

UGC-Infonet E-Journals Consortium: Access to Scholarly Journals and databases for Indian Academic Community - A Status

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Abstract

Indian universities constitute one of the largest higher education systems in the world comprises of more than 318 universities / institutions, 16500 affiliated colleges, 10 million students with 5 lakhs teachers. Universities across the country have been facing acute shortage of funds to subscribe the costly journals and databases hence restricting the users to get access to scholarly resources. The average number of journals subscribed by the Indian universities was mere 250 to 300 journals until 2004 whereas universities in the western world subscribe to few thousands. The prompted UGC to make optimum utilization of resources through rational use of funds by subscribing to costly scholarly journals under consortia which is popularly known as UGC-Infonet E-Journals Consortium. Thanks to the electronic publishing industry allows access to resources in electronic form at much affordable cost. The facility enables free access to scholarly journals and databases in all areas of learning to the research and academic community across the country covered under UGC. The present paper deals with status of UGC-Infonet E-Journals Consortium and also focus on new initiatives and briefly provide the statistics part.

Keyword: E-journals, Consortium, UGC-Infonet, Academic Community

0. Introduction:

From the beginning, India has been a centre for learning and it constitute one of the largest higher education systems in the world. With more than 318 Universities/institutions, 16,500 affiliated colleges, around 10 million students and 5 lakh teachers. It is a great challenge to ensure effective coordination and communication. Fast changing curricula and frequently introducing of new subjects impose a great demand on the system in general. The purchasing power of university libraries has been eroded by two decades of inflation of at least 10-15% per year in the costs of books and journals, coupled with the continuing explosion in the number of titles published. The situation has been further exacerbated by the need to purchase expensive electronic resources and the static or declining budget allocations to libraries. Thus Indian Universities need to be given the required thrust to enter the third millennium with a leading edge to Indian universities and institutes of higher education and research today have made a significant contribution to transmission of knowledge and enquiry into frontiers of science and technology.

In the field of traditional subjects of arts and humanities as well as in pure sciences, applied physics and chemistry, mathematics and in areas of technology, the universities and higher institutes have been playing a leading role to transform the country into a modern industrialized, technologically advanced state. The ushering of green revolution and tremendous progress in dairy development have made India a major food-producing country on one hand; on the other hand, its development of space technology, production and launching of indigenous satellites, development of peaceful nuclear energy have brought it into the forefront of technologically advanced nations to which a large number

of developing countries looks for training and guidance. The UGC-Infonet E-Journals Consortium effort is a land mark in the history of higher education with access to more than 4000 fulltext electronic journals for the first time and it is expected to bring remarkable change in the academic set with the availability of access to scholars and academicians right on to their desktop.

1. Electronic Journals

The electronic journal is finally "coming of age" as a result of the explosion of Internet use, particularly World Wide Web technology. However, access to electronic journal information is still in its infancy and there are presently a variety of different models emerging in the marketplace which sometimes offers overlapping access to this type of full text information in different ways. The UGC has turned towards the Internet to cover the gap between the demand and supply by way of e-journals that can be subscribed online. Majority of the journals are now available in electronic form. UGC explored the possibilities of alliances with the publishers for adapting a consortia-based approach for e-subscription of journals. And these journals are available over UGC-Infonet to all the universities. New research publications are available on the net as free ware, there by making quality information available to a wider academic scholar base spread across the country at an affordable price.

Access to resources is now considered more important than collection building especially if the access is perpetual in nature. The consortium facilitates the libraries to get the benefit of wider access to electronic resources at affordable cost and at the best terms of licenses. A consortium, with the collective strength of resources of various institutions available to it, is in a better position to address and resolve the problems of managing, organizing and archiving the electronic resources. Moreover, the technology has changed expectations of researchers, their patience, and their willingness to accept services that are available on demand. The Web-based electronic resources is an apt answer to the expectations of researchers. The need of e-journals usage at universities in India is basically for the following reasons.

- Indian Universities are finding it hard to maintain the subscriptions to even for core journals due to ever increasing cost of the journals subscription and also shrinking budget.
- The average number of subscription to international journals by Indian University is even less than 300 titles, where as the average number of journals subscribed by the western countries is much higher.
- Shrinking fiscal resources, price hike in Scientific and Technical journals and also social science titles.
- Academic and Research users can now have access to their learned journal articles in electronic form.
- Qualitative resource sharing for Effective document delivery service.

Thanks to the electronic industry which made it possible to subscribe good number of journals in electronic form and group purchase through consortia. The group purchase through consortia yields lots of savings and results in providing access to large number of resources. It is now easy to handle publishers as they will have single contact for payment and at the same time the access can be provided in electronic form to all the members of the consortium. This has resulted in savings of more than 85-90% compared to print subscriptions. The group purchasing has also enabled much lower price cap with more access to resources as well. Thus the consortium plays a vital role in providing better

access to scholarly information at much affordable cost with more and more publishers offering their bundle pricing to consortium and enjoy the guaranteed annual income.

2. UGC-Inofnet E-Journals Consortium

The UGC-Infonet E-journal consortium is an ambitious programme initiated by University Grants Commission to facilitate free access to scholarly electronic journals and databases in view of limited resources subscribed by majority of universities. This project is our pride in the field of education and research, which was formally launched on the concluding day of UGC's Golden Jubilee celebrations by His Excellency the President of India, Dr. A P J Abdul Kalam at Vigyan Bhawan on 28th December 2003 by dedicating a bouquet of e-journals to the nation. More than 4000 scholarly journals and databases from around 23 major publishers/vendors made available to around 100 universities and the remaining universities will be provided access in stages. From the users point of view it is a great bonanza for them in the absence of such access. Archival access is also available for most of the journals from 1997 onwards and from some publishers the access available from from Vol. No 1 Issue No.1 vi. American Chemical Society, Institute of Physics, JSTOR etc. The subjects covered almost all areas, like Arts, Humanities, Social Sciences, Physical and Chemical Sciences, Life Sciences, Computer Sciences, Mathematics and Statistics. The number of E-journal and name of the Publisher along with their coverage is listed below:

Table 1. Journals subscribed under UGC-Infonet E-journal Consortium

Sl No.	Name of the Publisher	No. of Journals/Database	Coverage/ Back files
1.	American Chemical Society	31 Journals	Vol. 1 Issue 1
2.	American Institute of Physics American Physical Society	27 Journals	1997- Archival files vary from journal to journal.
3.	Annual Reviews	29 Journals	Archival access for the last ten years
4.	Biological Abstracts	One Database	1969-
5.	Blackwell Publishing	489 Journals	1997-
6.	Cambridge University Press	188 Journals	1997-
7.	Chemical Abstracts Services (Sci-finder Scholar) & STN	One Database	1907-
8.	Elsevier Science	34 Journals	Archival access from 1995
9.	Emerald	28 Journals +All Journals trail access upto March, 2006	2001- varies from Journal to Journal
10.	Euclid	18 Journal	2002 varies from Journal to Journal
11.	Encyclopedia Britannica	National site Licensing	1997-
12.	Gateway Portals Ingenta and J-Gate	Cover more than 10,000 Journals up to abstract level	
13.	Institute of Physics	36 Journals	Vol. 1 Issue 1

14	J-STOR	457 Journals	Vol. 1 Issue 1
15	MathSciNet	One database	1940 to current
16	Nature	1 Journals	1997-
17	Oxford University Press	169 Journals	1998
18	Portland Press	4 Journals	1996 to current
19	Project Muse	222 Journals	1999-
20	Royal Society of Chemistry	23 Journals + 6 database	1997-
21	Science Online	1 Journals	1996 -
22	Springer & Kluwer	1217 Journals	1997-
23	Taylor & Francis	1105 Journals	1998-

3. Subject Coverage under UGC-Infonet E-Journals Consortium:

The UGC-Infonet E-journal consortium covers all areas of learning. It further aims at covering all fields' relevance to various Universities including, Arts & Humanities, Social Sciences, Physical and Chemical Sciences, Life Sciences, Computer Science, Mathematics, Statistics etc. The overall picture shows that there has been equal distribution of journals and databases subscribed in the project having **48%** collections in **Science and Technology**, **46%** collections in **Social Sciences** and **6%** collections in the area of **Arts and Humanities**. As and when more resources in Humanities are made available the access could be made possible. Details of major subjects covered with graph given in the main document.

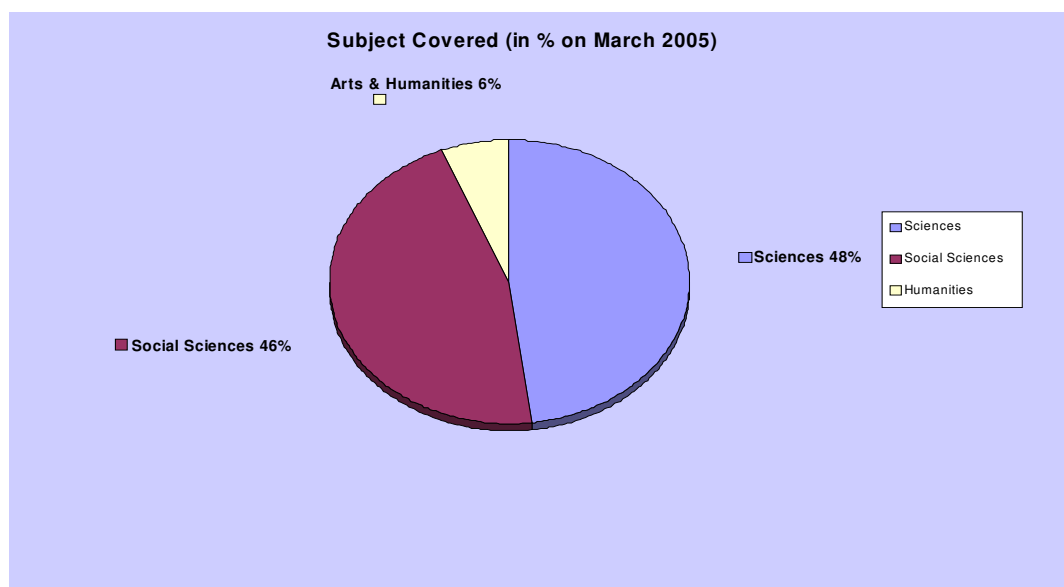


Fig-1 Distribution of Journals by Discipline

4. Universities under the UGC-Infonet Programme

The UGC-Infonet effort is very systematic as it took the connectivity aspect first and provided Internet connectivity to more than 150 universities as on date and the access to e-journals started with first 50 universities had connectivity by January 2004 and was extended to another set of 50 universities by January 2005. This access would be provided

to all other universities based on the actual requirement as most of the universities eligible to receive grants from UGC and running the general courses have all been covered and the remaining are mostly sanskrit universities, language universities etc and based on the actual requirement these universities would be covered from 2006.

5. Training Programmes - Workshops held

Awareness is the key for success of the programme, INFLIBNET conducted number of training courses, workshops and user awareness training programmes during 2004, 2005 and will continue to organize during 2006 for the success of any new initiative and INFLIBNET has conducted several such programs for the benefit of universities and institutions.

Following programmes were arranged in the year 2004 and 2005.

- 6 Workshops on "E-Resource Management Using UGC-'Infonet" of five days each covering 96 universities.
- 58 one day user awareness training programmes at different universities.
- 9 STN training programmes in collaboration with Science Edge Information, Pune and the universities.
- 4 training programmes on JSTOR access - in collaboration with Ford Foundation.
- 5 National Seminars at different universities with the target audience as faculty, research students, library professionals.

6. Economics of UGC-Infonet E-Journals Consortium

The UGC-Infonet E-Journals Consortium is the most ambitious initiative taken so far in the country to serve faculty and students working in the universities and colleges. The benefit of consortia-based subscription to electronic resources is made available during 2004 to 50 universities and many other universities were given trial access and are added to the consortium during 2005. The consortium attracted the best possible price and terms of agreement from the publishers and it has been observed from the last one year that every major publisher wants to become a part of this initiative and is ready to provide the best possible economic model. The consortium provides access presently to more than 4,000 electronic journals from 23 publishers and aggregators. The UGC-Infonet web site provides more details on the journals list and other features.

6.1 Savings

Savings under UGC-infonet is calculated in terms of difference between cost paid by the consortium for member institutions for e-resources and cost payable by individual universities in case the resources were subscribed by them on their own. The table given below depicts that there is a savings to the national exchequer a saving of Rs. 113.20 crores in 2004 and Rs. 228 crores during 2005 with overall figure of Rs. 350 crores approx. considering the fact that the same resources on list price would have cost Rs. 130.11 crores and 256 as against Rs. 16.91 crores and 24.38 crores for the year 2004 and 2005 respectively. The the numbers of journals subscribed also increased in 2005.

Table II. Cost Avoidance: List Price V/s Consortium Price

SI No	Prices in Rupees	Year 2004	Year 2005
1	List Price	130,11,19,000	257,04,10,204
2	Consortia Price	16,91,35,074	28,96,77,148.2
3	Difference	113,19,83,926	228,07,33,056

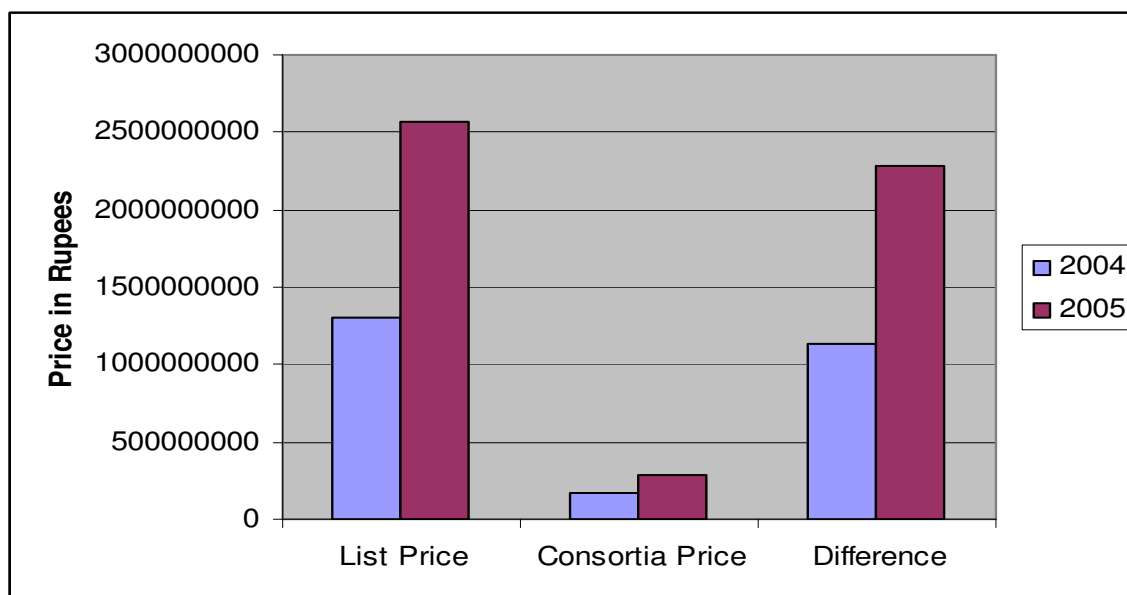


Fig 2. Cost saving from the UGC-Infonet E-journal Consortium for the year 2004-2005

7. Evaluation:

Evaluation has several distinguishing characteristics relating to focus, methodology, and function. It assesses the effectiveness of an ongoing program in achieving its objectives, relies on the standards of project design to distinguish a program's effects from those of other forces, and aims at program improvement through a modification of current operations. The most important assets for a successful consortium is evaluation so it is important to continually gain feedback and rethink, redesign, and improve the consortium's programs, it is also necessary to periodically conduct more comprehensive evaluations measuring the consortium's progress against its stated goals. These evaluations should measure progress against the consortium's goals for itself, for its individual program components, and for each of its member's institute. The usage statistic of the member institute helps to improve the consortium.

Through UGC-Infonet E-Journals Consortium access has been provided to large number of scholarly journals since January 2004. We make a basic 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 the following.

7.1. Period in a month highly used

The following chart shows the month-wise usage by all universities and the second chart shows the cumulated usage over the months.

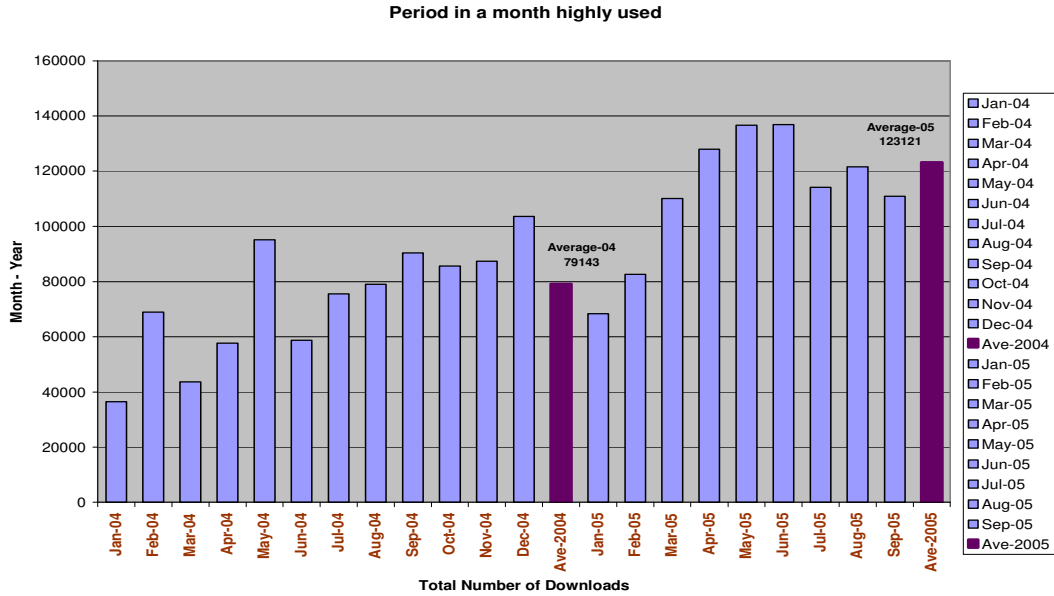


Fig. 3 Monthly Usage of E-journal articles under UGC-Infonet E-Journals Consortium

7.2. Cumulative Downloads by the first 50 universities

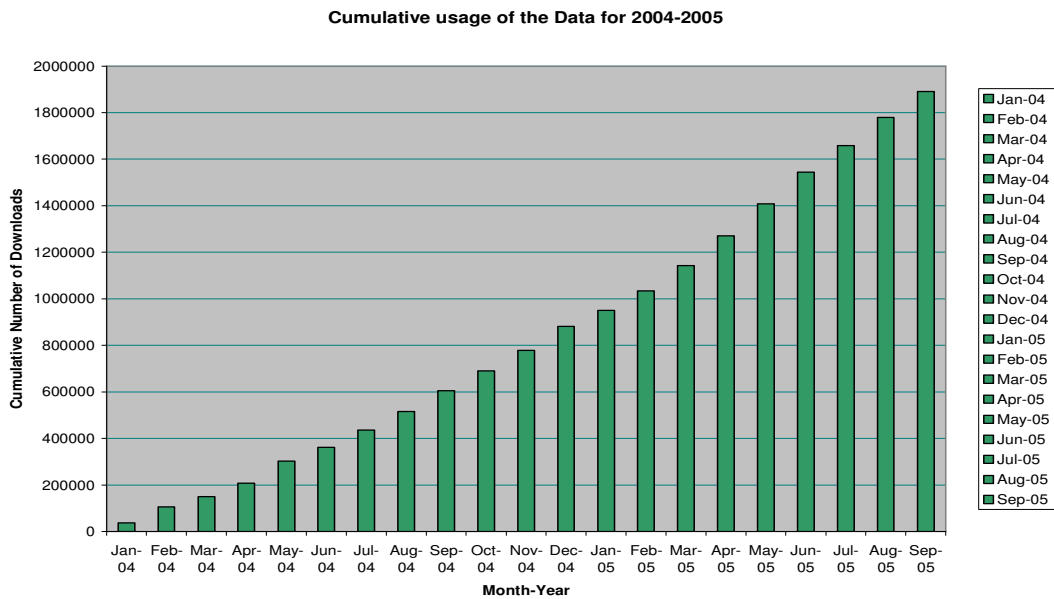


Fig. 4 Cumulative usage of e-journal articles under E-journals under UGC-Infonet E-Journals Consortium

(P.S. - Please note that some publishers viz. IOP, Annual Reviews data not included in this due to non availability of the data.)

7.3. Average number of articles downloaded per month for different publishers is given in the chart below.

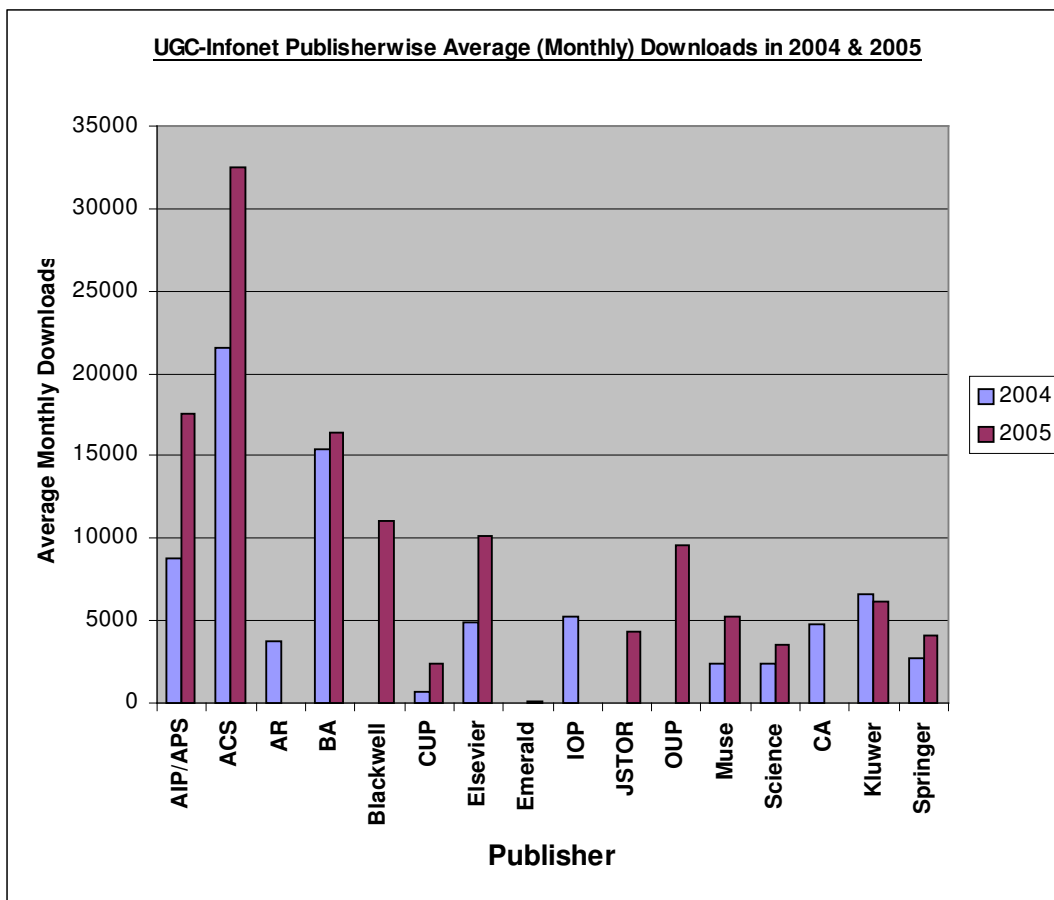


Fig.5 Monthly Average Downloads by Publishers under UGC-Infonet E-Journals Consortium

Note that we have are yet to receive the statistics from some publishers which we stated subscribing from 2005 onwards like Project euclid, Taylor and Francis, Portland Press etc.

7.4 Cost per download

UGC-Infonet no doubt has encouraged many faculty and research scholars to have access to scholarly collections from different publications at the same time INFLIBNET Centre has made considerable efforts to provide training and awareness. There has been an attempt to understand the cost per download based on the actual usage and actual amount spent by INFLIBNET. The cost per download for each publisher shows there is considerable usage from many publications except few publications and the cost per download worksout to be much cheaper (less than 3 to 4 dolloars/article for many collections). With some publishers this was little high and there is a great need to simplify the access procedures and may workout with publishers the possible measure to improve the access and bring down the cost per download next year. An attempt has also been made here to compare the approximate cost paid by the US libraries for providing electronic access to full text collections and found that the UGC-Infonet E-Journals Consortium model is the most economic model.

8. New Initiatives of INFLIBNET through UGC-Infonet E-Journals Consortium

8.1 Associate membership under UGC-Infonet E-Journals Consortium

Presently the access to scholarly journals and databases through UGC-Infonet is restricted to 100 universities and will be extended to remaining 72 universities eligible to receive funding from UGC. Now it's time to broaden the vision in terms of extending the set up to really needy & seeking, where in both the parties are benefited by introducing the associate membership facility to other universities and not-for-profit institutions. The economics of group purchase are far superior to the old rule of the individual library as an economic island. Consortium purchase can enhance vendor revenues and profits while lowering the library unit cost of purchase.

With the kind of success rate in e-journals consortium, large numbers of institutions / organizations are interested to join as associate members on payment basis to get benefit of this endeavor. Extension of this facility through INFLIBNET would be very useful for sharing knowledge and information for better utilization of State-of-the-Art technologies and infrastructure in these institutions and also will bring down the cost of these resources considerably.

The guidelines are being prepared for association membership in terms Membership and charges, the type of agreement to be made, negotiation with the publishers and issues relating to handling of payment ect. This facility would start very soon.

8.2 Extension of E-journals to Colleges under UGC-Infonet E-Journals Consortium

With the experience of UGC-Infonet E-Journals consortium the committee felt it essential for extending the facility to the colleges where from the research scholars and students come for higher studies. This will enable us to create awareness among the users at the graduation level, which can enhance the usage of e-journals at higher level in future. It has also been observed that majority of colleges now have good infrastructure to access the resources.

- There is a great need to provide access to scholarly journals and databases to colleges.
- The base given at the college level will further improve usage at the university level.
- National Steering Committee set up Subcommittee to work on and recommend resources and institutions.
- INFLIBNET took the help of experts and conducted a meeting and prepared the actions items in respect of extending the facility to colleges.
- Recommend 200 colleges on pilot basis the access to resources. The Aggregator products providing access to large number of journals/databases etc is being considered based on the Request for Proposal Public tender approach.
- The Aggregator would be selected based on the various criteria viz. journals linkage from citations to full text, major turnover of the product, number of resources, quality of collections, coverage, efficiency, proven case studies etc.

9. Future Programs under UGC-Infonet E-Journals Consortium

Library consortia have had some success in achieving the bulk purchase of access to databases at considerable discounts. It also allows Institutions to exchange program ideas, best practices, and curricula, and identify solutions to challenges that individual Institution may be facing. It also facilitates joint programming among and makes them possible for centers to share resources associated with programming. For example, a

group of Institutions could pursue large funding that otherwise would not be available to individual centers. Consortia-based subscription to electronic resources provides access to wider number of electronic titles at substantially lower cost.

The future programs include additions of new collections, User Awareness training programs at universities, Collect user feedback time to time and publish in the newsletter as well as on website, UGC-Infonet E-Journals Consortium - Annual Meet and meeting of librarians time to time, Intensive training programs for professionals, Evaluation studies on the benefits of UGC-Infonet E-Journals Consortium etc.

9. Conclusion

INFLIBNET center, An IUC (Inter University Centre) of UGC has been supporting the higher education in India by funding and providing necessary assistance to universities for Automation and Networking for the last several years. The learned journals are the carries of latest information. The academic and research community in the country mainly depends on these journals for their work. Though spending more than 75-80% of the library budget on journal subscription, the libraries are not in a position to meet the requirements of its users due to ever increasing cost of foreign journals the fluctuation in the conversion of Indian Rupees against the major currencies is another worry. It is worthwhile to mention here that, the whole world is moving towards electronic publishing and cost of the electronic publishing is much cheaper than that of the print version. Now the Academic and Research users can have access to resources their area of interest through this initiative. Hence the universities should be encouraged to access the journals in electronic form on the Web.

The e-subscription initiative under UGC-Infonet is expected to trigger remarkable increase in sharing of both print and electronic resources amongst universities across the country. The initiative not only facilitates access to electronic resources subscribed under the program but also access resources of other libraries participating in the consortium. With subscribed resources accessible online in electronic format, the member libraries would have less pressure on space requirement for storing and managing print-based library resources. Moreover, all problems associated with print media such as their wear and tear, location, shelving, binding, organizing, etc. would not be an issue for electronic resources. Many more universities and institutions would join the program soon and it is expected to be one of the largest consortia in the world. The programs need to be extended to others who need such facility and subsequently inculcate reading of electronic journals at grass root level i.e. by introducing the college model which will facilitate millions of young mind to have access to large amount of data being published in all areas of learning. For more details and updated information please visit our website <http://www.inflibnet.ac.in> under e-consortium.

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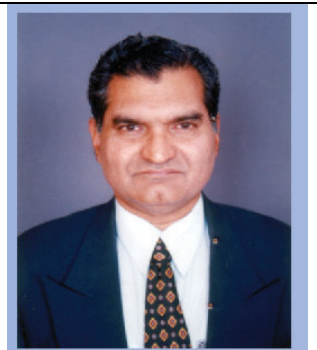
Brief Biography of the Authors:



Dr. V S Cholin, MLISc Ph D, Fulbright Scholar (OhioLINK) visited OhioLINK-OSU USA for six month. Working with INFLIBNET Centre for the last 12 years and has been appointed as Convenor of the National Steering Committee in connection with UGC-Infonet Digital Library Consortium by UGC. Awarded Ph. D in Library and Information Science from Karnatak University, Dharwad. Received ASIS & T International Paper Award 2004 and also received SIS-Professional Young Scientist-2004 award. He has also received the best paper award from Raja Rammohun Roy Library Foundation RRLF for writing the best professional article in 2002. Attended 69th IFLA International conference held during August 1-9, 2003 at Berlin, Germany. He was the coordinator for INFLIBNET Training courses and workshops for many years. Attended International Coalition of Library Consortia - ICOLC Spring Meeting 2005 held at Boston during April 10-13 2005 and American Library Association (ALA) annual conference held at Chicago, during 24-28 June 2005. He has contributed a course block to Post Graduate Diploma in Library Automation and Networking (PGDLAN) course of Indira Gandhi National Open University (IGNOU) and serving as coordinator of IGNOU courses viz. BLIS, MLIS and PGDLAN. He has more than 25 papers to his credit. He has visited several Universities in the country India to deliver lectures training etc. He is currently heading the Informatics division of the centre and looking after the prestigious UGC-Infonet E-Journals Consortium at INFLIBNET.



Ms. Thiyam Satyabati Devi is currently working as a Project Scientist (LS) in the Informatics Division in INFLIBNET Centre. She holds B.Sc. Biochemistry, MLISc and DCA .She had published around 20 papers in Regional, National and as well as in International level. She attended a number of seminars and conferences. She has already submitted her PhD. Theses entitled "Manuscripts of Manipur: A Study in the Modern Perspective" to Manipur University, Canchipur, Imphal. She has worked on a project on Bibliography Compilation of Manipuri Literature under Sahitya Akademi, New Delhi.



Dr. T.A.V. Murthy is currently the Director of INFLIBNET and President of SIS. He holds B Sc, M L I Sc, M S L S (USA) and Ph.D. He carries with him a rich experience and expertise of having worked in managerial level at a number of libraries in many prestigious institutions in India including National Library, IGNC, IARI, Univ of Hyderabad, ASC, CIEFL etc and Catholic Univ and Casewestern Reserve Univ in USA. His highly noticeable contributions include KALANIDHI at IGNC, Digital Laboratory at CIEFL etc. He has been associated with number of universities in the country and has guided number of Ph.Ds and actively associated with the national and international professional associations, expert committees and has published good number of research papers. He visited several countries and organized several national and international conferences and programmes