

## Barriers to electronic publishing of scholarly journals from India: Findings from the Scientific Journal Publishing in India (SJPI) Project.

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**Abstract:** Scientific Journal Publishing in India (SJPI) was a project carried out at the National Center for Science Information (NCSI) of the Indian Institute of Science (IISc), Bangalore. It was sponsored by the Asian Media and Information Centre, Singapore and was carried out in partnership with the Public Knowledge Project (PKP), Canada. Conducted from October 2004 to March 2007, SJPI's objective was to demonstrate electronic publishing of journals through a prototype and disseminate the knowledge gained among the journal publishing community. We also developed a Hindi language interface for the Open Journals System (OJS), an open source e-journals publishing software. This article while briefly outlining the outcomes of the project, analyses the situation in India and lessons learned in the process. It specifically focuses on the problems faced by developing countries like India and suggests methods to overcome them.

## **Introduction:**

Formal scholarly communication is a very rich source of information created by the combined effort of many stakeholders – the scholar and the organization that sponsors his/her work, the journal editors and reviewers, and the peers of the discipline of work. Advances in Information Technology (IT) have revolutionized the creation, transfer and access to other kinds of information. Ad-sponsored electronic mails have replaced the postage-paid snail mail and free online news portals are replacing subscription-based newspapers. Not only have the modes of communication changed, but also the business models that sustain them. While journals have gained their electronic avatars, the underlying business models have largely remained unchanged. Libraries continue to spend huge amounts of public funds to pay for access to both paper-based and electronic journals. Even for journals that are freely available online, barriers to their discovery and access remain due to poor adoption of indexing and search solutions provided by IT.

The Open Access (OA) Movement is a plan to make the IT revolution a reality in the world of scholarly communication. The Budapest OA Initiative (BOAI)[1] of the Open Society Institute foresaw two paths to the scholarly information highway or open access to all scholarly information. The first, popularly known as the Green Route, is self-archiving of articles by authors in open electronic archives. RoMEO[2] statistics as of September 2008 reports that 68% of publishers allow some form of self archiving, a great achievement in removing the legal barriers to self-archiving. The second path also is known the Gold Route, is the publishing of articles in OA journals. If all scholarly articles were to be born free then it would be an ideal solution to the free flow of

scholarly communication. But there are many obstacles to this path, which we hope to overcome with time, effort and ingenuity.

The developing nations have a certain advantage that gives them the agility to leap ahead in the publishing of OA journals. The barriers to OA journals are often seen from the Western point of view, where there are already established commercial publishers in the market with high impact journals. On the other hand developing nations do not have a strong presence of commercial publishers. Rather, a large fraction of journals published from developing countries like India are by national academies, research institutes, professional associations and other bodies with non-commercial interests. So the resistance from commercial publishers to OA is quite weak. But there are other obstacles that we need to overcome that are unique to this marketplace.

During the Scientific Journal Publishing in India (SJPI) project we learned about the barriers to electronic publishing faced by small and big publishers in a developing country like India. While the goals of the project was the enable journals transit into the electronic world, we also realized it is better if they are published OA rather than getting locked behind walled gardens. In this paper we describe the project and its outcome, list the inputs we got through our interaction with publishers, analyze the problems, and offer suggestions to overcome them.

### **About the Project:**

In 2005 we could find about 50 OA Indian journals[3] – all from national academies or associations. We found that most of these online Indian journals do not comply with indexing standards of OA, i.e. the OAI-PMH (Open Access Initiative – Protocol for Metadata Harvesting) protocol and thus lie outside the OAI interoperability

framework. The search and display interface of these journals revealed lack of support for field-based metadata search and display. A consequence of this is that in spite of their online presence, the articles in these journals tend to be less used, as they are not easily 'discoverable' due to poor metadata and poor indexing. The SJPI project (<http://sjpi.ncsi.iisc.ernet.in>) aimed to study these problems and educate journal publishers of these issues.

The project was sponsored by the Asian Media and Information Center, the IRDC's (International Development Research Centre) Pan Asia ICT Grants Program based in Singapore and was conducted from October 2004 to March 2007. Our partners were the Public Knowledge Project (PKP), based in the University of British Columbia and the Simon Fraser University, Canada and headed by Prof. John Willinsky.

### **Objectives of the project:**

The aim of the project was to set up prototype journal indexing and management systems for a sampling of Indian Journals. This would demonstrate to the editors of the journals the usefulness of incorporating structured metadata during the workflow process. The advantages of making the metadata OAI-PMH compliant to increase the accessibility of the journals would be revealed by setting up a harvesting service to index and search across all the journals. The specific objectives were:

- Installing a prototype Indexing system using sample OA journals
- Harvester to index all the prototype journals and enable searching across all of them from a single interface.
- Demonstrate and consult with editors of journals on the following issues:
  - Demo capture of metadata during the submission process

- Demo the harvester with the objective of revealing the advantages of publishing with OAI-PMH compliance
- Obtain their feedback of the features of publishing systems
- Refine the system based on the feedback received.
- Organize workshops to transfer the knowledge and skills gained by the team to persons involved in actual journal publishing.

The PKP's Open Journals System (OJS) was used for setting up the prototype journals and the PKPs Harvester was used to harvest across all the journals.

### **Features of Open Journals System (OJS):**

Open Journals System is a journal management and publishing system that has been developed by the Public Knowledge Project (<http://pkp.ubc.ca/>). It is open source software made freely available to journals worldwide for the purpose of making open access publishing a viable option for more journals.

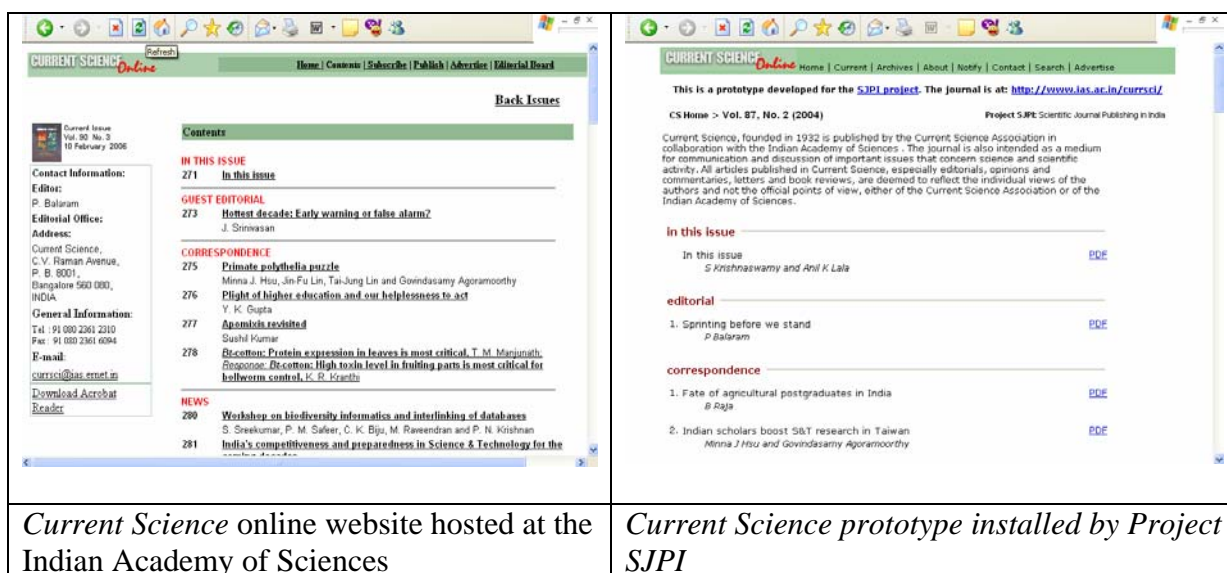
OJS is web based and hence needs a web server to run on. It uses a database management system like MySQL at the backend and is scripted using PHP. The look and feel of the journal can be changed to a certain extent. Since it is an open source software, it can be customized to suit the needs of a journal if required.

**Project Implementation and outcomes:** The project had a number of expected and unexpected outcomes, which are outlined below:

1. *Installing and configuring OJS for 13 journals:* OJS was then setup for all the 11 journals of the Indian Academy of Sciences (IASc) (<http://www.ias.ac.in/>), the Journal of the Indian Institute of Science (JIISc) (<http://journal.library.iisc.ernet.in/>) and SERLS Journal of Information Management (SJIM). (See Appendix A for the

complete list of journals) This included setting up the OJS, configuring it to the journal by inserting information like the editor, editorial board members, changing the default images and color schemes of OJS etc. We also customized one of the journals *Current Science* to look very similar to its online website. We also separated the publishing and workflow systems for *Current Science* installation so that each could be used independently. This was to demonstrate to the editors the flexibility of the system to adapt to their requirements.

Figure 1: Comparison of *Current Science* live website with the SJPI prototype website



2. *Uploading content to all the journals:* Six issues (two issues of 3 volumes) were entered into the prototype journal systems. For all the journals, except one, we obtained the content from their online websites. The editors of the journal the SJIM journal delivered the contents on CD which we then uploaded.
3. *Enabling search engine friendly URLs:* We have also enabled search engine friendly URL's for the journals. This means the articles will be indexed individually in generic search engines like Google giving them greater visibility.

4. *SJPI Cross Journal Search Service*: PKP harvester software was set up and configured to harvest data from all the thirteen prototype journals. It is available at <http://sjpi.ncsi.iisc.ernet.in/harvester/>

Figure 2: The SJPI Harvester website

The screenshot shows a web browser window displaying the 'Scientific Journal Publishing in India Cross Journal Search Service' website. The page title is 'Home > Search Results' and it is powered by PKP Harvester. The search results are for the keyword 'pollution', showing 5 records from 4 different journals. The records are:

- Comparison of inherent properties of glass fibre filters**  
Varade, Sarika A; Gajbhiye, Aparna; Phadke, K M; Kumar, Animesh;  
*January 5, 2005*  
*Journal of the Indian Institute of Science*, Vol. 83, No. 5&6 (2003)  
[View Record](#) | [View Original](#)
- Porous carbons**  
Manocha, Satish M;  
*February 10, 2005*  
*Sadhana*; Vol. 28, No. 1&2 (2003)  
[View Record](#) | [View Original](#)
- The promise of fuel cell-based automobiles**  
Shukla, A K; Jackson, C L; Scott, K;  
*March 9, 2005*  
*Bulletin of Materials Science*; Vol. 26, No. 2 (2003)  
[View Record](#) | [View Original](#)
- Organic Synthesis using Clay Catalysts: Clays for 'Green Chemistry'**  
Nagendrappa, Gopalpur;  
*March 14, 2005*  
*Resonance - journal of science education*; Vol. 7, No. 1 (2002)  
[View Record](#) | [View Original](#)
- Lichens: A Valuable Bioresource for Environmental Monitoring and Sustainable Development**  
Negi, Hans Raj;  
*June 10, 2005*  
*Resonance - journal of science education*; Vol. 8, No. 1 (2003)  
[View Record](#) | [View Original](#)

A 'Quick Search' box on the right contains the search term 'pollution' and a 'Search' button. A red annotation points to the search results, stating: 'A search for keyword 'pollution' yields 5 records from 4 different journals'.

5. *Demo and Feedback*: The prototype journals and harvester were demonstrated to the editors of the journals and we obtained their feedback on additional features they may need. Other than the formal communication with the editors, we also took up initiatives to meet journal staff and help them with installation and training. We also developed a tool to move the legacy data of old journals into OJS. We demonstrated this for one of the journals of the IASc. Feedback obtained from the editors was given to the project partners PKP on the shortcomings of the OJS 1.1.8 version [4]. Some of the suggestions have been incorporated in the next version of OJS.

6. *Editors Corner on SJPI Project Website*: The Editors Corner is an online page of educational material relevant to journal editors about OA and topics related to publishing. This is available at <http://sjpi.ncsi.iisc.ernet.in/editor.php>
7. *Workshops*: Two workshops were organized: on 10th and 11th February 2006 and 14<sup>th</sup> and 15<sup>th</sup> December 2006. About twenty participants who are involved in publishing participated in each workshop. They were trained to install and use the OJS software. The two-day workshop included lectures on installation and setting up of journals using OJS, including administration and workflow management. Also included was a section on creating multi-lingual journals.  
<http://www.ncsi.iisc.ernet.in/ojs-workshop/index.html>
8. *Support to Journal of Tropical Agriculture (JTA)*: The JTA is an academic journal published by the Kerala Agricultural University, Thrissur. The editor of the journal, Dr. B.M. Kumar, was a participant of the first workshop. We assisted them to make the journal online using OJS. We conducted a two-day workshop in September 2006 for the staff at KAU, Thrissur and assisted them while setting up the journal. The journal is online at <http://www.jtropag.in>. [5]
9. *Adding new features to OJS*: Some journals classify articles published using a subject specific classification scheme. While OJS supported entry of class numbers manually, a method to list out the scheme for the user to select from did not exist. We found this to be major requirement for some of the journals published by the IASc. So a tool to incorporate a classification scheme into OJS system was developed. Authors can use this tool to classify their papers during the process of submission.



10. *Hindi Language Interface to the OJS software*: Hindi language (one of the official and scheduled languages of the Indian state) interface for OJS was developed with the help of the tools and files given in OJS software. The work involved translation of more than 35,000 words from English to Hindi. While translating we kept in mind the current usage of Hindi in the web environment.
11. *Plagiarization and online journals*: One of the journals used for our prototype system is a print-only journal. It has no online version as of now. The six issues uploaded by our prototype setup are the only issues available online. One of the papers uploaded by us was detected to be a plagiarized from a book. The author of the book realized this only because the paper was available online. The paper was subsequently withdrawn from the journal following complaints by the author and publisher of the book. Thus we can conclude that going online would make authors and publishers more wary of intellectual property rights issues and enhance quality of scholarly journals.

### **Analysis of feedback from the workshops:**

We conducted two workshops training publishers in the use of OJS. Both these workshops imparted hands-on training to participants on the use of OJS. At the end of each workshop we obtained their feedback on what are the barriers to make their publications OA. Appendix B contains relevant portions of the feedback we obtained.

The findings are summarized below:

**1. Profile of the participants of the two workshops:** The participants of our workshops were mostly publishers of peer-reviewed journals. But there were also some who

published magazines and newsletters. Some already published OA but the majority of them had no experience with OA.

**2. Inclination of the participants towards OA:** All of the participants were willing to publish OA, if only delayed OA.

**3. Problems of publishing OA in India:** Through two open ended questions we realized that the major barriers to OA publishing according to the participants were:

- Fear that revenue loss from print subscriptions if journal becomes OA.
- Lack of technological skills by people using the system like editors, reviewers etc.
- Lack of IT infrastructure or the funds to develop it.
- Other barriers include copyright issues, lack of management support, and need to continue print journals due to the low penetration of Internet among user base.

### **Barriers to OA journals in developing countries:**

Bjork[6] in 2004 studied the various barriers to OA publishing. We reexamined each of the barriers he has listed from the perspective of developing countries like India.

**1. Legal Framework:** Even Bjork[6] in 2004 did not consider legal framework to be an obstacle for OA journals. If a publisher is willing to go the OA way, there are many options other than the tradition copyright, like the creative common licenses that they can use to protect their interests. Many OA journals however let the author retain the copyright.

Some participants of the SJPI workshops mentioned copyright issues to be a barrier to OA. This could be due to the lack of awareness about developments in the legal domain. The need in India is to develop greater awareness and debate among the stakeholders - the publishers and the academic community on issues like the Creative

Commons and Scientific Commons. Scholars are more interested in disseminating their work than holding on to them. So the legal system needs to differentiate scholarly works from the artistic and commercial types of information and more suitable frameworks need to be developed that facilitates dissemination rather than restrict it.

**2. IT-Infrastructure:** We believe that automating the workflow of the peer-review process using IT systems instead of the cumbersome paper-based process will make the publishing activity economical. Tools for the process already exist in open source or are relatively easy to build. However the threshold to jump over to a new system is high. For example, a journal like *Current Science*, a peer-reviewed science journal published by the IASc, has about 1000 reviewers. There are also the editors, sub-editors and the journal office staff involved in the publishing workflow. These people would have to go through various degrees of handholding or training to begin using a new system. There is also requirement for a system that can run fast, with little downtime and a dedicated help-line to resolve issues arising from users of the system. So the reluctance of the decision makers to move away from a system that is running smoothly to another one fraught with risks is understandable.

Another kind of publisher is the small professional body or association running from a small office. One of the journals used the SJPI project (the SJIM) publishes a print-only journal. The editor of SJIM is very eager to publish the journal OA but does not have the required skills among his existing staff. He also cannot afford the costs of hiring appropriate manpower to set up and manage IT systems.

The decision makers in the publishing body do not understand IT systems or fear changes. They either want a perfect system tailor-made to their order or they want a very

simple system to avoid complexity and steep learning curves. We found the lack of simple and affordable IT systems to one of the important barriers to OA publishing.

**3. Business Models:** Revenue from sale of printed journals is an important source of income for most associations, academies or institutes. Willinsky[7] has dealt with the financial complexities of scholarly journals from such learned societies. Though not greedy for profits most publishers have apprehension about the loss of revenue if the journal becomes freely available online.

Much effort has gone into exploring effective business models for OA publishing. Experiments have mostly been top-down approaches, like mandating OA on grants, research grants accommodating ‘author publishing fees’ and using public funds to subsidize costs. We now need a bottom-up approach that by breaking down the work of publishing into different components can see which of these can be done away with and what other means of income can exist.

The JRD Tata Memorial Library of the Indian Institute of Science, Bangalore gets 1238 journals by spending public funds of about \$2.5 million[8]. That works out to be about \$2019 per journal subscribed. A major chunk of this goes to Elsevier – a commercial publisher. Let us consider a back-of-the-envelope calculation of the actual cost of producing an online journal in India. The Journal of Cancer Research and Therapeutics (JCRT) (<http://www.cancerjournal.net>) is the OA publication of the Association of Radiation Oncologists of India (AROI) and is published quarterly. The annual cost of publishing this journal in print and electronic is about \$10000. JCRT uses the services of a Medknow (<http://www.medknow.com>) to host the journal online. JCRT has a about 1000 print subscribers, where as the members of AROI get it free. That works

out to be \$10 for every subscriber who pays for the print journal. We are not considering some figures here like the membership fees paid by members, costs associated with running the association's office etc. Though the comparison here is superficial, it does give the feel that the cost to produce a journal in a developing country may actually be much cheaper than what our libraries pay to a commercial publisher.

An online only journal would cost much less to publish. An IT system that takes care of the needs of many publishers synergistically can further drive down the costs. Our challenge is to demonstrate an OA journal that can break even in the existing environment. An ad-sponsored publishing model also seems to be a good bet. But this may be a chicken-and-egg problem for small or new journals because advertising requires that the journal first be widely read.

This fear of loss of income is one of the biggest barriers that we could notice to OA publishing. And that fear can be mitigated by demonstration of robust business models.

**4. Indexing services and standards:** The success of any journal is its impact. Impact happens when two conditions are met – one, publishing high quality papers and two, making them visible to the right users. While journal publishers are very concerned about the impact of their journals, we found very little awareness about the automated indexing and online presence. Even among the OA journal publishers the advantages of exposing metadata using OAI-PMH standard for automated harvesting was lacking.

Today when a researcher is about to begin work on an unfamiliar topic, he would probably not head to the library – he would instead make a keyword search on Google Scholar or Scopus or one such discovery tool. Commercial publishers have successfully

reinvented themselves as aggregators and have taken on the role of the indexing and abstracting journals. As Bjork[6] mentions, OA journals should have their presence on these systems so that the users discover them there. But OA advocates should insist that OA status of the articles be clearly indicated in the metadata and the full text should be available freely from the indexing portals. For example, SpringerLink indexes the 11 OA journals of IASc, but clicking on the 'full text' on SpringerLink leads you to a shopping cart even though the free online version is at the IASc website[9]. But JGate (<http://jgate.informindia.co.in/>), a similar aggregator from Informatics India clearly mentions the open access status of the articles it indexes and leads to the freely available full-text article at the publishers' site. In fact, Open JGate (<http://www.openj-gate.com/>) indexes OA journals only and is freely available.

**5. Academic rewards system:** A widely accepted measure of academic quality is defined by ISI's Impact Factor of journals in which research papers get published. While this is understandable in the pure sciences, there are certain applied disciplines like medicine, agriculture, humanities and social sciences where local relevance matters most. For example, does it not make sense to publish research about an agricultural crop disease in Kerala (a state/province in India) in a local or national level agricultural journal rather than an international one? Academic bodies and professional associations should develop their own versions of impact factors that can be used by research organizations to measure the academic pursuits of their researchers. Where there exist so many highly specialized bodies of knowledge, isn't it time we moved away from a single impact factor system that bundled up say, all science journals together? Each discipline could have its own "Faculty of 1000"[10].

We did not measure the impact of this issue in our workshops but literature [11] reveals the cynicism in academia about current use and misuse of measuring academic contributions. This practice is not only a barrier to popularity of OA journals but also a danger to egalitarian nature of scholarly work itself.

**6. Marketing and critical mass:** Bjork[6] mentions that new OA journals are disadvantaged because it takes time to build a good brand name and therefore attract good quality papers, a difficult task when competing with already established commercial journals. But the experience of Bavdekar and Sahu[12] is different. Making the Journal of Postgraduate Medicine (JPGM) OA actually increased submissions to their journal by 43% per cent over 5 years with significant increase from foreign nationals, giving them a larger pool of work to choose good articles from. In 2003-2004 about 40% of the foreign contributors to JPGM were from UK and US. The authors also report increase in citations received by articles published in the journal. If publishers from countries like India play it right by understanding the online world, they may actually be at an advantage. Having an online presence can also reduce plagiarism, a plague for a small journal. The fear of being discovered online and its consequences can deter submitting plagiarized material, thus improving quality.

We feel that the marketing and branding issues are closely related to understanding indexing mechanisms and having an online presence. Greater awareness of these is required among the publishers.

### **Suggestions to improve electronic publishing in developing nations:**

Based of these barriers and our SJPI experience we suggest the following measures to promote electronic publishing of journals in developing countries like India.

### **1. Build a centralized IT Infrastructure:**

Even well established academies with large public funds find it very cumbersome to build an entire system on their own. Small publishers would not find it economically viable. One of the feedbacks we got during the workshops is to make available a centralized system that is available to any publisher for free or at a nominal cost. One way to accomplish this is for publishing units to form a guild to pool in resources to build one such shared system. But journal publishing is an academic pursuit and editors of journals do not have the inclination to form guilds or associations with people outside their sphere. We suggest that the governments or NGOs of developing countries form an institute or organization that can put in place a centralized system. Such a system could also address other related concerns like indexing standards and long-term preservation of digital material.

**2. Create awareness among academia:** There is a need to create greater awareness of OA concepts and its modes among the research scholars. While awareness may exist, there are lingering doubts about the quality of OA journals and the robustness of its economic models. One scientist was surprised when told that in 2004 there were 239 OA journals indexed in ISI citation databases. These formed approximately 2.6% of the nearly 9000 journals in the Web of Science and approximately 1% of the 20,000 journals in ISI Web of Knowledge.[13] Another way to promote OA is to build communities of students and young researchers that interact on the lines of Open Source Software communities.

**3. Improve quality of OA journals:** One of the concerns we find is low quality of many Indian journals. A feedback we received during the workshop is the need of training



programs for editorial staff on good peer reviewing and English language usage. The centralized institute we suggested above can take care of this requirement by periodically conducting training programs and awareness campaigns.

**4. Indexing and marketing of OA journals:** It is important to create awareness about the issue of indexing and marketing of journals among the small academic publishers. Right now, the inclination is to hand it over to a commercial outfit without looking at the implications of OA. While tech-savvy publishers sell the right to index their content, those not aware of these trends gratefully hand over their entire content to an indexer.

Another thing to educate publishers that studies have shown [12] that OA does not reduce the print subscriptions of the journals. Even when fears persist publishers can adopt delayed OA or at least make metadata available in electronic format for automated harvesting by indexers.

**5. Educate policy makers about OA:** Policy makers can promote OA or electronic publishing through many initiatives. Funds similar to library budgets can help pay ‘publishing fees’ to OA journals at every research institute. Library budgets and OA funds can be linked in some way. If the library can save on journal spending then that fund can be used for publishing in OA journals. This may appear to be an absurd idea at first. But Balaram[14] in an editorial in *Current Science* describes how an exercise to prune library subscriptions at the Indian Institute of Science (IISc) library resulted in savings of \$250,000. Such a linking of library budgets with ‘author-publishing-fees’ budgets will motivate academicians and librarians optimize the use of commercial publications and rely more on OA journals. There can also be national policies like that

of the National Institute of Health in the United States that mandate OA of publicly funded research.

Considering the unique position that developing countries have, solutions to promote electronic publishing of journals should be a blend of technological implementations, policy decisions and a promotional activities – converting human will as much as systems. Since we have only one community to address it to - our academicians, who also happen to be publishers, the task though not simple, appears to be more straightforward. The establishments of IT systems and mitigating the fears and apprehensions of the community will greatly increase the flow of scholarly information from the analogue to the digital world and from closed to open access – thereby increasing visibility and barriers to its access.

### **Conclusion:**

Currently, the directory of Open Access Journals (DOAJ) lists 104 journal titles when you search with the keyword “India” (Searched on 7<sup>th</sup> September 2008). A presentation by Prasad, ARD [14] lists 112 Indian OA journals. While there are initiatives by individual publishers like *Journal of Tropic Agriculture*, a large majority of these OA journals are from two IT Systems – 38 from Indian Medlars Center (<http://medind.nic.in>) and 61 from Medknow (<http://www.medknow.com>). While these two systems support publishing using OAI-PMH protocols, the OA journals published by the National science academies, Indian Academy of Science (IASc) and Indian National Science Academy (INSA), continue to be simple html pages.

The SJPI project was initiated with the view of looking into the problems of journal publishing in India and disseminating information about it. The barriers to

electronic publishing and our suggestions to overcome them are obtained by watching from the sidelines. But the need right now is to take actions based on these and other suggestions by experts the field. New problems may be revealed while in action, and necessitates constant interaction among the stakeholder. The need right now is not just think of the current viability but also seek new possibilities for the future.

In keeping with the times let me quote from Kathleen Fitzpatrick's twitterings on her blog on June 12 2008. Her plans for a book titled *Planned Obsolescence: Publishing, Technology, and the Future of the Academy*, are given as follows:

“...focus.. not just on the technological changes that many believe are necessary to allow academic publishing to flourish into the future, but on the social, intellectual, and institutional changes that are necessary to pave the way for such flourishing. In order for new modes of communication to become broadly accepted within the academy, scholars and their institutions must take a new look at the mission of the university, the goals of scholarly publishing, and the processes through which scholars conduct their work. We must collectively consider what new technologies have to offer not us, not just in terms of the cost of publishing or access to publications, but in the ways we research, the ways we write, and the ways we review.”[15]

## Appendix A: List of journals used in the project

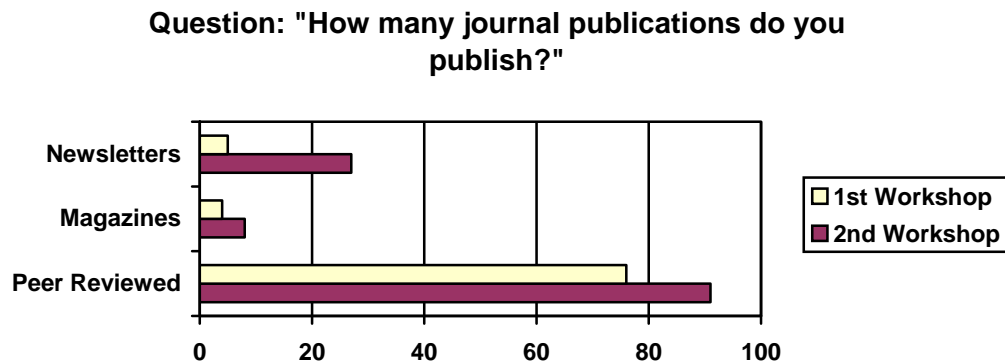
Prototype OJS systems for the following journals were setup as part of the project. This list includes a link to the original website of the journal as well as that of the demonstration prototype.

	<b>Journal Name</b>	<b>URL of the Prototype</b>	<b>Original URL</b>
1	SERLS Journal of Information Management	<a href="http://sjpi.ncsi.iisc.ernet.in/sjim">http://sjpi.ncsi.iisc.ernet.in/sjim</a>	Not published online
2	Journal of the Indian Institute of Science	<a href="http://sjpi.ncsi.iisc.ernet.in/jiisc">http://sjpi.ncsi.iisc.ernet.in/jiisc</a>	<a href="http://journal.library.iisc.ernet.in/">http://journal.library.iisc.ernet.in/</a>
3	Current Science	<a href="http://sjpi.ncsi.iisc.ernet.in/ias/cs">http://sjpi.ncsi.iisc.ernet.in/ias/cs</a>	<a href="http://www.ias.ac.in/currsci/index.html">http://www.ias.ac.in/currsci/index.html</a>
4	Pramana	<a href="http://sjpi.ncsi.iisc.ernet.in/ias/pramana">http://sjpi.ncsi.iisc.ernet.in/ias/pramana</a>	<a href="http://www.ias.ac.in/pramana/index.htm">http://www.ias.ac.in/pramana/index.htm</a>
5	Journal of Chemical Sciences	<a href="http://sjpi.ncsi.iisc.ernet.in/ias/jcs">http://sjpi.ncsi.iisc.ernet.in/ias/jcs</a>	<a href="http://www.ias.ac.in/chemsci/index.html">http://www.ias.ac.in/chemsci/index.html</a>
6	Proceedings – Mathematical Sciences	<a href="http://sjpi.ncsi.iisc.ernet.in/ias/pms">http://sjpi.ncsi.iisc.ernet.in/ias/pms</a>	<a href="http://www.ias.ac.in/chemsci/index.html">http://www.ias.ac.in/chemsci/index.html</a>
7	Proceedings – Earth and Planetary Sciences (Now changed to ‘Journal of Earth System Sciences’)	<a href="http://sjpi.ncsi.iisc.ernet.in/ias/peps">http://sjpi.ncsi.iisc.ernet.in/ias/peps</a>	<a href="http://www.ias.ac.in/jessci/index_body.html">http://www.ias.ac.in/jessci/index_body.html</a>
8	Sadhana	<a href="http://sjpi.ncsi.iisc.ernet.in/ias/sadhana">http://sjpi.ncsi.iisc.ernet.in/ias/sadhana</a>	<a href="http://www.ias.ac.in/sadhana/index.html">http://www.ias.ac.in/sadhana/index.html</a>
9	Journal of Biosciences	<a href="http://sjpi.ncsi.iisc.ernet.in/ias/jbs">http://sjpi.ncsi.iisc.ernet.in/ias/jbs</a>	<a href="http://www.ias.ac.in/jbiosci/index.html">http://www.ias.ac.in/jbiosci/index.html</a>
10	Bulletin of Material Sciences	<a href="http://sjpi.ncsi.iisc.ernet.in/ias/bms">http://sjpi.ncsi.iisc.ernet.in/ias/bms</a>	<a href="http://www.ias.ac.in/mater sci/index.html">http://www.ias.ac.in/mater sci/index.html</a>
11	Journal of Astrophysics & Astronomy	<a href="http://sjpi.ncsi.iisc.ernet.in/ias/jaa">http://sjpi.ncsi.iisc.ernet.in/ias/jaa</a>	<a href="http://www.ias.ac.in/jaa/index.html">http://www.ias.ac.in/jaa/index.html</a>
12	Journal of Genetics	<a href="http://sjpi.ncsi.iisc.ernet.in/ias/jgen">http://sjpi.ncsi.iisc.ernet.in/ias/jgen</a>	<a href="http://www.ias.ac.in/jgenet/index.html">http://www.ias.ac.in/jgenet/index.html</a>
13	Resonance	<a href="http://sjpi.ncsi.iisc.ernet.in/ias/resonance">http://sjpi.ncsi.iisc.ernet.in/ias/resonance</a>	<a href="http://www.ias.ac.in/resonance/index.html">http://www.ias.ac.in/resonance/index.html</a>

## Appendix B: Feedback from participants of the SJPI workshops

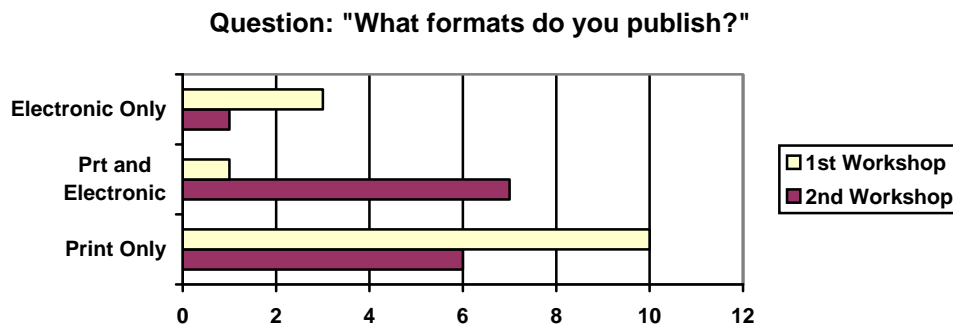
Responses to six questions posed to around 40 participants of the two SJPI workshops

### 1. How many journal publications do you publish?



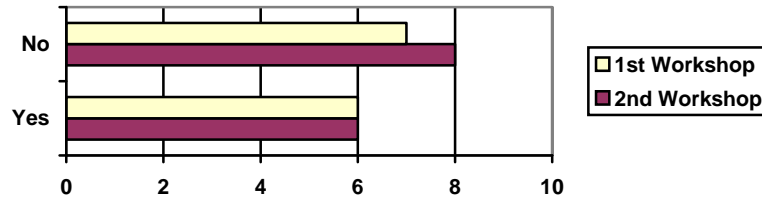
**Other publications:** Institutional Repository, Annual Reports, Conference proceedings, Book, Monographs, Educational CDs (Multimedia Packages), Annual Reports, Annual Brochure, workshop, articles, and E-mail discussion groups

### 2. In what formats do you publish?



### 3. Are the publications 'Open Access'?

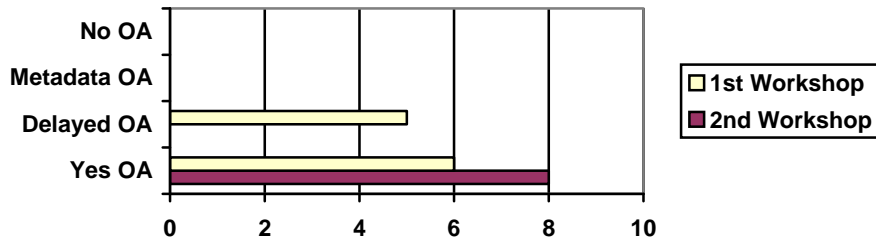
**Question: Are the publications OA?**



Other Answers: 'Not all' (there are more than one published by an organization)

**4. If 'No' would you consider making them Open Access?**

**Question: If you do not publish OA, would you making them consider OA?"**



**5. What in the Indian scenario are the problems in making journals open access?**

**Responses from the first workshop:**

Publishers think that they will lose subscribers. They want to increase their paid subscribers base. If a subscriber can access their journal free of cost then why will he subscribe?

The fear of losing income from journal subscriptions

Loss of subscriptions to the journals

Loss of revenue to meet printing cost

Most journals are not regular; They do not have archives available in soft copy;

Societies are not willing as subscription revenue is the only source of income and every project has to be self sustaining

Loss of revenue to meet printing cost

Main problem is fund.

Lack of skill, copyright issues, lack of will power to adapt to new technology as well as fear of loss of revenue

Lack of awareness in regard to benefits of OA.

Lack of technology and skilled people. Even if available people are not interested in doing Open Access

In many places in India, Internet connectivity is not there or poor. Hence OA cannot be the only option. In parallel we need to continue with print publication also

The inhibition to use computers.

Weak financial positions of the publishers

It depends on organization to organization

### **Responses from the second workshop:**

Technical problems – can be surely overcome (After this workshop we are confident to switch to open access.)

Financial problems – In open access we have to have the full text free, this may affect the print circulation of the journal and affect the finance of the journal.

Only problems I see are the computer savvy of author and reviewer especially with OJS sometimes.

I feel sincere effort are on strong support from data provider/authors will encourage. Impact of the journal impact factor need to come by the contribution.

Lack of expertise.

We need training & lack of IT & interest.

Subscription, copy right, designing.

To publish this journal (KELPRO Bulletin) we are spending money. If we make open from where we will get money to print the next issue if charge, you have to give the password.

Contributions, internet connectivity across India, especially smaller places.

Lack of knowledge about the publicity of modeling journals open access.

Copyright, price.

Promising.

Management policy & infrastructure.

Publishers are not interested because they thought that it would affect their profit. Sometimes technical problems also prevent from open access.

Lack of technical know – how

Fear of loss of several.

Fear of additional expenditure.

Low user demand.

There is a need have trained editors, reviewers and section editors to use a system like OJS

The journals if made open access, the copyright is not held by the journal. It might give problems.

### **6. What do you think are the problems in making journals OAI-PMH compliant?**

#### **Responses from first workshop:**

None

The unavailability of technology for OAI to all editors/publishers of journals.

Awareness on how to load, if my system admin had attended it would have been better

I think after attending the workshop, there is no problem to make OAI-PMH  
Do not have knowledge to comment on this  
Lack of proper training

**Responses from second workshop:**

No problem as far as I can see it.  
I don't perceive any problem.  
Lack of technical people.  
Actually no, but might be occur while shifting operating system windows to  
Linux.

**References:**

1. Open Society Institute, 2002, *Budapest Open Access Initiative*, Budapest, Hungary.  
(<http://www.soros.org/openaccess/read.shtml>) 22 Sep 2008.
2. Sherpa RoMEO, Statistics. (<http://www.sherpa.ac.uk/romeo.php?stats=yes>) 22 Sep 2008.
3. Kumari, Lalitha, 'Global Access to Indian Research: Indian STM Journals Online',  
*Issues in Science and Technology Librarianship*, 2005, Vol. 42, Spring.  
(<http://www.istl.org/05-spring/article3.html>)
4. Abraham, Thomas and Minj, Suvarsha, 'Scientific Journal Publishing in India:  
Promoting electronic publishing of scholarly journals in India', 2007, *First Monday*, Vol.  
12, No. 10. (<http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1954>)
5. Kumar, B.M., 'Journal of Tropical Agriculture: The first agricultural science journal in  
India with an online editorial system', *Current Science*, Vol. 92, No. 8, p. 1034.  
(<http://www.ias.ac.in/currsci/apr252007/1034.pdf>)
6. Bjork, Bo-Christer, 'Open access to scientific publications – an analysis of the barriers  
to change?', *Information Research*, 2004, Vol. 9, No. 2. (<http://informationr.net/ir/9-2/paper170.html>)



7. Willinsky, John, 'Scholarly Associations and the Economic Viability of Open Access Publishing', *Journal of Digital Information*, 2003, Vol. 4, No. 2, Article No. 177, 2003-04-0. (<http://jodi.tamu.edu/Articles/v04/i02/Willinsky/>)
8. Madras, Giridhar, 'Scientific Publications: The rising cost of monopolies', 2008, *Current Science*, Vol. 95, No. 2, pp. 163-164.  
(<http://www.ias.ac.in/currsci/jul252008/163.pdf>)
9. Minj, Suvarsha, 'The dynamics of open access publishing', 2008, *Current Science*, Vol. 95, No. 11, p.316. (<http://www.ias.ac.in/currsci/aug102008/316.pdf>)
10. Faculty of 1000. (<http://www.facultyof1000.com/>)
11. Monastersky, Richard, 'The Number That's Devouring Science', *Chronicle of Higher Education*, 2005, Issue October 14, 2005.  
(<http://chronicle.com/free/v52/i08/08a01201.htm>)
12. Bavdekar, S. B. and Sahu, D. R., 'Editors' Report - Path of Progress: Report of an Eventful Year for the Journal of Postgraduate Medicine' *J. Postgrad. Med.*, 2005, Vol. 51, No. 1. (<http://hdl.handle.net/1807/6780>)
13. McVeigh, Marie E., *Open Access Journals in the ISI Citation Databases: Analysis of Impact Factors and Citation Patterns A citation study from Thomson Scientific*, Thomas Scientific, 2004.  
(<http://scientific.thomsonreuters.com/media/presentrep/essayspdf/openaccesscitations2.pdf>)
14. Balaram, P., 'Science Journals: Issues of Access', *Current Science*, Vol. 94, No. 7, pp. 237-238 (<http://www.ias.ac.in/currsci/apr102008/837.pdf>)

15. Prasad, A R D; *Open Access Movement in India*

(<http://www.openstarts.units.it/dspace/handle/10077/2605>)

16. Planned Obsolescence [blog on the Internet], June 2008 - [cited 2008 September 22].

Available from: <http://www.plannedobsolescence.net/planned-obsolescence-the-proposal/>