
DEVELOPING E-JOURNALS CONSORTIUM IN INDIA : A NEW APPROACH FOR RESOURCE SHARING IN DIGITAL AND NETWORK ENVIRONMENT

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Abstract

Electronic publishing has been revolutionizing the format of the recorded knowledge. Electronic information services are attracting reader's attention in today's network environment. This changing scenario in library environment has arisen for the need and use of e-journals along with print version. Electronic journals (e-journals) bring new challenges before the library and information professionals to give full text access to scholarly publications both in print and electronic version to its end users. The aim of this paper is to identify various issues relating to access and bibliographic control of e-journals, access management problems, policy issues, and development of e-journals consortium approach to subscribe scholarly peer reviewed journals for their library users in network environment. It also describes a brief account of UGC-INFONET E-Journals Consortium, INDEST, FORSA, and other consortium for providing access to scholarly journals to the end users of universities and institutions of higher learning for their R& D activities.

Key Words: University Library, Digital Library, E-Journals, E-Journal Consortia- India, INDEST Consortium, UGC-INFONET E-Journal Consortium, Aggregators, Gateways , INFLIBNET

1. Introduction

Electronic publishing has been revolutionizing the format of the recorded knowledge. Electronic information services are attracting reader's attention in today's network environment. This changing scenario in library environment has arisen for the need and use of e-journals along with print version. Electronic journals (e-journals) bring new challenges before the library and information professionals to give full text access to scholarly publications both in print and electronic version to its end users.

The aim of this paper is to identify various issues relating to access and bibliographic control of e-journals, access management problems, policy issues, and development of e-journals consortium approach to subscribe scholarly peer reviewed journals for their library users in network environment.

1.1 Concept and Definition of E-Journals

The concept of e-journals has emerged from 1980's onward which were initially made available in CD-ROM formats and then advent of WWW and Internet has accelerated the publication of electronic version of print journals whose number has been increasing by leaps and down. According to the statistics published in the Seventh edition of the Directory of Electronic Journals, Newsletter and Academic Discussion Lists in 1997, 1049 e-journals were enlisted which rose to 3,915 in its 2000 edition. Now the numbers would might have crossed 10,000 plus. Due to convenient in access, cost effective in publication and distribution, most of the publishers have started publishing e-version of their print journals.

1.2 E-Journals are defined as

- “A publication whose primary means of delivery to subscribers is through a computer file.” Today, most often this means being published on the web but it also could mean being published on CD-ROM or DVD or as text file distributed by e-mail.
- Any serial produced, published and distributed via e-networks such as BITNET and Internet. E-journals may be defined very broadly as any journals, magazines, e-zine, newsletter or type of e-serial publication, which is available over the Internet (Mc Millan).

1.3 Need for E-Journals

Natarajan (2004) has identified and enlisted some of the need of e-journals for the users which are as follows:

- To support simultaneously paper and e-methods of knowledge dissemination;
- Interdisciplinary research and new fields have increased the scientist's demand;
- Academics to distribute their own resources using new technology; and
- To provide remote access, simultaneous use by more than one user, timely access, searching capabilities and the feature like links to related items.

2. Modes of Acquisition of E-Journals

E-Journals are available in different formats for accessing like ASCII Text, HTML, WWW Pages and some use PDF (Adobe's Portable Document Format). The e-journals are acquired through a number of sources including registration for free online access offered in conjunction with print subscription, consortium licenses, aggregation of journals compiled by third party vendors and licenses for individual journals titles negotiated directly with publishers.

Natarajan (2004) has explained the criteria for selection of e-journals for subscription individually or under consortia mode, which are as follows:

- Content: Before acquiring e-journals one should compare the content of e-journals with the printed version in terms of completeness verses selectivity, back file coverage and update;
- Added Values: Wider access, searchability, potentially greater currency;
- Functionality: Usability, searching and limit functions linking;
- Technical Consideration: Hardware and software requirements;
- Licensing Agreement: License restrictions, ongoing access rights, cost of the journals etc.;
- Service Impact: Documentation, publicity, staff training needs

2.1 Problems Facing by Librarian in Acquiring E-journals

For accessing e-journals the concerned libraries have to sign an agreement with the publishers of that particular journals and get login and password. Payment has to be made in foreign currency if we purchase e-journals through the publishers directly. At the same time one has to keep record of login and

password provided by the individual publishers for accessing e-journals. Therefore there is a need of purchasing e-journals from a vender or e-journals aggregator who can arrange to supply the required titles of any publishers at one point either on the basis of login and password basis or on IP address. Since e-journals are costly, library and information centres of particulars interest may come together and form consortia and negotiate with the publishers or aggregators to have access of e-journals for their library users. The consortia approach of acquiring e-journals are very much popular in USA, UK and many western countries which is now coming up in India with the forming of INDEST, FORSA, CSIR, IIM, and UGC-INFOENET e-journals consortia. The consortia like INDEST, FORSA and CSIR are running successfully and UGC-INFONET Consortia for e-journals access managed by INFLIBNET are under experiment and trials. We hope in near future these consortia will also run successfully and both publishers as well as UGC will be benefited.

2.2 Challenges of Managing E-Journals

At present selected university libraries of India (150 universities approx.) are getting the benefit of accessing e-journals, which will certainly boost the quality of research in terms of originality and currency in research. If we look few years back when it was very difficult to get the copy of the reprint of the published journals in any disciplines. For that we had to refer the indexing and abstracting journals (secondary sources) from where detail postal address and telephone and Fax numbers is to be collected by the researcher and then researcher has to send a request letter for sending a copy of the articles or reprint of the paper as complementary copy. Most of the concerned author used to honour the request of the researcher and send the reprint by post.

Now a day the situation has already been changed. Most of the foreign scholarly journals are being published by the renowned publishers which were earlier publishing print version have also started publishing journals in electronic or in digital form. The access of the e-version is either free of cost in case of some society publications which can be accessed over the Internet free of cost. But most of the journals, which are published by the commercial publishers, like Springer Link, Kluwer Online, Elsevier Science, IEE, and IEEE, ACM Digital Library, Emerald, etc. the access of e-journals are restricted to the subscriber institutions or individual subscribers only.

2.3 Access Control of E-Journals

The commercial e-journals publishers or e-journals aggregators or gateways provide access of e-journals and other e-products like CD-ROM Databases or Online Databases through login and password. In some institutions access to e-journals and other products are being given through the range of IP addresses provided by the institutions for their end users. Journals can be accessed within the campus over Campus Wide LAN. The Off Campus access is being provided by the institutions through Web OPAC by providing web links to the e-journals by hosting the home page of the concerned library. The login and password is provided to the semester students for one session and the password has to be changed for the new entrants or fresher.

The commercial publishers of e-journals are also giving one set of e-journals in CD-ROM/ DVD for archival purposes. Some times e-version access is being provided with the subscription of printed version with little more charges in comparison with the printed version of journals. Before expiry of the agreement, the institutions concerned should renew subscriptions to all the publications so that uninterrupted supply of the print version of journals and access to the on-line version of the journals can be made available to the library users.

2.4 E-Journals Subscription Policy Issues

Various policy issues are to be addressed by the decision makers before subscribing the requested e-journals. There is a control mechanism which record all the hits of a particular website home pages of the subscribing institutions. Therefore various issues like privacy of access, accountability and the collection management data etc. can be addressed either by legal means or through technical means or through both ways for accessing of e-journals .

Besides this policies are to be formulated for the access management components like problems in management of subscriptions to e-journals , user awareness training and acceptance by the users as well as by the publishers, system integration and cost of e-journals are the major issues which is to be addressed.

3. E-Journals Consortium Initiatives in India

In Indian scenario the concept of establishing digital libraries is coming –up. The modern computerised libraries where all library operation are being carried out by the specialised library application software and suitable hardware and software for creating and using library databases. These libraries are also having traditional collections but the are procuring digital resources in the form of e-journal subscriptions, bibliographical and Full Text Databases in CD-ROM/ DVD –ROM format, Online Databases of specialised subjects. These e-resources can be accessed over the Internet on IP based identification of users.

UGC & INFLIBNET and MHRD have taken initiatives to give access of scholarly online journals to the academic community of India by establishing e-journals consortium viz., INDEST Consortium, UGC-INFONET E-Journals Consortium, IIMK Consortium which are described briefly in the following lines:

3.1 Access of Scholarly Journals and Databases under UGC-INFONET: E- Journals Consortium

3.11 UGC-INFONET

Universities in India are facing challenges due to budget cut, reduced staff, devaluation of Rupees against major currencies and escalation in the cost of foreign publications. There is a continuous reduction in the subscription to scholarly journals and databases, which affects the research and academic activity. Realising the need of common mechanism for access to scholarly information, University Grants Commission set the priority for providing access to scholarly information for the research and academic community by supplementing the existing collection in the individual universities. The professional periodical literature is now available over the Internet to the University community through UGC-INFONET E-Journal Consortium. This would provide a great boost to the research ad development work in the universities across the country. UGC-INFONET E-Journal Consortium would facilitate free access to scholarly journals and databases in all areas of learning to the research and academic community. This initiative would help to get the discount of more than 85-90% on many scholarly journals and databases and enables the research and academic community to have an access to resources at their fingertips with this initiative (Murthy, Kembhavi and Cholin, 2004).

3.12 Electronic Subscription of Journals under UGC-INFONET

The University Grants Commission (UGC) has initiated a programme to provide electronic access over the Internet to scholarly literature in all areas of learning to the university sector of India. With globalisation of education and competitive research, demand for journals has increased over the years. Due to

insufficient funds, libraries have been forced to cut subscriptions of journals. UGC has turned towards the Internet to cover the gap between demand and supply by way of e-journals that can be subscribed online. Most of the journals are available in electronic form. UGC is also exploring the possibilities of alliances with publishers for adopting a consortia-based approach for e-subscription of journals. These journals will be available over UGC-INFONET to all the universities. Much of the new research publications are also available on the net as free ware, thereby, making quality information accessible to a wider academic scholar base spread across the country at an affordable price.

UGC-INFONET E-Journal Consortium is a new initiative of UGC for networking of Indian Universities, which was launched by UGC in its Golden Jubilee Year 2003 for electronic access to scholarly literature in all areas of learning. This programme is wholly funded by the University Grants Commission and is being administered and monitored by INFLIBNET Centre, an Inter-University Centre of UGC located at Ahmedabad. All universities come under the UGC's purview (171 right now) will be the members of the programme, and it will gradually be extended to colleges as well. Access to various E-Journals has been started from January 1, 2004. It will provide the best current and archival periodical literature, from all over the world, to the university community. It will be helpful in meeting the demand of the university community of India.

The E-Journal Programme aims at covering all field of learning of relevance to various universities comprising of following areas:

- 1 Arts, Humanities and Social Sciences; Physical and Chemical Sciences; Life Sciences; and Computer Science, Mathematics and Statistics.
- 2 The literature, which is being made available to the university community, includes scholarly journals covering mainly research articles, reviews and abstracting databases.
- 3 Access is being provided to current as well as archival literature depending upon the negotiations and availability of on-line version with the publishers.

The UGC-INFONET E-journal consortium covers all disciplines in the UGC curriculum. It also intended to cover all fields' relevance to various Universities including, Arts & Humanities, Social Sciences, Physical and Chemical Sciences, Life Sciences, Computer Science, Mathematics, Statistics etc. E-Journal distributions is expressed in three categories with a division of 48% collections in Science and Technology, 46% collections in Social Sciences and 6% collections in the area of Arts and Humanities. Following table gives the subject wise distribution in UGC Infonet E-Journal Consortia* (This figures are growing as soon as Consortia purchase more journals)

- | | |
|----------------------|-------------------------------|
| • AGRICULTURE [39] | • GEOGRAPHY [45] |
| • ANTHROPOLOGY [45] | • HISTORY [221] |
| • ARCHEOLOGY [17] | • HUMANITIES [26] |
| • ARCHITECTURE [9] | • INFORMATION SCIENCE [19] |
| • ARTS [184] | • LANGUAGE & LINGUISTICS [79] |
| • ASTRONOMY [17] | • LAW [61] |
| • BIOCHEMISTRY [1] | • LIBRARY SCIENCE [36] |
| • BIOLOGY [306] | • LITERATURE [159] |
| • BIOTECHNOLOGY [15] | • MANAGEMENT [16] |
| • BOTANY [39] | • MATHEMATICS [192] |

- | | |
|--------------------------|---------------------------|
| • BUSINESS [43] | • MEDICAL SCIENCE [494] |
| • CHEMISTRY [167] | • PHILOSOPHY [124] |
| • COMMERCE [3] | • PHYSICS [178] |
| • COMPUTER SCIENCE [133] | • POLITICAL SCIENCE [153] |
| • CULTURE [21] | • PSYCHOLOGY [147] |
| • EARTH SCIENCE [64] | • RELIGION [55] |
| • ECOLOGY [7] | • SCIENCES [56] |
| • ECONOMICS [188] | • SOCIAL SCIENCES [166] |
| • EDUCATION [159] | • SOCIOLOGY [155] |
| • ENGINEERING [158] | • STATISTICS [36] |
| • TECHNOLOGY [17] | • ZOOLOGY [16] |

3.13 Brief Status of UGC-INFONET E-Journals Consortium

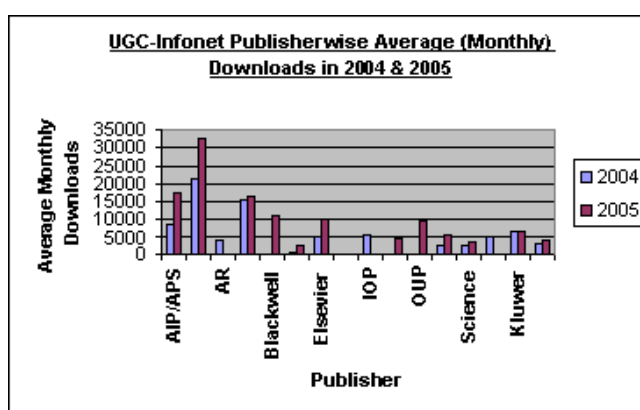
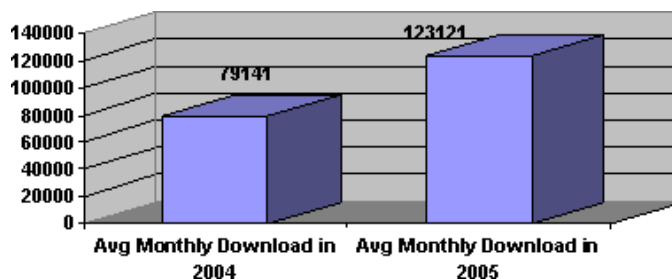
1. Number of E-Journals / databases provided access. (Springer and Kluwer provide access to 1200 titles against 200 journals subscription for the first year, similarly for Blackwell, Taylor and Francis and Oxford provides access to all their Collections against 100 subscriptions. They will charge nominal fees from second year onwards if more than 100 collections are used by universities)	Around 4000 full text journals + 9 Databases
2. Number of Universities given access(Emerald 50-Uni, jSTOR – 34 Univ., Biological Abstracts– 50 Univ.)	100
3. Number of universities given training under user awareness programme	64
4. Number of universities trained under STN Programme for access to Chemical Abstracts	46
5. Number of publishers covered (including portals)	25
6. Number of Universities trained at INFLIBNET in E-resources management	96
7. No. of universities where the posters are distributed	100
8. Number of subjects covered (43 as per chart and table given separate pages)	43
9. Economics of UGC-INFONET shows an overall savings of more than. 350 crores (aprox). to the National Exchequer for 100 universities during the last two years.	
10. Provided print copy of reference guides, the brochures and posters at all the universities time to time.	
11. Hosted the electronic journal consortia on website of the Centre http://unicat.inflibnet.ac.in/econ/mindex.htm and also each university created access facility from their library website to provide easy access to these scholarly resources.	
12. Organized regional level discussions at 7 different places and met the university libraries during 2003 while selecting the resources by the national committee.	
13. Usage statistics shows very good usage in the first year only bringing down the cost per downloads and will reduce further with more and more users use the resources.	
14. 5 National Seminars conducted at Vadodara, Goa, Bangalore, Kolkatta, and Delhi. More than 150 participants participated in these programs and in Delhi the number was more than 250.	

Following e-resources or online e-journals and databases are available for access to 100 universities:

- American Chemical Society (ACS): 31 Journals in Chemistry (<http://pubs.acs.org>)
- Royal Society of Chemistry (RSC): 27 Journals in Chemistry (<http://www.rsc.org>)
- Chemical Abstract Service (CAS) Chemical Abstract Databases: (<http://www.cas.org>)
- Nature Publications: Nature (<http://www.nature.com>)
- Institute of Physics: 36 Journals in physics including archival access (<http://www.iop.org/EJ>)
- Cambridge University Press: 68 Journals from different scientific disciplines. (<http://journals.cambridge.org>);
- Project Muse (John Hopkins University) 220 Journals in social sciences , Humanities, and Mathematics (<http://muse.jhu.edu/journals>)
- BIOSIS: Biological Abstract Databases (<http://www.biosis.org>)
- Encyclopaedia Britannica (<http://www.britanica.com>)
- JSTOR (<http://www.jstor.org>)
- American Institute of Physics: 36 Journals in Physics (<http://www.aip.org>)
- American Physical Society (<http://www.aps.org>)
- Science Online (<http://www.scienceonline.org>)
- Annual Reviews (<http://www.annualreviews.org>)
- Springer Link Journals (<http://www.springerlink.com>)
- Kluwer online (<http://www.kluweronline.com>)
- Emerald Library Science Collections (<http://www.emeraldinsight.com/ft>)
- Elsevier Science-Life Science Collections (<http://www.sciencedirect.com>)
- Ingenta Gateway Portal (<http://gateway.ingenta.com>)
- J-Gate Gateway Portal (<http://www.j-gate.informindia.co.in>)

3.13.1 Month Wise Usage Statistics of E-Journals by Universities

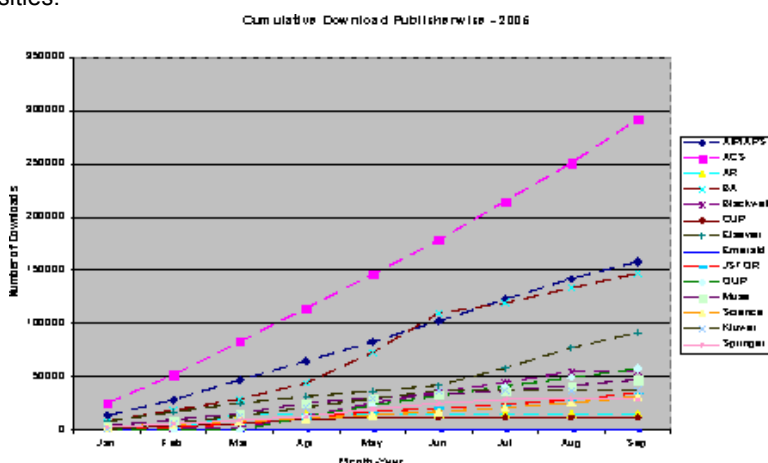
Through UGC-INFONET E-Journals Consortium access has been provided to large number of scholarly journals since January 2004 with an assumption that broader, faster, better access makes more use of information. The goal through UGC-INFONET is to empower faculty and research students make the greatest use possible of an expanding access to information. An effort has been made here to study the usage statistics from different publishers and the data is analyzed in terms of month-wise usage by all universities, the cumulated usage over the months and publishers wise usage of e-journals by the faculty and researchers of Indian Universities selected under this consortium.



Cumulative Downloads by the first 100 universities from 16 publishers for the year 2004 – 2005 is **17,24,970**.

3.13.2 Cumulative Download Publisher wise

The table given below shows the cumulative usage for each publisher by the first 50 universities provided access under the UGC-INFONET consortium. Though the statistics provided here does not represent the whole years data however provides an idea how the usage has been there for different publications by different universities.



It is observed from the table that except one or two publications, all other publications have had a quite satisfactory usage and could be improved in coming years.

3.2 Indian National Digital Library in Science and Technology (INDEST) Consortium

The Ministry of Human Resource Development (MHRD) has set up a “ Consortia –Based Subscription to Electronic Resources for Technical Education System in India” on the recommendation made by the Expert Group appointed by the ministry. The consortium is named as the Indian National Digital Library in Science and Technology (INDEST) Consortium. It is an initiative by Department of Secondary and Higher Education, Ministry of Human Resource Development (MHRD), Government of India. It was established in the year 2003. For more details for becoming member the following web site can be visited: [http:// www.library.iitb.ac.in/indest/](http://www.library.iitb.ac.in/indest/). MHRD has set up the INDEST Consortium Headquarters at IIT, Delhi. Subscription to electronic resources to select MHRD supported institutions (IISc, IITs, NITs, IIMs and few other institutions) is paid directly by the INDEST Headquarters from the fund made available by MHRD. The consortium Headquarters has been functioning function under a National Steering Committee for inter-institutional coordination and for taking decisions on policy issues under the overall policy direction of the Government of India.

The INDEST Consortium being an open-ended proposition, welcomes other educational institutions in the country to join it and obtain maximum benefits it offers through highly discounted subscription rates and better terms of agreement with the publishers. As on date there are 173 members in the consortium which includes 38 core member institutions with primary and secondary status such as all the seven IITs, six IIMs, seventeen NITs, two IIITMs, IIIT, IISc, ISM, SLIET, NITIE, NERIST etc. All electronic resources being subscribed shall be available from the publisher’s website. Local hosting of resources has not been considered at this stage. Membership of the consortium is open to any Government funded and private Engineering/ Technological/ Educational institutions/ Universities for one or more electronic resources. The new members would be required to sign a MoU with the INDEST Consortium as well as with the publishers of electronic resources that they wish to subscribe. The consortium would charge the annual membership fee of Rs. 5000/-.

3.2.1 Following Electronic Resources are available on discounted rates through the consortium:

3.2.1.1 Full –Text Electronic Resources

- IEL Online: IEEE - <http://ieeexplore.ieee.org/> : 780,000 documents from 12,000 publications
- Springer Verlag’s Link -: Springer Verlag –(<http://link.springer.de/>) Full Text Access to 450 journals, and e-books
- Applied Science & Technology Plus (ASTP) : Proquest Information and Learning (<http://www.il.proquest.com/pqdauto>) CD-ROM Databases with access to the Web
- ABI/Inform Complete: Proquest Information and Learning –(<http://www.il.proquest.com/pqdauto>) 1800 Full Text Journals and 2000 journals that indexed and abstracted. Resource is available on Web with CD-ROM backup
- ACM Digital Library: ACM (<http://portal.acm.org/portal.cfm>) Digital version of work published by ACM . ACM Digital Library plus an extended

3.2.1.2 Bibliographic Databases : Online Databases

- Ei Compemdex plus: Ei Compendex (<http://www.engineeringvillage2.org>) Engineering Indexing and Abstracting Services covering 2600 international engineering journals , conference proceedings and technical reports. More than 200,000 new abstracts are added every year.
- INSPEC: IEE (Institute of Electrical Engineers) (<http://www.engineeringvillage2.org>)Databases in Physics, Electronics , Electrical Engineering, Computers & Control and Information Technology covering journal articles, technical reports, books, dissertations etc included in the database of 7.3 million records.
- MathSciNet: American Mathematical Society (AMS) (<http://www.ams.org/mathscinet>) Electronic version of Mathematical Abstract
- Library Gateways: J-Gate: Informatics (India) Ltd.: (<http://j-gate.informindia.co.in>) Internet Gateway and portal offer access to global electronic journal literature 10,000 plus e-journals. Directory of 9000 e-journals and TOC Archives).

3.2.2 INDEST also manages 'JCCC' – J-Gate Custom Content for Consortia

which is a customized solution for accessing and sharing journal literature subscribed by all the IITs, IISc and IIMs, individually and collectively through INDEST Consortium. Joining this community of resource sharing consortium are 17 National Institutes of Technology to whom the benefits of JCCC@INDEST is extended as secondary members. It is a common gateway to access 4,252 e-Journals from 1,028 publishers, subscribed by IITs, IISc. IIMs . The journals of following INDEST Consortium registered publishers are included in JCCC@INDEST.

- ACM Digital Libraries
- American Society of Civil Engineers (ASCE)
- American Society of Mechanical Engineers (ASME)
- IEEE Electronic Library
- Nature
- Science Direct (Elsevier)
- Springer-Link

A total of 6322 requests for research articles were received through JCCC of these 4552 were attended by IIT, Delhi and others by respective IITs /IISc.

Using JCCC@INDEST, Institute can browse Table of Contents (TOC) for journal of choice, Search for articles by Author, title, keywords, etc across all the 4,252 journals, Create Alerts for getting the TOCs from favorite journals to personal e-mail box (MyTOC), Send instant e-mail request, when a user find an article that is not in his/her library but available in another member library.

3.3 FORSA Consortia

FORSA stands for Forum for Resource Sharing in Astronomy and Astrophysics, which was established in 1981. It is atypical example of homogeneous group of members of subject group Astronomy and Astrophysics. Followings are the member of FORSA Consortium:

- Indian Institute of Astrophysics, Bangalore
- Inter-University Centre for Astronomy and Astrophysics, Pune
- National Centre for Radio Astrophysics, Pune
- Nizaminah Observatory, Hyderabad
- Physical Research Laboratory, Ahmedabad,
- Raman Research Institute, Bangalore
- Tata Institute of Fundamental Research, Mumbai
- State Observatory, Nainital

FORSA member libraries have automated their collection, give access to electronic journals, Inter-Library Loan for resource sharing among the member libraries, and provide document delivery services either by speed post, fax or telephone.

3.4 CSIR (Council of Scientific and Industrial Research) Consortium

(http://www.niscair.res.in/activitiesandservices/major_projects/majproj.htm)

Consortia add a vital layer of coordination and expertise allowing individual libraries to easily obtain large numbers of titles while also providing advantageous pricing. Depending from the contribution from the member libraries, some consortia has external funding, many are self –supporting. While describing the consortia approach to accessing e-journals Natarajan (2004), has also explained the formation of CSIR Consortia. National Institute of Science Communication and Information Resources (NISCAIR) has been identified as the nodal organisation for developing a “Consortium for CSIR Laboratories for Accessing E-Journals”. The activity shall range from creation to monitoring of access facility of scientific periodicals. NISCAIR plans to include about 4000 e-journals. An agreement has been signed with M/s Elsevier Science for a period of four years for accessing 1500 journals including Academic Press Journals.

According to Natarajan (2004), the cost benefit has been calculated which came to Rs.134 Crore over print subscription. According to CSIR Statistics, all the CSIR Laboratories subscribed economics552 journals during 2000 from Elsevier Science. Out of which 300 are unique titles and 252 are of duplicates. Now CSIR scientists are able to access the full text of an article without the hassles of foraging for a mishelved issue or waiting its return from the bindery. It plays a very vital role and strengthens R & D in CSIR laboratories, thus leading to knowledge generation useful for socio-economic development of the country.

3.5 IGCAR (Indira Gandhi Centre for Atomic Research) Consortium

In this consortia, the institutions associated with atomic energy and space, have established IGCAR to cater the need of the scientist working in BARC, ISRO etc. on reasonable prices.

3.6 IIM (Indian Institute of Management) Consortium

All six IIMs developed a consortium to subscribe e-journals centrally. The objective was to ensure among the IIMs, optimum utilization and enhancement of the resources, and to minimise the expenditure by consortia based subscriptions to the commonly subscribed databases and journals. The idea was to approach publishers of Electronic Journals and CD-ROM Databases to begin with, as a consortium, for better pricing and services. A pilot study conducted during 1999 revealed that more than 60% of IIMs' electronic resources were overlapping. The additional burden while accessing all the electronic titles across the IIMs for the individual print subscriptions at each of the Institutes were shared equally by working out the license charges for the Enhanced Access License (EAL). Over 1050 E-Journals are directly sourced from publishers and over 12500 E-Journals' aggregated full-text the IIMs are able to get online access across all the institutes by paying a nominal additional amount.

3.7 Urdu Research Library Consortium (URLC) (<http://dsal.uchicago.edu/cgi-bin/uric.pv>)

This consortium has been established by Urdu Research Library to cater the need of researchers in this field.

4. Conclusion

Gradually the e-journals are replacing the print version of the scholarly publications in foreign countries. But still these big publishers whose name has been mentioned above are publishing some printed journals. In India and South Asia or Developing Countries, number of e-journals is less and printed version of the journals is available. Indian Academy of Science and Current Science Association, NISCAIR, Economic and Political Weekly (EPW), Journal of Human Ecology, Journal of Environmental Science, Journal of Digital Library etc. are publishing printed as well as electronic journals.

The e-journals are very much costly. The available funds for the institutions, which are either given by the UGC through MHRD, Govt. of India, or by State Government, is being reduced due to financial crisis and escalation in the price of printing cost and newsprint. Therefore the universities and national institutions like IITs, IIMs, CSIR Research Institute, are looking forward for consortia approach. Through consortium approach various prestigious e-journals & e-databases, etc are centrally subscribing; successfully through INDEST Consortium, UGC-INFONET E-journal Consortium, CSIR Consortium FORSA Consortium, IIMs Consortium, and IGCAR Consortium.

If proper utilised there are many benefit for administration as well as for the library users. For its optimum utilisation, the concerned universities and institutions should install maximum numbers of computer terminals with high-speed proxy server. Regular power supply, regular renewal with archival facilities, maximum utilizations without misuse and uninterrupted Internet connectivity through lease line or V-SAT and user awareness training would certainly make the consortium approach of e-journals access a success for the user community.

By the optimum use of e-journals/ databases, researcher will keep them updated and produce high quality research output which will takes nation on the top. In this direction Ministry of HRD, Government of India, and UGC have established INDEST e-journal consortium and UGC-INFONET Consortium and other small consortium established by Department of Atomic Energy and Space Research , Ministry of Science & Technology is a good start and in near future access of more number e-journals and databases will be provided to the existing member category and more new member university/ institutions will be included in near future.

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