Open Access Initiatives: Reframing the role of Librarians

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This paper discusses the steps taken by librarians to implement OA in their respective institute libraries in Mumbai. It also identifies the advocacy role that librarians have taken up. It traces the development of OA and touching upon the international and Indian efforts of applying OA in scholarly communication. Charts the further path that librarians can take to support researchers in their scholarly endeavours.

0   BACKGROUND

Research community has been facing unprecedented changes, largely driven by technological developments accompanied by changes in research habits and scholarly communications. Research Institutes are grappling with fund scarcity on one hand and on the other hand the research output, citation metrics and visibility are becoming more and more important in the scientific community to get grants from funding agencies.

Till recent times, one of the most important metric for the researchers was publication in journals. Researchers published their work in subscription based journals and also served on several editorial and peer review committees. But many a times they did not have access to their own work and the library could not afford to subscribe the same. This was one of the drawback of the traditional scholarly publishing model. One of the major arguments against the subscription based model of publishing

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has been that authors have given their work for free to publishers, worked on editorial boards and peer review committees without any financial gain, but still have to pay to get access to the same journals. Such type of business model is unique in itself and unsustainable.

Taking opportunity from benefits that technology offered, the scholars, scientists and researchers have responded to this by working out alternative ways of sharing their research and the Open Access Movement came into existence.

1 CONCEPTS, DEFINITION AND STATUS

The concept of open access evolved during 1991due to the realization of the need to facilitate scholarly communication. 'Open Access' to scholarly communication is viewed as a mechanism to address escalating journal prices, and as a means of circumventing growing limited access to the increasing volume of research literature.

Other reasons for a move to 'Open Access' is the conviction that publicly funded research by rights should be more accessible to the taxpaying public; digital divide between developing and developed world should diminish, that access to research by and in the developing world should be greatly improved; and that researchers at poorly funded institutional libraries will have increased access to the research literature.

Open access publication is defined and described from a variety of perspectives:

- Suber defined Open Access as "Open access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions."[1]

- OA helps researchers directly, both as authors and readers. It helps the institutions that fund and supervise research, from universities and laboratories to foundations and governments. It widens the distribution of research literature and lowers costs at the same time, and does so without compromising peer review, preservation, indexing, or the other virtues of conventional publishing. Above all, because OA enhances research productivity and accelerates the pace of discovery, it helps everyone who benefits from research advances as mentioned by Suber and Arunacalam.[2]

- Willinsky emphasized the access principle, viz., commitment to scholarly work carries with it a responsibility to circulate that work

as widely as possible. In the digital age, that responsibility includes exploring new publishing technologies and economic models to improve access to scholarly work. Wide circulation adds value to published work; it is a significant aspect of its claim to be knowledge. The right to know and the right to be known are inextricably mixed.[3]

- Suber in his brief introduction mentions that OA serves the interests of many groups namely: authors, readers, libraries, universities journal publishers and funding agencies.[4]

- Proponents of 'Open Access' claim that it eases both the `serials crisis' and `permission crisis' thereby, facilitating the free exchange of information across borders as required by the scholarly community in the current times.

- OA is compatible with copyright, peer review, revenue (even profit), print, preservation, prestige, quality, career-advancement, indexing, and other features and supportive services associated with conventional scholarly literature. The legal basis of OA is the consent of the copyright holder or the public domain. OA focuses on literature that authors give to the world without expectation of payment.

The open access movement was further intensified by the Budapest Open Access Initiative, Bethesda statement and the Berlin declaration, commonly known as the three Bs, represent the most highly regarded definitions of OA, and all agree on the essentials.

Budapest Open Access Initiative[5] recommended two approaches to providing open access to the research literature: (*a*) open access journals (known as the "gold" road), and (*b*) institutional or individual self-archiving in digital repositories. (Known as the "green" road).

Berlin Declaration and Bethesda Statement on Open Access Publishing[6], define Open Access as one that meets the following two conditions:

- The author(s) and right holder(s) of such contributions grant to all users a free, irrevocable, worldwide, right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship (community standards, will continue to provide the mechanism for enforcement of proper attribution and responsible use of the

published work, as they do now), as well as the right to make small numbers of printed copies for their personal use.

- A complete version of the work and all supplemental materials, including a copy of the permission as stated above, in an appropriate standard electronic format is deposited (and thus published) in at least one online repository using suitable technical standards (such as the Open Archive Definition) that is supported and maintained by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, interoperability and long-term archiving.

11 INTERNATIONAL INITIATIVES

Internationally, a number of initiatives have been takenup for spreading the open access concept and the open publishing philosophy of scholarly communication. They can be divided into (*i*) the research initiatives, (*ii*) commercially driven initiatives, and (*iii*) collaborative projects.

The researcher initiatives are author driven initiatives which include the e-print services such as the physics e-print archives arXiv first subject repository set up by Paul Gingsparg and the PubMedCentral [PMC], 'BioMed Central' (BMC) and the 'Public Library of Science' (PLoS) which provide open publishing facility for the biomedical researchers. 'Crossref', a publisher-linking service promoted by more than180 publishers the world over, is an example of commercially driven initiative. Collaborative endeavours include the ICAAP (International Consortium for the Advancement of Academic Publications), SPARC, High-Wire Press and many more such efforts. SPARC (Scholarly Publishing and Academic Resources Coalition) is an alliance of universities, research libraries, and organizations built as a constructive response to market dysfunctions in the scholarly communication system. Many commercial publishers offer open access to their publications after an embargo period or offer a choice to the researchers to make their article Open Access after paying necessary author processing charges (APC). Directory of Open access Journals (DOAJ) is a directory that indexes and maintains a list of high quality peer reviewed Open Access journals. SHERPA RoMEO is a searchable database of publisher's policies regarding the self- archiving of journal articles on the web and in Open Access repositories. SHERPA/ JULIET maintains a list of funding organizations' open access policies from around the world. SHERPA ROMEO/SHERPA Juliet help researchers clearly understand the publisher/funder OA policy.

The Open Citation Project – Reference Linking and Citation Analysis for Open Archives has assembled a bibliography of studies on the effect of open access and downloads ('hits') on citation impact.

Several funding agencies across the globe like NIH, Welcome trustetcare now mandating Open access from the research resulting from grants given by them. In 2012, the European Commission encouraged all European Union (EU) member-states to put public-funded research results in the public domain in order to strengthen science and the knowledge-based economy. In the US, the National Institutes of Health (NIH) asks all its grantees to provide OA to the results of NIH-funded research within 12 months of publication. The Wellcome Trust requires OA to Wellcome-funded research within six months of publication, and the Research Councils UK also have a similar policy. Major research institutions in Australia, China, France, Germany, Greece, Hungary, Italy, Norway, Portugal, Switzerland, the UK, and the US have committed themselves to provide OA to their research output.

12 INDIAN SCENARIO

Research in India is plagued due to two problems which relate to access and visibility. Both these problems can be solved by widespread adoption of Open access. While the Open Access (OA) movement has been a topic of major debate and interest around the world, in India it is seen as an unprecedented opportunity to provide equality of access to essential research information and raising awareness of national research. Right since the initiation of the OA movement, the academic and the scientific community in India has been striving to promote unrestricted access to scholarly literature through Open Access. Several local, national, regional as well as international initiatives, have been taken up in different parts of the country, adopting open access software, configuring and commissioning of open archive harvester services, providing open course wares to the academic world, imparting training programmes on e-publishing of journals as well as on institutional repositories etc. Some of the creditable activities such as the OA journals of the Indian Academy of Sciences (IAS), eprints@iisc, Librarian's Digital Library at DRTC, OpenMED and the IndMed services of NIC New Delhi, NISCAIR, IISC, efforts of MedKnow publications, the e-journal initiatives and archives at INSA, IIT Delhi, Raman Research Institute, NIT Rourkela, Vidyanidhi. UGC has mandated the open access to theses and dissertations since 2009 and provided access through 'ShodhGanga'. These efforts deserve special

mention. But the progress in the adoption of open access is slow.

13 ROLE OF LIBRARIES/LIBRARIANS

Two key conditions are necessary for fundamental change to occur in scholarly communication: scholars and scientists must recognize the benefits of change, and mechanisms for recovering the costs must be implemented. The combination of institutional repositories and open access journals is increasingly seen as giving libraries and researchers their first chance to change fundamentally the way the scientific information is communicated. They provide a better, more equitable and more efficient system of scholarly communication, one that can better serve the international research community.

The library fraternity's contribution to the OA movement is commendable with the Association of Research Libraries (ARL) forming the Scholarly Publishing and Academic Publishing Coalition (SPARC) in 1997 towards curbing the impending scholarly journal crisis and to look for alternatives such as the open access.

Libraries have played a fundamental role in setting up and managing repositories, and this is widely acknowledged and welcomed.

Suber described what librarians can do to promote open access[7]:

- Make sure scholars at their institutions know how to find open access journals and archives in their fields and set up tools to allow them to access them (e.g., by including the journals listed in the DOAJ in their catalogues).

- Establish institutional repositories.

- Help faculty archive their research papers (new and old) within the repository, digitizing older papers if necessary.

- Help open access journals launched at their institutions become known to other libraries, indexing services, potential funders, and potential readers.

- Engage with University/Institute administrators and funding bodies to raise the awareness on issue of open access.

2 LITERATURE REVIEW

The major mission of research libraries is supporting and facilitating the researchers in their research pursuits. However, due to the exorbitant

serial prices, libraries are struggling to meet many of the requirements of their research community. Open Access has profound impact on academic libraries technological, collection development and management, reference services, information literacy, and peer evaluation and budget. Giarlo rightly emphasized that Open Access is a prerequisite to survive and thrive for academic libraries.[8]

Kassahun and Nsala stated that many librarians have shown their support for Open Access by signing on to Open Access initiatives petitions and are taking the initiative in academic publishing as well.[9] Cryer and Colline, mentioned that academic libraries have taken it to be their responsibilities and have paved a path in the expansion of the OA movement by promoting it in a variety of ways such as: including records for OA journals in their public catalogues and e-journals lists, collaborating with their institutions to establish institutional repositories, participating in institutional initiatives to encourage faculties to deposit their research outputs in the institution's repository, and becoming active OA journal publishers.[10]

The growth of repositories and their coordination at national and international level are exciting challenges that involve both university libraries and national libraries as described by Guerrini.[11] The report published by RIN and RLUK on The value of libraries for research and researchers 2011 mentions Libraries' roles in supporting and promoting repositories continues to be of critical importance.[12] Lynch argued that Institutional repositories have roles beyond disseminating and managing the works of individual scholars that are part of the dialog of scholarly communications.[13]

21 RECENT STUDIES ON OPEN ACCESS

Some studies have highlighted academic librarians' involvement in Open Access. Palmer, Dill and Charlene found that the American Academic librarians had positive attitude towards Open Access principles and they were focused on advocating Open Access.[14] Another study conducted in Nigerian private colleges found out that, the academic librarians have positive perception towards Open Access information resources. Utulu and Avemaria.[15] The research completed by Lwoga and Quetier, reveals that 75% of the librarians strongly support promoting OA issues on campus.[16]

In April 2012, InTech conducted an online survey of 211 academic librarians across a range of regions, including the USA, Canada, Australia,

the UK, Germany, India and Egypt. The aim of the survey was to assess both the current and future roles of librarians in an open-access (OA) world.[17] The survey sought to explore current levels of awareness of OA, to canvass existing attitudes towards OA, to understand how librarians view their current role with regards to OA, and to gauge how OA is changing – if at all – the role of the academic librarian. The survey found that overall levels of awareness of OA are moderate to good within the librarian community, with 45 per cent of participants of stating they have a good understanding of what OA is and a further 50 per cent stating an assertive confidence with the OA publishing model. Literature research reveals a host of studies in American, European and African countries to understand the Open Access and the role of librarians, some of which have been cited above. In comparison there are only one or two survey focusing on some aspects of OA in the Indian context. Sawant conducted a survey on Institutional Repositories in India which helped to understand the librarians perspective and the user perspective on IR.[18] The researcher has not come across specific studies which were carried out in India to understand the attitude and awareness of librarians towards Open Access. To understand the ground reality and to systematically try and reduce the gap, the researcher carried out this survey. Naresh Kumar gave an account of the ETD in India with details of their metadata harvesting process and other issues.[19]

3 OBJECTIVES OF THE STUDY

The focus of this survey was on librarians because they are usually the first point of call in research. The objectives of this survey were:

- To identify Open Access initiatives taken up by librarians in their respective libraries in Mumbai.

- To find out the advocacy role the librarians taken up for Open Access.

- To understand the attitude of the librarians towards Open Access.

4 SIGNIFICANCE OF STUDY

The results of this research provide insight into the attitudes of front-line librarians about a topic that has become increasingly prominent in the profession. This research will help librarians target their internal open access educational initiatives more accurately. It is also hoped that this research will give the profession a better idea how many librarians are currently involved in open access initiatives and how they feel about their involvement.

5 SCOPE

The survey covers degree awarding research institutes in Mumbai (MMRDA Boundary) funded by State or Central Government and NGOs. Medical research institutes and hospital research centres are not included in this study as the scholarly communication process in the field of medicine is considerably different from other disciplines. Rigorous and laborious procedures of the Ethics Committee for data collection at Medical Institutions needed to be carried out which involved considerable time.

6 METHODOLOGY

This study is a part of the larger study on Scholarly communication and the role of libraries. Survey method was used to gather data and the responses were analysed using descriptive statistics. The questionnaire was designed to understand Open Access implementation in libraries and the involvement and advocacy by librarians in their institutes in Mumbai.

7 DATA ANALYSIS

Data was analysed using simple descriptive statistics with frequencies, tables and percentages.

71 PROFILE OF SURVEY RESPONDENTS

The survey respondents were librarians from research institutes in Mumbai. Mumbai being a host to many research institutes of national repute across various disciplines, it formed an ideal population for the study.

TABLE 1

Total Libraries Considered	Libraries responded	Response Rate
25	21	84%

25 research institutes libraries in Mumbai were considered for the final study. Out of these two denied permissions for conduct of the study while there was no response from the other two.

72 INSTITUTES WITH IR

To know how many institutes had a functional IR, a question about it was asked to the librarians.

Out of the 21 libraries which responded only 4 of them had an IR while 8 reported to have them in process. 9 Institutions did not have an IR.

TABLE 2
Institute Libraries by Disciplinary grouping (n=21)

Discipline	Response Count	Response Percent %
Biomedical Sciences	4	19
Science	6	29
Social Science	3	14
Multidisciplinary	3	14
Technology	5	24
Total	21	100

TABLE 3
Institute Libraries by Type (n=21)

Type of institute	Response Count	Response Percent %
Research Institutes	13	62
University Level	2	9.5
Deemed Universities	3	14
Central Universities	2	9.5
Special	1	5
Total Responses	21	100

TABLE 4
Libraries maintaining IR (n=21)

Libraries maintaining IR	Response Count	Percentage %
Yes	4	19
No	9	43
In Process	8	38
Total responses	21	100

73 KIND OF MATERIALS IN IR

It was important to understand what type of material was archived in IR, the librarians were asked to mark all the type of material they archived.

The question on kind of material archived in IR was answered by the 4 institutions having an IR and also by 3 institutions who reported to have the IR in Process

TABLE 5
Kinds of materials archived in the IR (n=7)

Materials Archived	Response Count	Response Percent %
1. Theses and Dissertations	6	86
2. Post prints	5	71
3. Technical papers	4	57
4. Pre-prints	3	43
5. Scholarly Books/chapters	2	29
6. Data sets	1	14
7. Any Other (please specify)	2	28
Total Respondents	7	

Theses and Dissertations and Post Prints topped the list of material archived in the IR. It is important to note that IR include Thesis and Dissertation in 6 of the cases as shown in Table 5. Respondents also included convocation address and invited talks of their faculty and researchers in the IR. These were reported under the "Any other" section of this question.

One of the libraries had its IR in process and planned to include datasets in the IR too. Datasets have become important as many funding agencies ask for Research data management plans while applying for grants. This is a new dimension of the change in scholarly communication

74 INSTITUTES WITH ETD

The scholarly output of the institution in form of Theses and Dissertation is one of the very important resource. Majority of the theses and dissertations are born digital today and it is crucial to understand if libraries have ETD repositories.

TABLE 6
Institutions having ETD (n=21)

Institute Libraries with ETD	Response Count	Response Percent%
Yes	7	33
No	8	38
In Process	6	29
Total Responses	21	100

On having ETD, there was almost an equivalent response among yes, no and in process. While 7 institutes had ETD repository, 8 did not have it and the remaining 6 responded "In Process". Out of the 7 ETD repositories, 6 of institute libraries had included ETD in the IR which can be seen from Table 5, where it shows at point No. 1 that Theses and Dissertations are kind of material archived in the IR. Only one premier institute namely IIT had separate ETD and IR.

Further on considering the results shown in table 4 (Libraries maintaining IR) and Table 6 (Institute Libraries having ETD), it can be established that there is still a delayed preference for IR over ETD. Institutes have been quick to adopt ETDs due to mandates from apex bodies of higher education but researchers are still reluctant to deposit their work in IR. On discussions with librarians of state Universities it was clarified that this delay was due to several administrative hurdles and reluctance of faculty to share their work.

75 LIBRARY STAFFS' CONTRIBUTION TO ETD

With the responsibility of maintaining ETD records and giving their access either through IR or separately, librarians are more and more involved in helping the scholarly community and hence considering this, staff contribution in this area is of supreme importance in Library Science research scenario. The authors tried to find out the staff contribution by the way of ETD creation, maintenance and   advocacy.

TABLE 7
Library staff's contribution (n=12)

Answer Options	Response Count	Response Percent %
Yes	9	69
No	2	15
Total Responses	11	

Out of the libraries which had ETD (*n*=7) and those who reported that ETD were in process (*n*=6), i.e out of a total of 13 libraries 9 librarians had contributed to ETD creation and maintenance. It is therefore evident that the task of creating and maintaining the ETD is now one of the important task of the library. This is a new development and requires skills and manpower to manage ETD repositories. Two librarians who mentioned that it is in process did not answer this question.

76 OPEN ACCESS ADVOCACY

Librarians worldwide not only implemented OA initiatives in the libraries but also advocated OA using various ways to their research community. The researcher therefore wanted to understand the scenario at the local level.

TABLE 8
Open Access Advocacy (n=21)

Advocacy by Librarians	Response Count	Response Percent %
Yes	18	86
No	3	14
Total	21	100

Table 8 clearly indicates that majority of the librarians (86%) advocate Open Access to their researchers.

There were 3 libraries who mentioned that they do not advocate OA to their researchers. There could be several reasons like OA being well established amongst researchers, to OA not a choice from faculty from the discipline or the researchers are well versed with OA.

77 METHODS OF ADVOCATING OA

It was also important to know what methods were used by the librarians to advocate OA.

Librarians made efforts at individual level to advocate OA. Use of Emails-Posters (*n=14*) was the most commonly used way followed by personal guidance by librarians to promote OA (*n=9*). Talks were arranged by 7 institutes out of which majority (*n=5*) were Universities. University librarians of state funded universities once again expressed that though they have requisite resources to gather and mobilise expertise for the Open Access, there is a delay in implementation.

78 OPEN ACCESS MANDATES

Policies and mandates are necessary to provide guidelines to researchers. Here the researcher tried to find out which institutes had policy statements or mandates regarding open access publishing.

Majority of the institutes do not have any mandate for publishing the research work.90.5% libraries reported not having any mandate with

TABLE 9

Methods of Advocating OA (n=18)

Methods of Advocating OA	Response Count	Response Percent
1. Promoting OA through E-mails/Poster	14	78%
2. Guiding Personally to Publish Research Work in OA	9	50%
3. Arranging Awareness Talk by experts	7	39%
4. Arranging OA week	0	.0%
5. Providing Incentives to members who embrace OA(OA fund)	0	0%
6. All the above	0	0%

TABLE 10

Open Access Mandate of Institutes for Publishing Research Work (n=21)

Answer Options	Response Count	Response Percent
Yes	2	9.5%
No	19	90.5
Total Respondents	21	100%

respect to Open access publishing, while only 9.5% institutions had a mandate for the same. In cases where the answer is affirmative, there could be funder mandates in specific projects.

Open Access Mandates are a rare occurrence. This can be attributed to many factors like disciplinary preferences, non-belief in the system of mandating, and the prevalence of mandates by funding agencies.

79 LIBRARY STAFF CONSULTATION IN DRAFTING OPEN ACCESS MANDATES

was consulted while drafting OA mandate. The other expressed unawareness about library staffs' involvement in the same.

710 OPEN ACCESS FUND

With the objective of supporting OA further, libraries across the globe earmarked funds to publish OA. To understand the local scenario a question about the same was asked to the librarians.

There was a unique case which reported to have budget allotted as Open Access Fund. The charges for the author pay model at the Institution are borne by the Institute. The institute that confirmed that all

TABLE 11
Budget allocated as Open Access Fund (n=21)

Budget allocated for OA	Response Count	Response Percent
Yes	1	4.8%
No	20	95.2%
Total	21	100%

publication charges were borne by the institute has a full proof policy and system in implementing the same. Necessary permissions and formalities for the same have to be completed by the researcher.

711 OPINIONS ON OPEN ACCESS

The participants were asked to state their opinion about the impact of Open Access on Scholarly communication, publishers and scholarly societies.

There was a strong agreement among librarians that "Open Access will dramatically change scholarly communication in the next five years (Agree *n*=16 and Strongly Agree *n*=2). (86%)

As indicated in Table 12, 43% librarians had a neutral stand (*n*=9) on the statement "Open Access threatens commercial publishers" while 19% disagreed to the statement that Open Access could threaten commercial publishers. 38% of the librarians opined that it will threaten commercial publishers.

On taking respondents' opinion on "Open access threatens scholarly

TABLE 12
OA and its impacts on discipline/publishers and Scholarly Societies (n=21)

Opinions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Response Count
Open access will dramatically change scholarly communication the next five years	2 (9.5%)	16 (76%)	1 (4.76%)	1 (4.76%)	1 (4.76%)	21
Open access threatens commercial publishers.	0	8(38%)	9(43%)	4(19%)	0	21
Open access threatens scholarly society(ies) since subscriptions are a critical source of revenue for scholarly societies	0	11(52%)	5(24%)	5(24%)	0	21

societies since subscriptions are a critical source of revenue for scholarly societies" 52% of the librarians agreed to the statement. Amongst the remaining respondents, 24%had neutral stand while the remaining (n=5) disagreed to this statement. A very small percentage of the librarians disagreed to the statements, which indicates Librarians support OA strongly.

Findings and Implications

After analysing the data, the researcher elicited the following findings and implications:

IR and ETD

- Though Institutional Repositories are building blocks of current scholarly communication, many institutes did not have functional IRs. Only 19% had functional IR and around 39% Institutes were in the process of building IR. It is significant for all research institutes to take necessary steps to hasten the process of establishment of IR.

- Majority of IR(85%) archived Theses and Dissertations and Post Prints (71%) of articles published by researchers.

- Only one institute maintained separate IR, which can be attributed to a huge scholarly output.

- Archiving datasets in IR is not yet done by majority of the libraries. A single case of the archiving dataset was reported.

- Maintaining and managing IR and ETD are important roles that librarians have started taking up. This has changed the work profile of Librarians.

- Skills for managing and maintaining IR and ETD will have to be acquired by library professionals who have not yet initiated IR and ETD.

- Librarians can help researchers increase their awareness on copyright and author right issues.

- Awareness of researchers on author rights can also be indirectly attributed to the low prevalence of IR.

Open Access Mandates and Funds

- Open Access Mandates and budget earmarked for Open Access is a rare occurrence in research institutes. This can be attributed to

many factors like disciplinary preferences, non-belief in the system of mandating, and the prevalence of mandates by funding agencies. Library staff involvement in drafting the Open Access Mandate can be seen in one of the Institutes out of the two which have an Open Access mandate. One of the institutes that has mandated Open Access has a budget allocation and the Institute bears all the charges for the publications.

Advocacy of OA

- Majority of Librarians advocated Open Access to their researchers. Various methods were used by librarians to help researchers embrace the Open Access. The most used method by librarians was sending emails and posters to promote Open Access. At individual level, librarians guided researchers to publish using Open Access. University Libraries and larger institutes arranged talks by experts to promote Open Access.

Opinion on OA

- Librarians were already witnessing change in scholarly communication due to Open Access. Majority of the librarians agreed with the statement 'Open Access will dramatically change the scholarly communication in next five years'

- Librarians remained divided over the statement 'Open Access threatened Commercial publishers'. Looking at the current scenario and the experience of librarians that is emerging in the form of the opinion above, gives a clear picture that Open Access will co-exist with commercial publishers.

- The above statements show that librarians strongly support OA.

- Though more than 50% of the librarians agreed to scholarly societies being under threat from Open Access, there was a considerable difference in the opinions of the librarians. The objective of the scholarly societies is primarily dissemination of current information. Many scholarly societies have themselves made their publications Open Access in order to disseminate the information to researchers.

Suggestions and Conclusion

Open Access has a profound effect on the role of libraries and librarians. The focus of role of librarian from being a gatekeeper of information has shifted towards being actively involved in supporting the

creation and dissemination of scientific and scholarly information produced by researchers of their institutes. New skills and competencies have to be acquired and strengthened, infrastructure for publishing and archiving has to be developed, the sources of funds have to be redirected from paying for getting access to paying for providing access too.

The open access movement has gained considerable momentum in the last decade. It is one of the important reforms of scholarly communication. The rapid pace of change presents challenges as well as opportunities for both libraries and researchers The library community, which has long suffered the effects of the serials crisis welcomed Open access. However, libraries have been somewhat slow in their embrace of open access, uncertain about its acceptance from the research community and effects on the scholarly publishing system.

Considering the merits of the Open Access system and the advantages it can bring to Indian research community librarians should contribute to the Open Access.

Supporting Open Access Resources: *Librarian can support Open Access by*

- Providing enhanced access to OA Works by linking OA works through library catalogue, making them a part of the federated search, including OA resources in article alerts and SDI services for researchers.

- Publishing of OA works: Many research organizations have in-house publications, which can be considered to be made OA, hosting of journal through Open Journal system. Library can take publishing initiatives and identify potential avenues of publishing activities in different campus environments, from journal publishing to publishing special collections and student-created content.

- Digitize OA versions of out-of-copyright works.

- Librarians should initiate celebrating the Open Access week in the month of October, to celebrate International Open Access week every year which could involve a variety of activities like arranging talks, rewarding a researcher, orienting the researchers with new developments in the field etc.

Building Digital Repositories: Institutional Repositories have been the building blocks of Open Access. Libraries should initiate the IRs in

their respective institutions, encourage faculty deposit their work considering the associated copyright framework. It will directly help faculty to improve the visibility of their work and the institution to the global research community. Librarians should help improving workflows to make deposit easier and to alleviate researchers' concerns by linking in services such as SHERPA's RoMEO and JULIET which set out publishers' and funders' policies on issues including copyright, deposit, and open access.

Educating Faculty And Administrators: Librarians should try to increase awareness of researchers about Open Education Resources, try and clear the myths around the Open Access, and demonstrate that Open Access is equally creditworthy in the research community. Librarians can help faculty to raise awareness and promote the benefits of the repository, educating researchers on authors' right, authors' addendum, and funders' policies to help them make informed decisions. Many funding agencies have now adopted Open Access policies. Libraries can work towards increasing awareness of researchers' obligations to their institution and to their funders, to ensure that funders' open access requirements are met by grant holders. Libraries can also enlighten administrators if required about the changes in the scholarly communication and help Funding for Open Access Efforts or subsidize open Access journal fees through institutional memberships with publishers, which either eliminate or reduce such fees for affiliated authors considering several factors to keep in mind when thinking about these memberships.

The future of involvement of librarians in Open Access will be to enable the opening up of scholarship and research through the growing open access, open education, open science and open innovation movements. All of this involves acquiring new digital skills. Understanding the 'Open Science' and growing with the changes in the scholarly communication will be a key for librarians to remain relevant in the profession.

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