" through the development of metrics-enabled collections.[2]

The idea of libraries as collections-based centers of metrics support goes back to at least the 1980s, when Thomson Reuters made its Impact Factor metric[3] available to scholars through Web of Knowledge.[4] By helping broker institutional access to such proprietary tools and metrics, librarians at many universities have provided

tenure–track faculty with access to electronic resources while at the same time implicitly or explicitly promoting citation–based impact paradigms.

Over the last decade, in response to faculty requests and changes in the larger field of scholarly communication, academic libraries have generally sought to diversify scholars' access to bibliometric products through subscriptions to new sets of institutional tools and networks. The 2004 launch of Scopus,[5] for example, gave research libraries with the necessary funding a new option for providing researchers with access to citation-based metrics at the article and journal levels across various disciplines. During this same period, certain enterprising libraries began to experiment with the creation of in–house solutions to the problem of scholarly visibility and impact, from the creation of library–maintained repositories to the set–up of institutionally formatted scholarly networks such as VIVO.[6] Collectively, these efforts have brought libraries closer to developer–side conversations about institutional usage statistics and "altmetrics culled from the social web."[7] However, for all this progress in the name of "learning support," little has changed at most universities in terms of the metrics expected and valued by administrators in charge of reviewing faculty for tenure and promotion. To understand this resistance, we must look at three challenges that institutions pose to the field of altmetrics and to the second major role of libraries, as partners in academic communication.

Challenges to Institutional Altmetrics and the Role of Librarians

The first and most obvious challenge that must be addressed for altmetrics to penetrate the broader realm of higher education is the development of more sophisticated tools for aggregate–level altmetrics and comparative institutional analysis. Part of the historical success of citation-based bibliometrics in academia is that they can be used to approximate the impact of scholarship across key groups of faculty, albeit in highly restricted systems of scholarship. By providing university administrators with averages and well–defined realms of intellectual transfer, faculty in various departments have been able to set precedents for what constitutes "high impact" activity for purposes of tenure and promotion.

Altmetrics tools, by contrast, have just begun to scrape the surface of aggregated and comparative institutional impact. For instance, the creators of Total–Impact—an early leader in exploring the aggregation of web-based metrics—

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openly discussed the difficulty of normalizing altmetrics prior to the tool's rebranding in 2012 as ImpactStory.[9] While the latest version of ImpactStory now includes a report feature with some comparative data, such as percentile scores for each metric compared to an appropriate baseline, the limited design of the tool's import feature still makes it impractical for anyone beyond a small group of researchers to perform analysis on a joint collection of research, let alone the work of an entire department or institution. Librarians, as historical performers of institutional analysis, recognize this gap and can communicate with altmetrics developers about the need to draw clearer lines of comparison and contrast between the loosely aggregated metrics of the social web and the more tightly inscribed bibliometrics of journals and databases. A current example of this partnership is Plum Analytics' PlumX[10] tool, launched in 2011 by former librarian Mike Buschmen and technology entrepreneur Andrea Michalek. By uniquely allowing altmetrics

tracking for large groups of users across traditional and emerging categories of metrics, PlumX demonstrates how future altmetrics offerings may yet satisfy both individual researchers and non–academic administrators seeking to benchmark their institutions against others in the field.

The second major challenge that altmetrics face in gaining traction in institutional settings is the need for tools that adequately address the full variety of scholars and types of scholarship that exist across the disciplines. Existing altmetric measures tend to bias heavily toward science, technology, engineering, and medical (STEM) disciplines, while the other disciplines (e.g., humanities, arts, and social sciences) have far fewer tools and metrics available to them.

There are several key reasons for this lack of balance, most of which go back to the larger history of bibliometrics and higher education administration. For instance, it has frequently been noted by both librarians and information scientists that researchers in STEM disciplines tend to emphasize the production and consumption of journal articles more heavily than scholars in the humanities or social sciences, for whom book–length works and monographs are also highly valued.[11] Because the field of bibliometrics was initially developed in response to the needs and practices of scientists, these non–STEM disciplines have struggled for decades to apply quantitative bibliometrics to their own scholarship, such as the tracking of citations for scholarly monographs or, more recently, select book chapters.[12],[13] Consequently, faculty in the humanities and social sciences have predominantly based their impact narratives on qualitative indicators, such as book reviews, peer comments, and publisher reputation. These qualitative measures cannot be easily summarized by metric tools, and thus represent a barrier to both traditional bibliometrics and emerging altmetrics in accurately measuring institution–level scholarly output. Nevertheless, faculty in humanities and social sciences fields are feeling increased pressure from administrators, grantmakers, and interdisciplinary collaborators to provide at least some metrics in support of their ongoing scholarly impact.

In response to these pressures, some providers of both bibliometrics and altmetrics have recently attempted to take a more structured approach to the needs of multidisciplinary users. Thomson Reuters, for instance, launched its Book Citation Index[14] in 2011 in order to better capture metrics related to monograph publications within Web of Science.[15] Touting initial coverage of more than 40,000 books—60% from the humanities and social sciences—this Index represents a substantial acknowledgement of the need for scholarly metrics across a wide range of academic departments. However, as Gorraiz et al. point out,[16] Book Citation Index is still a tool in its infancy, and therefore should not yet be used to evaluate faculty impact.
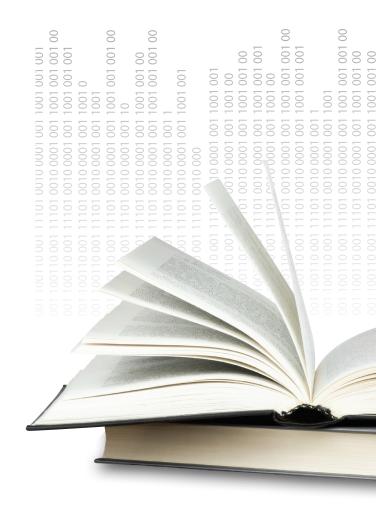
Additionally, because subscription to Book Citation Index comes at a significant financial cost to libraries, few faculty will have access to such products as part of their preparation for review and advancement.

The altmetrics community, by contrast, has addressed the problem of multidisciplinary metrics by promoting the spread of scholarly peer networks—resources that serve as both a central access point for a variety of scholarly outputs and a place to establish connections with other researchers based on similar interests. Mendeley,[17] for instance, has proven especially popular with faculty beyond the STEM disciplines, as it provides users with article and journal-level altmetrics based on reader communities that acknowledge, yet also cut across, traditional disciplinary lines. The Social Science Research Network (SSRN)[18]—an open-access repository of approximately 20 networks—has been of similar value to non–STEM researchers for almost two decades, due to its statistical tracking of per-article downloads and citations. What's more, Mendeley and SSRN are two of very few altmetrics–friendly scholarly tools that provide an option for subscription and analysis at the institutional level. However, just as the value of Book Citation Index must be tempered by the understanding of its current gaps and limits, so too must the utility of an institutional subscription to Mendeley or SSRN be balanced by an understanding of the infancy of scholarly peer networks and the stories they tell about communication across and within the disciplines. In this way, academic librarians play an essential role, once again, in convincing university administrators of the value of experimental tools and networks, while at the same time tempering faculty expectations for such tools' use alongside disciplinary impact indicators.

The third major challenge that altmetrics must address in order to gain lasting traction in the university environment is increased consistency in the education and communication between faculty, administrators, and publishers of academic content. While "ambitious scholars" have been including altmetrics data as part of their CVs for years,[19] promotion of altmetrics tools has been mostly at the individual level, taking place in online social media or at conferences, and often reliant on word–of–mouth publicity. Although developers have recently begun reaching out to librarians to help support and promote these tools, this has not yet lead to widespread adoption of altmetrics tools in most institutions, particularly for tools with a high learning curve.

There have also been promising conversations and advancements between altmetrics developers and well-established producers of bibliometrics. This has resulted in two significant developments thus far. First, a partnership between Scopus and Altmetric.com,[20] resulting in the inclusion of altmetrics data alongside traditional bibliometrics within the Scopus interface; second, the much publicized merger between Elsevier and Mendeley[21] which took place earlier this year.

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The integration of these latter two products is still unknown, but could lead to the folding of altmetrics information into Elsevier journals and products, similar to the former duo's blending in 2012. However, there is still a large communication gap between existing altmetrics partners and larger stakeholders in the research process—most notably the publishers of scholarly journals in non–STEM disciplines. This gap leaves faculty who produce content for these publishers with few impact measures to present outside of traditional bibliometrics.

Here again, libraries have an opportunity to take advantage of their long–standing relationships with publishers and advocate on behalf of faculty authors for increased availability of publisher–provided metrics data. By encouraging non–participating publishers to follow the lead of forward–thinking entities such as PLOS,[22] which currently provides article–level metrics to its authors, libraries have the potential to enhance communication between all the major stakeholders in the altmetrics conversation, which falls in line with their professional goal of providing information and access.

Academic libraries also clearly maintain close relationships with faculty members, who rely on librarians for training and assistance with at least some tools related to research. Indeed, there is ample evidence that librarians are already creating tools to educate not only faculty, but also administrators and library colleagues about the use and value of altmetrics tools. For example, a quick Google search for LibGuides[23]—an online product used by over 4,000 libraries worldwide to create institutional research guides—reveals more than 100 guides that mention altmetrics, and

over 43,000 results for pages that mention "LibGuides" and "altmetrics" together. These numbers indicate that libraries are already incorporating altmetrics information into resources for scholarly communication, impact, and citation management. At the same time, the efficacy of these guides remains unknown, as does the bandwidth of such libraries to provide continued altmetrics support in addition to their other core services without administrative buy–in. Moving forward, libraries need not only to continue to provide accurate and appropriate altmetrics information for faculty, but also to become more mindful of the need to educate administrators in the proper use and limits of altmetric data. Additionally, it is essential for librarians to educate each other and to remain on top of altmetrics developments that affect their work as collection managers, instructors, and independent academics. This enhanced role for libraries is echoed in a recent article by Lapinski, Piwowar, and Priem,[24] which reminds us that librarians may also be active researchers, practitioners, and users of altmetrics tools.

Conclusion: Altmetric Academics

Looking forward to the future of impact and higher education, we see some exciting ways in which altmetrics can move toward more even and widespread adoption, similar to existing bibliometric measures. As academic librarians, we believe the creation of institution–friendly altmetrics tools will provide valuable information to university administrators as well as to faculty, whose research interests we represent. However, it is up to libraries and other strategically placed parties to educate stakeholders about the relative strengths and weaknesses of existing altmetrics tools and to recommend products that are a "best fit" for measuring scholarly output at both the individual

and institutional levels. Likewise, it is up to entities such as libraries to educate the developers of altmetrics, as well as publishers, about the need for metrics that fairly represent the wide variety of cross–disciplinary research that takes place in academic institutions. For collections-oriented librarians, this may include advocating for the insertion of article–level altmetrics into more publications, as well as the creation of an open API system that would allow harvesting of data by current and future altmetrics tools. For embedded library liaisons, it may mean working with junior–level faculty to ensure that they can access the appropriate measures for their scholarly output and talking with senior–level faculty to ensure that these new measures are understood and accepted by larger reviewing bodies such as tenure and promotion review committees.

To advocate effectively to all of these stakeholders is a daunting task for the individual librarian. While there is already some discussion of altmetrics within librarianship, the adoption of altmetrics by a larger organizational body would likely help to unify and promote altmetrics on a wider scale. For example, SPARC[25]—an academic library–based scholarly publishing group—has had great success in spreading the word on open access issues by consolidating promotional efforts around awareness events. Similar leadership for the altmetrics movement would help solidify and support the efforts of individual librarians and libraries, particularly as they take on new levels of outreach. Finally, as researchers, librarians must recognize their ability to promote altmetrics, using them in their own impact statements and urging for the adoption of promotional guidelines that focus on the full spectrum of scholarly and professional impact within librarianship itself.

In the years to come, academic libraries may or may not continue to be the core brokers of impact metrics for faculty and administrators within higher education. However, librarians will always play a core role as advocates and partners in the scholarly process and are well positioned to take the lead in adopting, promoting, and using new types of information in academic contexts—including altmetrics. I FE I doi: 10.3789/isqv25no2.2013.03

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