Use of UGC-Infonet e-journals by research scholars of the Banaras Hindu University, Varanasi: A case study

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Attempts to identify the users’ requirement of online journals in general and to know the use of online journals that are available through UGC-Infonet e-journals consortium in particular. A questionnaire survey was conducted amongst 100 research scholars of various departments like history, political science, sociology, psychology and economics at the Faculty of Arts, Banaras Hindu University, Varanasi. Reveals that there is a demand for more e-journal titles although a substantial number of users (61.90 percent) are satisfied with the existing model of UGC-Infonet Consortium. Concludes that comprehensive training on availability and usability would be of great help to the users.

Introduction

The demand for e-journals by the academic and research community has increased over the years. In India, the University Grants Commission (UGC) has launched UGC Infonet Digital Library Consortium to facilitate access to e-resources to students and researchers in institutions of higher learning, especially universities. The consortium enables the academic libraries to access a large number of scholarly journals from reputed publishers, aggregators and societies. As it was difficult for the universities to raise the necessary funds to develop the network infrastructure, the UGC- INFONET project in collaboration with Education and Research Network (ERNET), has provided the infrastructure and also upgraded existing networks.

The UGC Infonet Digital Library Consortium was formally launched in December 2003 by the Honorable Dr. A P J Abdul Kalam, the then President of India, for internet connectivity in the universities under the UGC-Infonet programme. The Consortium proved to be a boon to university libraries which have been discontinuing subscription of scholarly journals because of serials crisis. The term serials crisis refers to exponential and continuing increase in subscription cost of scholarly journals. The crisis is a result of rise in cost of journals much faster than the rate of inflation, increase in number of journals and the paucity of funds available to the libraries.

The UGC Infonet Digital Library Consortium provides current as well as archival access to more than 5000 core and peer-reviewed journals through 19 full text databases, 5 bibliographic databases and 4 open access resources from 23 publishers and aggregators in different disciplines. The programme has been implemented in a phased manner. In the first phase that began in 2004, access to e-resources was provided to 50 universities who had internet connectivity under the UGC-Infonet Connectivity programme of the UGC. In the second phase, 50 more universities were added to the programme in the year 2005. The number of universities incorporated in third phase is 60. The Banaras Hindu University is incorporated in Phase I of the programme. These e-resources covers almost all subject disciplines including arts, humanities, social sciences, physical sciences, chemical sciences, life sciences, computer sciences, mathematics and statistics, etc. The programme is wholly funded by the UGC and executed by the INFLIBNET (Information and Library Network) Centre, Ahmedabad. The benefit of subscription to e-resources would also be extended to the colleges, to begin with the College for Potential with Excellence (CPE) and autonomous colleges. The Consortium has also launched its "Associate Membership Programme" wherein private universities and other research organizations are welcomed to join the Consortium for selected e-resources. Currently, 231 universities are associated with the consortium.
Out of which 160 are the universities, 67 are associate members and remaining four are Inter-University Centre’s and other institution.

**Literature review**

A number of surveys on the use of e-journals in academic libraries have been carried out during the last decade. Although all of these surveys included faculty members among their participants, in many cases, these surveys examined the use of e-mail, word processors, and so forth, and only a few of them were targeted towards faculty as well as graduate students and their awareness to the availability and use of the library's electronic resources.

A Japanese study examined the usage of electronic resources by a specific academic community in Japan—academic economists. The study found that only about 31 percent of the respondents used electronic journals at the time the survey was carried out (presumably in 1997), but about 75 percent of the respondents perceived this medium is of "high value".

In a survey conducted in 1998 at the Texas A&M University; awareness of e-journals differed highly with the faculty, the academic was affiliated with. The survey covered 350 faculty members and the return rate was 56 percent. The highest results were from the sciences, followed by medicine, but only about 37 percent of the respondents actually made use of e-journals, with respondents from the liberal arts reporting the lowest use level. Sixty one percent of the respondents preferred printed journals over e-journals, and even 40 percent of the e-journal users preferred the printed format. However, the large majority of the respondents were positive about the place of e-journals in scientific research. Advantages of e-journals identified by the respondents were availability and home access, while concerns included permanence and graphics.

Awareness of the faculty and administrators toward electronic resources was studied at the University of Utah. The concern of the authors of this paper was that since electronic databases and journals are not displayed on the libraries’ shelves, it may be the case that the faculty members and administrators are not aware of the existence of these services. Indeed, the findings showed greater need for publicity and training. The questionnaires were distributed to all faculty and administrators (856 individuals). The return rate was 49.8 percent. The questionnaire contained a list of 55 databases available to the faculty and administrators. For each database, each respondent was asked to check whether he/she was aware of the existence of the database. For each database the respondent used, he was asked to rank its ease of use. Only 54 percent accessed the databases remotely, the rest of the respondents accessed them from the library.

A longitudinal survey of the faculty and graduate students on the usage of electronic journals, printed journals, and electronic databases was conducted at Ohio State University (OSU) during the years 1998-2000. The survey was administered three times (once a year), allowing the researcher to gain insight into the changes of attitudes and adoption over time of electronic services. A random sample of about 300 graduate students and 300 faculty members was created each year. The survey was implemented through telephone interviewing. In 2000, email was utilized as well. The findings of the surveys showed that since 1998 there has been a significant progress in the acceptance and usage of electronic journals at OSU—in 1998, only 200 e-journals were available, while in 2000, the number of available e-journals increased to more than 3,000. In 1998, 19 percent of the respondents used e-journals at least once a week, while in 2000, the percentage increased to 36 percent. At the same time, the ‘at least weekly usage’ of printed journals decreased from 45 percent in 1998 to 34 percent in 2000. The ‘at least weekly usage’ of electronic databases remained at approximately the same level, around 58 percent. They found little or no correlation between age and frequency of use. Open-ended questions were asked in 1998 about the advantages and disadvantages of electronic data sources. Availability and ease of information location were seen as advantages and lack of connectivity and lack of hard copy were seen as disadvantages.

In spring of 2001, a large-scale online survey was administered to the whole faculty and a sample of graduate students at the University of Maryland. Email messages were sent to all the participants (more than 3500) inviting them to fill out the online survey. The response rate was 39 percent for the faculty members. About half of the faculty members reported
using electronic formats of printed journals at least once a month, while 31 percent reported never using electronic formats of printed journals, mainly because of personal subscriptions and unfamiliarity with accessing the resource. Only 29 percent used at least once a month electronic journals that have no printed counterparts. Preference between printed and electronic formats was given both for core journals and non-core journals (core journals were defined as journals most important in the respondent's field). The large majority (70 percent) wanted core journals to be available in both formats, while for non-core journals, 70 percent preferred electronic access only. Advantages of the electronic format were identified as ease of access, search capabilities, and hyperlinks to outside content (the list of advantages was presented in a closed question). The main concerns about moving to electronic only were image quality and access to the full content of the journal.

**Indian scenario**

The attempt of UGC-Infonet of providing access to large number of e-journals and databases is a revolutionary attempt in the direction of higher education. The most beneficiary users are the researchers as they need quantitative and qualitative information for their research work. Various studies have been done on the use of e-resources provided by UGC-Infonet.

The study conducted in Maharaja Sayajirao University of Baroda emphasizes on personal visits, training workshops, inviting feedbacks, usage statistics and surveys. To enhance the use of e-resources, more awareness programmes should be organized to indoctrinate them about the facilities and benefits available with electronic format as compared to print.

Madhusudhan revealed that e-journals perform an increasingly important role in research at the Department of Library and Information Science, University of Delhi where not only current e-journals are significant but electronic back runs are also required by the research scholars and students. There is an ever increasing demand for subscriptions of more e-journal titles in LIS. There also appears to be some need for training in using e-journals.

Agrawal, Singh and Singh mention use and positive impact of e-journals in agriculture libraries. Similarly, Upadhyay and Chakraborty discussed the use and awareness of online journals and databases among teaching staff, research scholars and M.Tech students of Institute of Technology B.H.U. The study indicated that 53.11 percent respondents used internet in last three years. Of them, 23.87 percent uses online resources daily and Science Direct used most among other databases. The present study which also is on BHU differs from both these studies because in both of these studies the area of focus is field specific. The first study is confined to agriculture whereas the second is limited to IT BHU. On the other hand the study conducted by Moghaddam and Talawar reflect a growing interest in electronic journals among users at the Indian Institute of Science. Eqbal emphasizes on proper feedback system to know about proper use of e-journals facility and states that user studies should be conducted to know about electronic information needs of users as well as to identify problems faced by the users while searching information through e-journals.

UGC-Infonet project aims to create awareness to the library and information professionals, research scholars, and faculty and post graduate students of library and information science regarding the availability of the scholarly journals in the field of LIS.

Khaiser and Pramodini describe the use of e-journals and databases by the users of University of Mysore and examine the utilization and satisfaction levels of users with respect to the e-resources. The study conducted by Kumbar and others at Department of Chemistry, Karnataka University, Dharwad indicated that the electronic resources are highly useful for the research and academic community. According to the authors, to assist the academic community, the authorities of the university library must conduct user awareness programmes to train the research and academic community in the maximum utilization of these electronic resources more effectively and efficiently.

Raza and Upadhyay reveal that all the researchers of Aligarh Muslim University are aware about the availability of e-journals in the university and that
many research scholars were consulting e-journals from their departmental labs and computer centers.

**E-resources of UGC-Infonet Digital Library Consortium**

The UGC-Infonet Digital Library Consortium subscribes to the following resources for its member institutions. All electronic resources subscribed are available from the publisher's web site. Following is the list of e-resources with their URLs.

**Full text resource**

- American Chemical Society (http://www.pubs.acs.org/)
- American Institute of Physics (http://scitation.aip.org/publications/myBrowsePub b.jsp#AIP)
- American Physical Society (http://scitation.aip.org/publications/myBrowsePub b.jsp#APS)
- Annual Reviews (http://arjournals.annualreviews.org/)
- Blackwell Publishing (http://www3.interscience.wiley.com/)
- Cambridge University Press (http://journals.cambridge.org/)
- Elsevier Science (http://www.sciencedirect.com/)
- Emerald (http://www.emeraldinsight.com)
- Institute of Physics (http://www.iop.org/EJ/)
- J-STOR (http://www.jstor.org/)
- Nature (http://www.nature.com/)
- Oxford University Press (http://www.oxfordjournals.org)
- Portland Press (http://www.portlandpress.com/pp/journals/default.htm)
- Project Euclid (http://projecteuclid.org/)
- Project Muse (http://muse.jhu.edu/)
- Royal Society of Chemistry (http://www.rsc.org/Publishing/Journals/)
- SIAM (http://epubs.siam.org/)
- Springer Link (http://www.springerlink.com/)
- Taylor and Francis (http://www.informaworld.com/)

**Bibliographic databases**

- SciFinder Scholar (http://www.cas.org/SCIFINDER/SCHOLAR/index.html)
- MathSciNet (http://www.ams.org/mathscinet/)
- Royal Society of Chemistry (6 Databases) (http://www.rsc.org/Publishing/CurrentAwareness/index.asp)
- ISID (http://isid.org.in/)
- JCCC (http://jccc-ugcinfonet.in or www.jccc-ugcinfonet.in)

**Open access resources**

- About Open Access
- Open Access E-Journals
- Open Access Directories
- IRs@member Institutions

**Objectives of the study**

- To identify the users approach to keep themselves updated with electronic contents;
- To identify the satisfaction with content, coverage, and access to the e-journals available under UGC Infonet Digital Library Consortium;
- To find problems faced by the research scholars in accessing e-journals;
- To identify actual information needs (e-journals) of research scholars; and
- To provide suggestions and ways and means for effective use of the UGC-Infonet e-journals consortium.

**Methodology**

In order to accomplish objectives, a survey was conducted through a questionnaire circulated among 100 research scholars (Ph.D) studying in the Faculty of Arts, Banaras Hindu University, Varanasi. The justification behind choosing only research scholars for the present study was that, generally, after enrollment, in the first six months a research scholar spends a considerable amount of time collecting relevant literature pertinent to his/her research question. Due to wide availability of digital resources...
on web, now researchers mostly spend their time to surf web.

In Faculty of Arts, in January 2010 session, 138 research scholars were enrolled in various departments out of which 100 were randomly selected. The departments under Faculty of Arts include history, political science, sociology, psychology and economics. Questionnaires were equally distributed among different departments. Personal interaction with the research scholars revealed many facts and enabled making some important suggestions for the overall improvement of the UGC-Infonet e-journals consortium. The collected data is presented in the form of tables and figures.

**Analysis**

Of the total 100 questionnaires distributed; 87 filled-in questionnaires were found useful for analysis.

### Means of getting updated

The research scholars were allowed to mark several possibilities for the question on how the research scholars kept themselves up-to-date with new advances in their respective fields. As indicated in Table 1, 33.33 percent of them responded that they kept themselves updated by searching relevant keywords through search engines at regular intervals, followed by 29.89 percent through viewing “Table of Contents” of online journals regularly and 27.60 percent by reading print copies of journals regularly. A nominal percent i.e., 4.60 percent used indexing/abstracting services. Discussion forums and e-mail alert services were the least preferred way to update themselves (2.29 percent).

### Route to access research literature

When research scholars were asked about the channel through they reach their research literature, 35.64 percent of them responded that they reached their research literature through search engines, followed by 24.13 percent through open access publications and 21.84 percent through library website.

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**Table 1—Users approach to online contents**

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Faculty of Arts</th>
<th>Respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I search contents of my requirement through search engines</td>
<td>History</td>
<td>8</td>
<td>31</td>
</tr>
<tr>
<td>I search print copies of journals regularly</td>
<td>Sociology</td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td>I receive “table of contents” through e-mail alert services</td>
<td>Political Sc.</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>I use indexing/abstracting services</td>
<td>Economics</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>I go to discussion lists/forums</td>
<td>Psychology</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>16</td>
<td>55</td>
</tr>
</tbody>
</table>

**Table 2—Preferred route to access research literature**

<table>
<thead>
<tr>
<th>Source of Access</th>
<th>Faculty of Arts</th>
<th>Respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search Engine</td>
<td>History</td>
<td>8</td>
<td>31</td>
</tr>
<tr>
<td>Open access publications</td>
<td>Sociology</td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td>Library Website</td>
<td>Political Sc.</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>Publishers’ Web site</td>
<td>Economics</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>Psychology</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16</td>
<td>55</td>
</tr>
</tbody>
</table>
percent responded (Table 2) that they searched through search engines like Google, Yahoo, etc. Next to search engines, 24.13 percent accessed open access scholarly publications to obtain research articles. It was also observed that 21.84 percent of the respondents preferred to visit libraries’ websites to access the e-journals. The access rate to e-journals from publisher’s website was 18.39 percent. The preferential methods of access in various subject is also mentioned in Table 2.

**Place of access to research literature**

Table 3 shows the place from where research scholars accessed scholarly resources. It was found that the University Central Library is the most preferred place

### Table 3—Preferred place of access to e-journals

<table>
<thead>
<tr>
<th>Access Point</th>
<th>History</th>
<th>Sociology</th>
<th>Political Sc.</th>
<th>Economics</th>
<th>Psychology</th>
<th>Respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Central Library</td>
<td>7</td>
<td>9</td>
<td>8</td>
<td>5</td>
<td>7</td>
<td>36</td>
<td>41.87</td>
</tr>
<tr>
<td>Department computer labs</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>7</td>
<td>18</td>
<td>20.69</td>
</tr>
<tr>
<td>Other university premises</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>5</td>
<td>3</td>
<td>33</td>
<td>37.94</td>
</tr>
<tr>
<td>Outside of the campus</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>19</td>
<td>19</td>
<td>16</td>
<td>17</td>
<td>87</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Table 4—Preferential form to acquire e-journals

<table>
<thead>
<tr>
<th>Particulars</th>
<th>History</th>
<th>Sociology</th>
<th>Political Sc.</th>
<th>Economics</th>
<th>Psychology</th>
<th>Respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read articles online</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>13</td>
<td>14.95</td>
</tr>
<tr>
<td>Save articles for further reference</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>8</td>
<td>27</td>
<td>31.03</td>
</tr>
<tr>
<td>Take Print out</td>
<td>11</td>
<td>13</td>
<td>12</td>
<td>5</td>
<td>6</td>
<td>47</td>
<td>54.02</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>19</td>
<td>19</td>
<td>16</td>
<td>17</td>
<td>87</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Table 5—Preferred file format of e-journals availability

<table>
<thead>
<tr>
<th>Format</th>
<th>History</th>
<th>Sociology</th>
<th>Political Sc.</th>
<th>Economics</th>
<th>Psychology</th>
<th>Respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDF</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>10</td>
<td>30</td>
<td>38.46</td>
</tr>
<tr>
<td>HTML</td>
<td>7</td>
<td>6</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>25</td>
<td>32.05</td>
</tr>
<tr>
<td>Others (Word)</td>
<td>4</td>
<td>9</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>24</td>
<td>30.76</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>19</td>
<td>19</td>
<td>16</td>
<td>17</td>
<td>87</td>
<td>100.0</td>
</tr>
</tbody>
</table>
(41.87 percent) to access research literature, followed by other university locations (37.94 percent) such as hostels and computer centre and the departmental computer laboratories (20.69 percent). No one accessed e-journals from outside the campus.

**Preferential form to acquire online contents**

As shows in Table 4, 55.14 percent of the respondents prefer to read articles by taking print out, followed by 30.76 percent who save the softcopy of the articles for future references. The preference of read articles online was limited (14.10 percent).

**Preferred file formats**

Table 5 summarises that 38.46 percent of the respondents preferred to read/store articles in PDF format, followed by 32.05 percent in HTML format. It was found that 30.76 percent respondents preferred to read articles in other formats such as MS Word.

**Satisfaction with available online contents in UGC-Infonet Consortia**

Presently UGC-Infonet consortia is widely known model for getting access to online contents in an academic setup. As indicated in Table 6, among 87 respondents, 67.67 percent were satisfied with the existing model whereas 13.79 percent were dissatisfied and 19.54 percent did not respond to the question. Assessment of the level of satisfaction/dissatisfaction according to the Likert scale (‘strongly disagree’, ‘disagree’, ‘neither agree nor disagree’, ‘agree’ and ‘strongly agree’), showed that total 58 satisfied respondents of which 39.08 percent strongly agreed followed by 27.59 percent agreed with the satisfaction level. About 13 percent disagreed with the satisfaction level and about 20 percent neither agreed nor disagreed with the satisfaction level.

**Problems faced by the research scholars accessing e-journals**

As indicated in Table 7, 32.18 percent of research scholars mentioned that most of the important journals of their interest are not accessible in full-text format. About, 25.28 percent of users complained that lack of training programmes are responsible for their not accessing e-journals and 17.24 percent of users mentioned that most of the journals of their interest are not available through campus network. It was found that 13.80 percent of users complain that content searching is more difficult from home page of the journals as compared to search engines or subject portals. Too long to view/download pages was the least mentioned problem faced by the research scholars accessing e-journals (11.50 percent).

**Discussion**

The basic motto to establish any consortium is to minimize the gap of digital divide. To reach the consortia material users rely on search engines. The consortium along with the publishers should impart awareness and training to enable make better use of UGC-Infonet Consortium. As the access to e-journals on this consortium is only possible within campus, university should improve the access possibility by

<table>
<thead>
<tr>
<th>Level of Satisfaction</th>
<th>History</th>
<th>Sociology</th>
<th>Political Sc.</th>
<th>Economics</th>
<th>Psychology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>5</td>
<td>8</td>
<td>6</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Agree</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Without any Comments</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>19</td>
<td>19</td>
<td>16</td>
<td>17</td>
</tr>
</tbody>
</table>

**Table 6—Level of satisfaction of e-journal availability**

<table>
<thead>
<tr>
<th>Level of Satisfaction</th>
<th>Faculty of Arts</th>
<th>Respondents</th>
<th>%</th>
<th>Overall %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>67.67</td>
<td>39.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>27.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>12.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>13.79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without any Comments</td>
<td>19.54</td>
<td>19.54</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
increasing nodes, enabling high-speed connectivity, 24X7.

The study indicates that majority of the respondents (67.67 percent) were satisfied with existing model of UGC-Infonet consortium. But it needs further enhancement in terms of coverage in the areas of interest of the users. There are many journals yet to be included in Infonet database which have considerable impact factor in their respective field. As the study indicates, 32.18 percent of research scholars pointed out that most of the important journals of their interests were not accessible in full-text format. These also need to be included in the consortium.

**Conclusion**

UGC-Infonet e-journals are seen as a tool with positive impact, and the study has enabled the respondents to express their satisfaction and their aspirations for improvements. The study reveals that personal visits, training workshops, inviting feedbacks, are issues, which impact the use. Usage statistics, surveys and feedback always remain effective tools to measure the usage. To enhance the use of e-resources, more awareness programmes should be organized to acquaint them about the facilities and benefits obtainable from electronic format as compared to print. A well defined and proper infrastructure remains to be an encouraging factor for the use of e-resources. More research is needed to investigate how the researchers and students actually interact with information, what specific electronic sources they visit more than others, what search strategies they use, as well as the extent to which their information needs are satisfied.

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1. http://www.inflibnet.ac.in/econ/members.php


17. http://www.inflibnet.ac.in/econ/eresource.php