

Open Access Electronic Publishing Model for Indian Academic Journals

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[Author's note: This proposal is prepared for establishing the INFLIBNET Centre as a gateway for open access electronic publishing of Indian academic journals on behalf of the UGC. *This article is dedicated to Dr.TAV Murthy*, who as Director of the INFLIBNET Centre had allowed me to attend the National Workshop on Scientific Journal Publishing in India conducted by the NCSI, Bangalore in collaboration with the Public Knowledge Project, University of British Columbia & Simon Fraser University, Canada during February 2006. Then after this idea was conceived as part of the outcome of that workshop and the presentation was made couple of times at ICDL 2006 and ICDL2010 pertaining to this idea and its implementation at the INFLIBNET Centre.]

***Abstract.** The purpose of writing the article is to explain the current position of the open access of scholarly contents in India and accordingly to establish the INFLIBNET Centre as an aggregator for publishing the Indian academic journals based on the potential in terms of skilled manpower, infrastructure, expertise and availability of funds with the backing of federal govt. The design approach of the study is purely on the potentiality of the INFLIBNET Centre as an aggregator for open access electronic publishing of Indian scholarly contents available in the academic sector especially under the umbrella of University Grants Commission. The scholarly contents are available mostly in the print format and do not provide instant access to the academic community of the Country. The problem of instant access is more concerned with the scholarly contents of Indian languages. Due to non-availability in the electronic format, not reaching quickly to the wider community, affecting the impact factor of the journals and the citation level of the articles including the timely recognition to the authors. It describes the current scenario of the Indian scholarly publishing, list out the major aggregators and institutions that publishes journals in electronic formats. The paper does not include the institutions publishing a journal or two. This study of the proposed model touches only the open access mode leaving behind the commercial implication of it. Once the proposed model is implemented by the INFLIBNET Centre, it is assumed that the India's scholarly content may get wider coverage and citation level of the articles may get increased. The researchers may also get credit on time. Overall, the impact factors of the journals would be increased and the duplication of work may be avoided. Most importantly, the research output will be available instantly to the academic community. The paper brings major open access publishers especially aggregators of India in one place. It proposes to make INFLIBNET Centre as an aggregator based on its activities and services, currently, being rendered to the academic community of India.*

Keywords: Open Access, Scholarly Content, INFLIBNET, Electronic Publishing, India

1. Introduction

The Internet has changed the entire scenario of the library and produced different new names for it such as electronic, digital, virtual, library without walls etc. In the process, library resources have moved ahead from simply being bibliographic to e-documents, e-resources, e-books, e-journals etc. Since then, electronic copies of scholarly articles and contents have become user's demand on their desktop. Further, due to availability of the intellectual articles in the digital networked environment, the scenario of journal subscription has shifted from print to digital and individual to consortium mode into libraries. Additionally, availability of electronic journals on the Internet takes less time and

offers 24x7 hours and 365 days access to full-text of the articles without interruption. Consortium approach through a gateway portal provides an excellent facility to the users for retrieving and browsing the right information at the right time with less effort. It offers one-stop shopping concept of the bundle of journals in an inexpensive way than the print subscription in addition making cross-linking of the articles that making citation of the articles visible. Some publishers do also offer free access of the online version of journals with the print subscription.

With India being a multilingual and multicultural country, there are more than 3000 journals being published in various languages. As per the demand of the academic community, India is missing such organization that can offer facility and infrastructure to the universities as an aggregator. This article is prepared on the basis of the synopsis submitted to one of the Universities in India for carrying out doctoral research on the topic “*Open access electronic publishing for Indian academic journals: a proposed model*”.

2. Open Access: preferred definitions

With the explosive growth of the Internet in recent years, electronic publishing has become more and more popular especially in the academic community. In this scenario where most libraries and institutions are involved in electronic publishing, digital libraries and institutional repositories, it is surely paradoxical to ask what electronic publishing is. But, it is necessary here to define electronic publishing for this proposal:

Wills (1995) of MCB University Press, UK, defines Electronic Publishing as “*The exploitation of electronics in any and every cost-effective and cost-beneficial way that can facilitate the processes of publishing, where publishing for our purpose means: Conceiving, creating, capturing, transforming, disseminating, archiving, searching and retrieving academic and professional knowledge and information*”. Electronic publishing is divided in two categories, i.e. close access and open access. The proposal concerns with the open access, therefore the literature search is provided on open access.

Open Access is purely literature especially a scholarly literature that is available free of charge on the Internet without copyright and licensing restrictions under GNU Public license. Open Access is categorized as Green and Gold open access, where Green refers to the self-archiving that allows an author to place a copy of the scholarly output in one or more open access repositories, whereas, Gold refers to the publishing of articles in an open access journals allowing free access of articles to the users. With respect to the various responses to the open access, the organizations have given various definitions of the open access. Accordingly, some of them are listed below:

According to the wikipedia.com (2009) Open Access means “*immediate, free and unrestricted online access to digital scholarly material, primarily peer-reviewed research articles in scholarly journals*” [1].

In short Public Library of Science (PLoS) (2005) says, “*free availability and unrestricted use, distribute, copy, download, read or anyway you wish*” [2].

Berlin declaration (2003) defines that “*a comprehensive source of human knowledge and cultural heritage that has been approved by the scientific community*” should be a part of open access [3].

Budapest initiative (2001) elaborate open access as “*its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search or link to the full-texts of these articles, crawl them for indexing, pass them as data to software or use them for any other lawful purpose, without financial legal or technical barriers other than those inseparable from gaining access to the internet itself*” [4].

Peter Suber (June 2007), a famous Open Access supporter and a “guru” of open access says, “*open access to scientific article means online access without charge to readers or libraries. Committing to open access means dispensing with*

the financial, technical and legal barriers that are designed to limit access to scientific research articles to paying customers” [5].

3. Current Indian Scenario

A number of scholarly journals are being published from India covering a wide spectrum of subjects, where many of these journals peer reviewed and covered by premier indexing & abstracting periodicals. But, the coverage of these journals outside India is very limited due to the absence of strong distribution channels and many of the journals are in the Indian languages. Sahu and Parmar (2006) write that Scientific publishing in India is also not in the top position in the list of the 25 publishing countries, although, India has got a unique position, almost the middle of the ladder. As far as the online access of the scientific journals is concerned, it again falls down from the middle of the ladder to little lower to 18th position. But, interestingly India has fifth position in the list of open access journals and it is well ahead from the developed countries such as the Netherlands, Germany, and Australia. India is also a front runner in the developing countries and in the south Asian region not only in the open access but also in the economic growth and overall scholarly publications. Among the non-high income countries, India's position is second and is next to the Brazil as far as open access is concerned. Lone and others (2008) reveals that the position of India in terms of number of journals in the Directory of Open Access Journals (DOAJ) is 7th with 105 open access journals from India till September 2008 and India's position is 10th in the world of Directory of Open Access Repositories (OpenDOAR) sharing with Sweden and Spain well ahead from China, Australia, and Japan with having 30 repositories. Bhat (2009) reveals that Medical Science leads in the open access journals and he also makes it clear that a small portion of research publications of Indian research is published in open access journals while stating that the majority of research being published in journals of Indian origin. It has also been explained that only standard and peer-reviewed open access journals are used by the Indian scientific community for dissemination of their research outputs.

Availability of journals in Indian languages and its visibility on web are two major hurdles for the Indian scholarly contents. However, some society and institutional journals started overcoming of these problems with the help of the aggregators and open source software like OJS (Online Journals System of Public Knowledge Project based at Canada) [6]. The aggregators like Medknow Publication [7] and Indian Medlars Centre, NIC, New Delhi [8] [9] are serving in the area of medical sciences and biomedical journals, respectively. Informatics (India) Bangalore and IndianJournals.com [10] are commercial aggregators, helping to anyone who wishes to pay the expenses of making the journals online. However, the IndianJournals.com has also put few journals and newsletters on open access of some societies and institutions. The helping hand to the publishers by the aggregators seems to be for the English language journals only, although the technology like Unicode is available for the encoding of Indian languages (Chandrakar, 2002). The print journals due to non availability in electronic mode, in spite of being reputed and well known journals in nature, it faces visibility problem as reaches late to the end users making the content absolute in this technology era, where the contents are available to the users on minute to minute basis. The journals published in the Indian languages are worst affected journals, whose access is very limited; for some of the journals, the circulation realm is limited to the particular state where the language is being spoken. The affected journals could be more than hundred in numbers. The technology like Google translator can help making it visible to the wider number of end users in case the journals are available in electronic format. The Google translator is a tool for translating one language text into other language. Currently, the translation facility is available for the 51 global languages including Hindi and Arabic languages [15].

NISCAIR (National Institute of Science Communication and Information Resources), New Delhi is also one of the organizations sponsored by the CSIR, New Delhi, is a merger of NISCOM (National Institute of Science Communication) and INSDOC (Indian National Scientific Documentation Centre), with mission to become the prime custodian of all information resources on current and traditional knowledge systems in India [12] has put full-text of 17 odd journals of miscellaneous subjects / disciplines [13]. Apart from that the organization has also made available NISCIAR Online Periodical Repository for voluntary submission of the scholarly articles for the academic users under the Green access policy. [14]

Around one hundred and ninety research journals of India (see table below) are available on open access. The list in the table does not include the one or two journals being published by institutes on open access mode. For instance, Indian Statistical Institute, Kolkata publishes Sankhya and Kerala Agriculture University publishes Journal of Tropical Agriculture in open access mode. The authors exclude these from the study assuming them not as an aggregator for journal publishing. Some of the Publishers of these journals do publish in both formats: print and online and provide dual-mode access of the contents. Some of the journals were browsing facilities without user registration (MedKnow Publications and others), whereas some insist on free user registration (Indianjournals.com). Very few publishers in India started only on digital mode. Following organizations initiated open access of the journals in India:

Name of the Publisher	URL Address of the Journals	No. of Journals hosted	Subject Coverage of the Journals
Indian National Science Academy (INSA)	http://www.insa.ac.in	3	Science & Technology (Two journals and one INSA proceedings)
Indian Academy of Sciences (IAS)	http://www.ias.ac.in/pubs/journals	11	Science & Technology
Indian Medlars Centre, NIC, New Delhi	http://medind.nic.in	40	Biomedical Sciences
NISCAIR, New Delhi	http://www.niscair.res.in/sciencecommunication/ResearchJournals/rejour/rejour1.htm	17	Miscellaneous Subject
MedKnow Publications	http://www.medknow.com	88	Medical Science
Indian Journals dot com	http://www.indianjournals.com	7 Journals 1 Bulletin 2 Newsletter 1 Book Title	Miscellaneous Subject
Kamla-Raj Enterprises	http://www.krepublishers.com	20	Miscellaneous Subject, where some of the journals are scheduled to be published from 2010.

Table. List of the Indian scholarly content on open access mode

But, none of the above publishers and aggregators follows the state-of-the-art features of the electronic publishing such as assigning of DOI (Digital Object Identifier); Cross Reference linking, COUNTER and SHUSHI for usage statistics, etc.

Another way of making scholarly contents on open access is setting up of Institutional Repository (IR). Most of the libraries have established IR either on intranet access mode or on open access mode. Compare to the publishing of journals in electronic format universities / institutions have gone far ahead in establishing IRs in their libraries. The number of open source software such as Greenstone Digital Library, DSpace, and Eprints are being used for the same. Indian Institute of Science, Indian Institute of Technologies, Business / Management Schools, R&D labs and Central Universities are ahead in establishing this. Some of the IRs established on DSpace software and available on Internet IPs has implemented digital identifier called handle for full-text content. The INFLIBNET Centre is one of them provides each digital object a handle hosted on the DSpace server [11]. NISCAIR and DRTC, Bangalore's IR also provides handle to the digital content.

4. INFLIBNET Centre

The INFLIBNET Centre is a National Centre established by University Grants Commission (UGC) under the Ministry

of Human Resource Development (MHRD), Government of India, for promoting library automation, resource sharing, cooperative development among the academic libraries and other R&D libraries in India. The Centre is directed towards modernization of libraries and information centres and aims at establishing a mechanism for information transfer and access to scholarship, learning and academic pursuits. It is basically a co-operative endeavor in resource development, sharing and its utilization at national level. In this regard, it has constituted a national network of universities and consortium called “*UGC-Infonet*” and “*E-journal Consortium*”, respectively [11]. Some other initiatives taken by INFLIBNET are (INFLIBNET, 2008) (INFLIBNET, 2007):

- Providing funds for ICT infrastructure and environment to the universities.
- Developing various union databases of the library resources including the expert profiles of this country
- Conducting various training programmes for library practitioners
- Making available library housekeeping software SOUL on minimum cost
- Created various user forums for discussing various technical problems
- Working as an Information Pool for the users of this country

5. Reason for choosing the INFLIBNET Centre

As described above, the main reason behind choosing the INFLIBNET Centre for this proposed model would be:

- a. It is an IT based National Network having state-of-the-art technology and infrastructure working under umbrella of UGC
- b. The INFLIBNET is a nodal agency of UGC providing linking facility to the universities under UGC-Infonet network
- c. On behalf of UGC, it is providing access to bundle of electronic journals to universities and R & D institutions across the country under UGC-Infonet Digital Library Consortium
- d. INFLIBNET Centre has expertise in open source and open access; therefore, it would be very easy for them to implement it on practice.

6. Objectives

The main objective behind the proposed model would be, to setup:

1. A gateway of Indian academic scholarly journals;
2. A facilitator for those Universities and Institutions, who is publishing journals in print format;
3. A cooperative endeavor in the area of electronic publishing by taking help of various subject experts of the country;
4. An multilingual electronic publisher of various Indian journals; and
5. OpenURL concept and framework for Indian Universities and R&D Institutions.

6.1 Objective 1

To fulfill the first objective, it is proposed to establish OJS server dedicating for the online hosting of the scholarly journals. The universities interested in hosting their journals on this proposed server, need an agreement with the INFLIBNET Centre. As per the proposal the print publication of the journal would be the responsibility of the university concerned.

This has already been initiated and has been launched officially on 27th January 2010. The dedicated server in the purpose is accessible from the <http://www.inflibnet.ac.in/ojs>. The Journal of Literature, Culture and Media Studies being published by the Nagaland Central University, Kohima is made available for open access.

6.2 Objective 2

This objective is for those universities not following the OpenURL concept & framework for their scholarly journals. Positively, this objective will carry all the Universities and Institutions in one box under commonly globally recognized standards for better interoperability of the Indian intellectual content. As per the proposal, the INFLIBNET should welcome universities for publishing their print journals in electronic format.

6.3 Objective 3

Under this objective, the universities, who suppose to join hands with the INFLIBNET Centre, will be encouraged for peer-reviewed of their scholarly content. For identifying the subject experts for the particular journal, the help of various expert databases available in the country such as INFLIBNET's expert database, UGC's Subject Expert list, IISc Bangalore's expert database, whose expert database, NISSAT's expert database etc. is expected.

6.4 Objective 4

This objective is dedicated to journals being published in various Indian languages. Unicode based multilingual technology will be used for this activity as it is a proved technology for multilingual publishing.

6.5 Objective 5

A study will be carried out for implementing OpenURL concept and framework for Indian Scholarly journals published by universities. As per the proposal, the INFLIBNET should become member of either CrossRef or IDF consortium as "*Sponsoring Member*" or "*Registration Agency*", respectively for covering the DOI and cross linking of intellectual content issues.

7. Scope and Limitation

The scope of the proposed model covers all universities and R&D institutions of UGC set up spread across the country keeping in view the OJS (Online Journal System), an open source electronic publishing technology of the Public Knowledge Project (PKP), Canada. The proposed model is limited only to the journals of the academic sector of the country covering only open access mode of the electronic publishing excluding the commercial part of the publishing irrespective of the interest of the university or institution.

8. Methodology

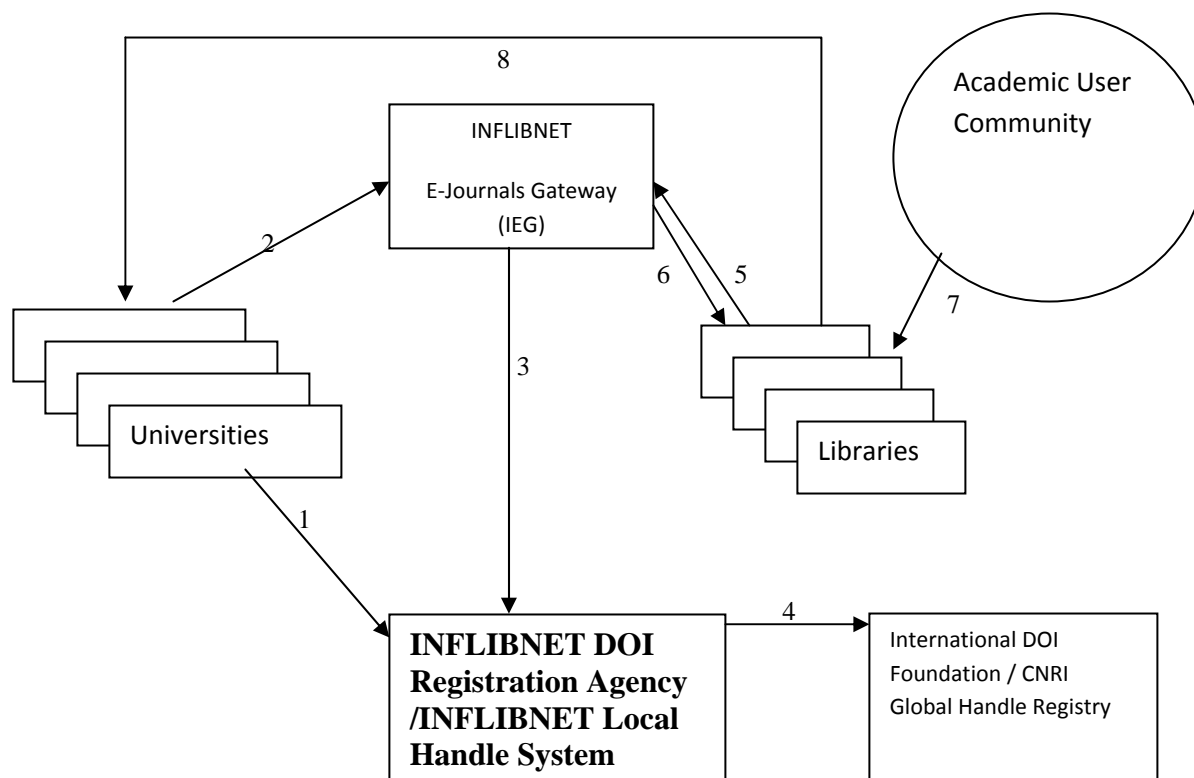
Questionnaire will be prepared and sent to the Indian universities and R&D Institutions publishing scholarly journals in print, but not in electronic format. Where the questionnaire will have all the options related with the set objectives for the Open Access Electronic Publishing of the Scholarly Journals. The researcher will ask for the opinion from the universities and institutions pertaining to the objectives of this model. The questionnaire may also cover the questions for the journals being published in electronic format but not following the standards of the electronic publishing for joining the hand under the model.

9. Conclusion

This proposal is based on the current scenario of electronic publishing and the need of the academic community, where every user wants their desired information on their desktop. There are hundreds of journals being published by various universities and R&D labs. The universities and most of the R&D labs do not have the infrastructure to publish and host the journals online in electronic format; even in the near future it would be difficult for them to do it due to lack of infrastructure, awareness and technological challenges. Although, some potential universities and R&D institutions are publishing their intellectual content online, but, it does not follow the global standards of electronic publishing like Peer-Review of articles, identifier to articles, OpenURL concept and framework of intellectual contents.

10. Appendix

A Model for INFLIBNET DOI Registration Agency /INFLIBNET-CNRI Local Handle System



Note: IDRA/ILHS may keep the multilingual issue of the journals in mind while publishing it in electronic format. Therefore, IDRA/ILHS may act as a Unicode based multilingual E-Journals Gateway for Indian language journals.

Description of Model 1

1. It interprets that a university, who has online full text journals being published but could not implement the digital object identifiers (DOI), may contact INFLIBNET DOI Registration Agency (IDRA) /INFLIBNET Local Handle System (ILHS) for registration.
2. A university, who does not have expertise in publishing the journal online, will contact INFLIBNET E-Journals Gateway (IEG) for publication.
3. IEG will act as a nodal agency for universities and register them on their behalf. IEG will provide DOI numbers to the journal articles, as IEG will take responsibility for publishing journals on behalf of universities, where print publication would still be the university job.
4. In case of IDRA, INFLIBNET will be the member of the International DOI Foundation (IDF), but in the case of ILHS, it should be the member of CNRI. In both the cases, IDRA and ILHS will act as a part of Global Handle System either of IDF or CNRI.
5. Different libraries will contact to the IDRA/ILHS for the subscription of different online journals, where IDRA/ILHS will act as a National E-Journals Gateway for the users to access the journal articles online on open access mode.
6. & 7. Libraries will provide access to the academic user community through the IEG.

8. It represents access of the journals to the individual universities having print publication of it.

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