



Applicability of Altmetrics as an alternative tool for the academicians of contemporary times: An overview.

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Abstract: The use of altmetrics as a method to evaluate the impact of research is introduced. The typical approach to evaluating the worth of scientific work relies on journal-based metrics, citations, and peer review, which can take weeks or even years for completion. It focuses on the evidence supporting assertions that altmetrics make it possible to gauge research's impact more quickly. A wider range of metrics measurements, previously excluded from a traditional technique of scholarly communications, are now included in altmetrics, including citation, web-based reference, article downloads, social media exposure, and many more. The pace and scope of academic communications have risen as a result of the employment of technology in metrics studies and the development of ICT. According to the study, academics and researchers may analyze scientific output using altmetrics and evaluate the results of future research projects on this platform. The area of Librarianship has a lot for the appropriate upkeep and operation of the library. The study also revealed that altmetrics paint a precise picture of how the general population consumes knowledge. The authors draw the conclusion that altmetrics have a significant future role to play and possess the ability to completely change how academic work is valued and evaluated.

Keywords: *Altmetrics, Librarianship, Researchers, Metrics, Scholarly Communication*

a. INTRODUCTION

The venture for the publishing of the scholarly article is considered an important segment for any researcher to portray their creativity and show their scholastic work to the academic community. The mode of publishing has dramatically changed from traditional or rather printed form to digital content where the researcher tends to publish their creative ideas via an online medium such as the Webby blogging, tweeting, responding, linking, bookmarking, sharing, etc. The content researcher's intense to publish often changes with time¹.

Often in today's scenario of research publication, the publisher/scholars tends not only to publish written reports or conference proceedings, but they also intend to publish data, source data, videos, and many more². The articles and data published have always received identification of their existence and standards. The desire also exists within the academic community to understand and measure the impact of scholarship. The measurement of the scholarly article helps the researcher to be promoted and support the tenure of their existence. The citation is to be upheld as one of the important measurements of impact. Traditionally, scholarly journals are measured based on the number of citations to the article published in them which is termed as Journal Impact Factor (JIF). Journal Impact Factor is generally defined as the measurement of the average number of citations to an article published in a journal over a two or five years span. It is to be noted that "Citable items" usually include articles, reviews, proceedings, or notes rather than editorials or letters to the editor. The changing time has led the researchers to invent new metrics by complementing traditional metrics which led to the creation of Alternative metrics renamed altmetrics³.

One of the important observations made in the field of altmetrics is its more advanced mechanism of measuring the impact of research documents in any discipline. It is to be noted that the prediction of filtering the scholarly method of communication and the new version of the improved tool can be connected to the discovery of

the impact factor by Eugene Garfield more than 55 years ahead⁴. The status of Altmetrics has come to some significant position as it justifies the accuracy as compared to other traditional metrics.

b. Objective of the Study:

- a. To explore the concept of Altmetrics and its usability
- b. To examine the changing landscape of research and its change in measurement value.
- c. To explore the area of altmetrics for researchers and an academic community at large.
- d. To identify the applicability of altmetrics in libraries and the role of the librarians in the contemporary scenario.

3. Methodology

As the major objective of the study is to examine the concept of altmetrics as the new alternative tool for the evaluation of scientific literature, a literature review was found suitable for purpose of the study. A sum of thirty-eight pieces of literature has been consulted for the study which was obtained from various databases such as Google Scholar, Web of Science, Springer databases, and Directory of Open Access Journal (DOAR). The literature review has taken a narrow scope in the sense that only the articles which are using the keywords have been abstracted and included. The first segment of the paper deals with the concept of Altmetrics. The second segment deals with the changing landscape of research and its change in measuring valuation. The third section deals with a different area of altmetrics for researchers. The fourth segment deals with the application of altmetrics and the role of the LIS professionals in the contemporary higher education scenario. And the last segment discusses the predication of altmetrics as a newly emerging tool for scientific evaluation among the academic fraternity.

4. Concept of Altmetrics:

Altmetrics includes a greater spectrum of metrics measurements such as citation, web-based references, article downloads, social media attention, and many more which were previously excluded in a conventional method of scholarly communications. Altmetrics tend to measure the article-level utility where they opt for various granular points of measuring scholarly communications where earlier only Journal Impact Factors were taken into consideration⁵. The concept of Altmetrics was possible due to technological advancements made in the communications process. It is to be noted that sources of Altmetrics has tends to portray different scholarly outputs as they measure it from different sources and it provides a common platform for publishers and aggregators of scholarly communications which includes research articles, conferences paper, pre-prints, book chapters, and many other documents related to research areas in different sequences where they provide altmetrics along with the contents. Numerous publishers such as BioMed Central, PLoS, Frontiers, Nature Publishing Group, and Elsevier are gaining momentum for measuring the high impact of quality and quantity of the research articles.

In addition, it is to be noted that the concept of Altmetrics was the brainchild of Jason Priem, a graduate student who studied at the University of North Carolina at Chapel Hill⁶. The widespread of altmetrics concepts have gained momentum with the publication of “Altmetrics: A Manifesto” which was uploaded on the website i.e. Altmetrics.org in September 2010. Altmetric.org has defined the term altmetrics as “the creation and study of new metrics based on the social web for analyzing and informing scholarship”.

5. Changing Pace of Research and Measures of Valuation

The methods which were adopted by the researchers and statisticians for assessing and fostering scholarly communication among the researchers have gained immense importance to measure the weight of the research work both in quality and quantity aspects⁷. There seems to have revolutionized the interest and active research in and around these processes⁸. The best example can be cited by scholars such as Dan Cohen who is the founding Executive Director of the Digital Library of America and has tried constantly to bridge the gap between traditional methods of scholarly communication and digital scholarly workflows⁹. It can also be said that the development of Altmetrics is an important aspect in this domain wherein academic scholars and publishing houses are using new forms of technology to measure the impact of research in society. The format may be of different kinds such as scientific journal Articles, Book-chapters, edited books, conferences paper, pre-prints, reports, and many likewise¹⁰.

With the advancement of Information and communication technology, the use of technology in metrics studies has increased the speed and scale of scholarly communications¹¹. The dissemination of information in digital formats has increased the quality, and quantity and various types of research have been made available to both the academic community and scholars in particular¹². The usability of this type of communication helps in analyzing the work, its availability, and their work impact on the scholarly society¹³. The traditional method of assessing the value of the scholarly work is based on journal-based metrics; citation and peer-review process which might account from week to year to complete the evaluation¹⁴. The methodology previously adopted for evaluation purposes was mismatched

wherein new practices and evaluation strategies can be recognized with established practices. One important component of the issue of timing is the post-publication peer review was raised as a solution from research output¹⁵.

A significant incident that took place in the history of metrics studies is a person named Jason Priem from the school of Information and Library Science at the University of North Carolina, Chapel Hill and along with others has criticized for being journal-based metrics as the sole components of the evaluation¹⁶. Many have urged that new forms of metrics such as Altmetrics should be considered as a complementary tool along with the traditional measurement such as citation, and peer-reviewed which adds emphasis on openness, access, and broader engagement in scholarship¹⁷. Another story added to the same focal point is the group of researchers belonging to the American Society for Cell Biology (ASCB) had published a declaration where the new method for evaluation of scientific research output has been outlined¹⁸. An urgent need for emphasis on new practices for evaluation has been the main highlight of the San Francisco Declaration on Research Assessment (DORA) where the Journal Impact Factor (JIF) shall no longer be the determinate of measurement¹⁹. Though JIF is the widely used metric for the evaluation of academic impact it has raised an alternative solution to the problems of traditional methodology where the educational institution needs to coordinate with a new emergent form of metrics such as Altmetrics²⁰. Altmetrics though it may offer deeper, more contextually based understanding and measuring different forms of research value and impact there are lots of unanswered questions related to the complex nature of libraries, institutions, scholars, and the public in general by the digital and analog communities²¹.

6. Application of Altmetrics to the Researchers

One of the important applications of Altmetrics in the field of Research and Development is to provide a bridge between informal academic discourse and the formal output of research²². With the growth of information and communication technology, more researchers/ scholars are moving their conversation from the dark social space to open area networks such as open access journals, public blogs, and social networks which become easy for assessment and evaluation²³. It is noteworthy that the usability of social media and analytics and its associated tenure and practices seems not consistent among the different disciplines starting from the researchers to industry, learned lessons, and some best practices²⁴. Many professional organizations such as the American society for cell biology (ASCB), the association of Learned and Professional Society Publishers (ALPSP), and the Association for Information Science and Technology (ASIS & T) are carrying out a deep investigation into the application of altmetrics in their respective fields²⁵.

After the post of Jason Priem, many institutions, colleges, and researchers took their part with Priem as they believe that they seek to be benefited from Altmetrics as it provides new ways for information dissemination, impact, and engagement²⁶. It was also mentioned in the post that it shall provide three sets of values. It includes benefits such as a more distinguished amount of their academic contribution, a more holistic approach to the impact of their research, and providing the platform for scholarly discussion forums among cross-disciplinary areas in more innovative ways²⁷.

It is noteworthy that there exist some practices where the scientific reports and papers in different disciplines like physics, statistics, quantitative biology, and computer science were open access and has been in practice for twenty years now on before the term “Altmetrics” came into existence²⁸. The researcher from different disciplines has been engaged in navigating and investigating the more kind of social aspects of research for disseminating the research reports or data. An example can be cited from ArXiv. Org which is an e-print repository has been disseminating academic work to society at large. There are many similar models of disseminating information that has been continuously setting research impact on society and persons. It is to be mentioned that the vendors/Adopters are less concerned about the broader spectrum of the tools and practices of Altmetrics for evaluation and analysis and they seem to have more inclination towards marketing aspects of themselves and their research products²⁹. Many academic social networks such as Mendeley, Social Science Research Network (SSRN), and Informal and formal social network sites provide information about total reads, citations, and likewise.

7. ALTMETRICS IN LIBRARIES AND THE ROLE OF LIBRARIANS

The growing tools in digital formats have been supporting the term Altmetrics wherein it provides ample amount of opportunities for libraries and librarians to maintain the standard of research and scholarly production process. Mendeley and Zotero are some of the software which provide reference services and publishers such as Wiley and Springer are using Altmetrics concepts and approaches to their services. Some companies started to target the publishers who are engaged in altmetrics as clients namely Kudos, an altmetrics company that was launched in 2014³⁰.

In the case of a journal, the altmetrics indicators are evaluating the value of Open Access journals and practices. Modern libraries are investing in various developmental projects and seek important inclination towards open access policies and procedures that are correlated in supporting various academic purposes, practices, and perspectives of altmetrics. The very example can be cited for the University of Michigan's Deep Blue where the application for altmetrics was truly implemented³¹. Libraries in modern times are well equipped with the development of multimedia and multimodal artifacts which complements academic and research objectives. As per the recent study, it was evaluated that the libraries are in a stand where they can evaluate and develop modern infrastructure to complement various activities such as effective scholarly communication resources, tools, and practices at the grass root level or institutional level³². The evolution of ICT has made the librarians navigate and evaluate the quality information, and recommendations, or develop the latest information management tool for systematic and sustainable information management as LIS professionals have turned themselves into social media researchers.

The panel of experts in a discussion has highlighted the role of libraries and librarians in the development and facilitation of Altmetrics and also to help them in determining the most appropriate evaluation methodology of metrics which is supposed to apply to both institutions at large and researchers at individuals³³. Some eminent scholars such as Lapinski, Piwowar, and Priem have augmented and pinpointed three basic principles for the implementation of Altmetrics. They are informing the researchers on the latest areas of study, complementing the experimentation with the emerging altmetrics tools, and involving themselves in altmetrics education and outreach.

8. The implication of Altmetrics in Contemporary Higher Education Scenario:

Altmetrics has already generated a quite good amount of popularity in the higher education arena, especially its immense contribution in the field of research in addition to Academic impact measurement and information filtering in more traditional forms³⁴. In the conventional method of evaluation of research work, bibliometrics methods are followed where a fair amount of critics and proponents follow some parameters such as Journal Impact Factor but in the case of altmetrics, online evaluation methods are adopted where a serious debate and discussion have been continued due to the use of online interactive spaces that in returns push ahead towards intellectual debates, discussion, and development for using the forum³⁵. There is a growing consensus among detractors that altmetrics pose too great a risk when it comes to capturing data, particularly in-depth scholarly engagement than the other pattern of citations³⁶. But on the contrary, it is seen that altmetrics possesses a great deal of attention among scholars who seek out and use information with the best possible collection of metrics that promotes and tracks engagements going beyond all the limitations of a formal pattern of citations³⁷. It is said that one of the major setbacks of all altmetrics harvesters is the inability to dissertated any errors that might arise even if any tool has finished automatically gathering together different types of altmetrics and combining them into a single report³⁸.

9. FINDINGS

Some of the findings from the study includes such as

- a. Altmetrics has brought considerable attention among the researchers and academic community in delivering a more trusted form of metrics.
- b. It has tried to overcome all the drawbacks of traditional metrics which was previously been applied to evaluate any journal or scientific pieces of literature.
- c. Altmetrics has been able to win the trust among the professionals or at large the academic fraternity wherein the scientific pieces of literature have moved from the dark space to a more open social space to make it bigger and tangible.
- d. In the field of practicing Librarianship, altmetrics has contributed greatly to maintaining a standardized method of delivering information and scholarly communication.
- e. The research and Development Sector has greatly benefited from the altmetrics as provides a bridge between informal academic discourse and the formal output of research

9. CONCLUSION

Due to the variation of disciplines in the field of research, there rises a great demand on the shoulder of LIS professionals in order to enable the researchers in making visible the different ways to communicate scholarly publications beyond academics. Altmetrics has been a great blessing for the academic fraternity in order to outreach their academic collaboration and make their research visibility. It has brought a changing landscape for the researchers as it provides deeper, more contextually based understanding and measuring different forms of research value and impact there are lots of unanswered questions related to the complex nature of libraries, institutions, scholars, and the

public in general by the digital and analog communities. It is also to be noted that Altmetrics in the field of Research and Development is to provide a bridge between informal academic discourse and the formal output of research. This platform has brought new meaning to research and development as the academic fraternity is moving from dark space to more new open space and making it more tangible from Research and Development perspective. Altmetrics has provided a new para diagram for Librarians and Information Managers to maintain the standard of Information Management and scholarly production process.

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