

# Access to E-Resources: TIFR Libraries' Consortia Approach

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(Received on 13 December 2013 and accepted on 10 February 2014)

**Abstract** – Over the last couple of decades libraries and information centers have witnessed many shifts due to the exponential increase in the amount of information and current developments in information and communication technologies. More importantly the internet technology, that connects and provides access to information. As the vast increase and availability of information in many formats such as print and electronic, the users' need for information has become more complicated. With the diminishing the library budget and inflated cost of information resources, it is very difficult for libraries to procure or subscribe enough resources to meet the needs of its users. To overcome these challenges, the consortia of libraries started emerging and widely recognized as a viable solution to libraries and information centers importantly for sharing electronic resources. The paper discusses the consortia concept including definition, goals, objectives and its benefits. It is followed by access to e-resources through TIFR Libraries' consortia approach is briefed. The resources negotiated with different publishers meant for use by TIFR and centers libraries are given.

**Keywords:** E-resource, Library Consortium, TIFR, NCBS

## I. INTRODUCTION

Proliferation of e-resources, ever increasing costs, static library budgets and changing information technologies together have compelled libraries and information centers to come together and venture for cooperating activities in sharing resources held in libraries. The publishing industry is represented by commercial, societal and academic publishers, who are experimenting with emerging new technologies and marketing strategies. Now the trend is converting all print editions to e-versions and providing access to e-resources. Thus, print editions are made available with e-versions for libraries and consortia for licensing-resources through effective negotiations. The

technological developments and proliferation of e-resources are directly affecting decreasing library budgets vis-à-vis users' increasing demands.

This has compelled libraries to look for ways and means to procure and access to maximum number of e-resources with reasonable and affordable costs. This could be accomplished only through proper negotiations with publishers keeping in view the end users' requirements. In order to fulfill this, the concept of consortia has come into practice. It is an institutional alliance bringing like minded member institutions with common aims, policies and collective agenda. Various initiatives have shown that consortium concept works well with organizations having similar size, subject areas, funding and headed by enlightened library professionals. To form a consortium one needs willingness, courage, time and determination and importantly to meet the growing user needs (Patil, 2004; Carbone, 2007).

According to William Potter (1997), the libraries are forming consortia to provide common access to e-resources across the internet. Today's most successful consortia provide three basic functions, viz sharing resources, providing connection to internet and access to e-resources (Thornton, 2000).

## II. ELECTRONIC ACCESS TO RESOURCES THROUGH TIFR LIBRARIES CONSORTIA

TIFR is one of the leading research institutes in the country, which is considered as the cradle of Indian science. The library established in the institute has grown into a stature as one of the best managed scientific libraries in the country with specialization in core collection on physics, mathematics and nuclear sciences. The subject area coverage was extended in the fields of biological sciences and radio astronomy by establishing National Centre for Biological Sciences (NCBS), Bangalore and National

Centre for Radio Astrophysics (NCRA), Pune respectively. The first limited, purposeful, and successful development of library consortia model occurred in TIFR. During 2000, this model of TIFR libraries consortia came in to existence and was offered by Springer for multi-site licensing and cross sharing of content among all libraries under the umbrella of TIFR. Eventually, many centers were established and subject fields were widened for inclusion in the expanded consortia.

Participating libraries to access the e-resources are TIFR Main Campus, Mumbai, and centers such as HBCSE Mumbai, NCBS Bangalore, NCRA Pune, and CAM Bangalore. All these together constitute as members of the TIFR Libraries Consortia.

TIFR is expanding with many centers and field stations. Consortia had become a necessity to cater to the information needs in different fields of specialization. Earlier, the centers were subscribing to limited number of materials. There were likely titles of duplication which was avoidable due to different locations. There was no adequate budget to meet the requirement of each centre. The result was to form consortia where one could have the following benefits at the institution level.

- a. Low cost; besides cap price to contain likely increase in prices;
- b. More resources with unlimited access;
- c. Added advantage – to access to archives;
- d. Cross e-access irrespective of remote locations;
- e. Access to otherwise un-subscribed journals.

The major consortia activities are handled by the TIFR Library with successful involvement of major centers.

**Core Programs:** With expanding nature of the institutes and their information requirements, every attempt was made to subscribe to e-resources through consortium which are multidisciplinary in nature and with wide scope and coverage. TIFR Libraries Consortium has entered into negotiation with the following publishers and entered consortium deals with various online databases and resources such as Web of Science, MathSciNet, ACS Journals, AIP Journals, APS Journals, Elsevier Journals Back files, EMS Journals, Euclid Prime Journals, IOP Science, Oxford Journals Science Archive, Springer E-Books, SpringerLINK, Springer Journals Archive, Taylor & Francis Journals (Physics & Mathematics), Walter d’Gruyter Mathematics

Journals, Wiley Journals (selected journals), Wiley Journals Archive, World Scientific Journals, etc. Subsequently, it has increased the co-operation and now there are several consortia-based subscriptions to electronic resources made available keeping in view the various research programs pursued by TIFR and its centers.

Apart from these, TIFR and centre libraries are members of Department of Atomic Energy (DAE) consortia for the resources of Elsevier ScienceDirect which includes resources of Cell Press. This is a major initiative from DAE to facilitate access to large number of e-resources from ScienceDirect.

#### ***A. Effective Use of Consortia E-Resources***

E-resources are representing a very significant and growing part of academic and research libraries. There is a shift in the libraries from limited print resources to providing access to large number of e-resources.

It is a challenge to libraries to assess the information needs of various users in the multidisciplinary areas of research and study. The libraries at TIFR providing access to various e-resources on the models of subject bundle or complete collection of publishers through the consortium, as the number of e-resources are increasing in every subject field. The consortium has brought a revolution in collaborative and collective subscriptions to e-resources and making it available to the users. The consortia play a major role in these libraries and have been very influential in the research activities of the users.

The National Centre for Biological Sciences (NCBS), located in Bangalore, is major centre of TIFR. The mandate of NCBS is fundamental research in the frontier areas of biological sciences. NCBS maintains a library and it procures and subscribes various resources independently to facilitate the needs of its users. Faculties and research scholars are the strength of research community and users of library resources. As NCBS is growing with new disciplines of research, growth in the strength of research community and growing need of users, the consortium had become a necessity to cater information needs in different fields of specialization. Earlier, the library at NCBS was procuring and subscribing to limited number of resources. Consortia initiatives brought many resources into the library and to its users. Apart from TIFR and DAE consortia, NCBS library also participate as associate member in the UGC-Infonet Digital Library consortium for certain resources.

A list of e-resources available at NCBS library through TIFR, DAE and UGC-Infonet consortiums are:

- Elsevier Journals Back files
- Oxford Journals Science Archive
- ScienceDirect
- Springer E-Books
- Springer Journals Archive
- Springer LINK
- Taylor & Francis Journals (Physics & Mathematics)
- Web of Science
- Wiley Journals (selected journals)
- Wiley Journals Archive
- American Institute of Physics
- American Physical Society
- IoP Science
- Annual Reviews Online
- Royal Society of Chemistry

With the introduction of consortia based access to information sources, it become necessary to know the usability of those resources and the reaction of the users to these resources. The present study makes an attempt in this direction.

### III. OBJECTIVES OF THE PRESENT STUDY

To understand the user views on access to consortia based e-resources, a brief study conducted among the faculty and research scholars of the National Centre for Biological Sciences (NCBS). The main objectives of the study are:

- a. To examine the use of e-resources by the users;
- b. To identify the awareness of consortia e-resource;
- c. To utilization of consortia e-resources;
- d. To assess the satisfaction of the users to consortia based e-resources, and
- e. To Identify factors that lead to the success of consortia resources.

### IV. THE SCOPE, LIMITATIONS AND METHODOLOGY

This study was limited to the faculty and research scholars at the National Centre for Biological Sciences (NCBS) which is one of the major centres and a member of TIFR and DAE consortia. The users of this centre use the e-resources available through consortia for their study and research.

In this study, participants were addressed questions to determine their familiarity with current offering of e-resources through consortia. A total number of 100 questionnaires were circulated among 20 faculty members and 80 research scholars. The entire questionnaires were received from the respondents. Personal observation and interview methods were considered in addition to questionnaire to collect the required information.

The data received from these responses were analyzed to understand the use of consortium e-resources:

TABLE I DEMOGRAPHIC STUDY

Gender	Respondents
Male	74
Female	26
Age Group	
18-29	73
30-39	11
40-49	12
50 and above	04

N=100

The gender wise and age wise distribution of respondents is shown in this Table I. Out of the 100 respondents 74% of the respondents are males and 26% of respondents are females. The data indicates that majority of the respondents i.e. 73% belong to the age group of 18-29 years, who are mostly the research scholars. 11% are between the age group of 30-39 years, 12% are in the age group of 40-49 years and respondents in the age of 50 years and above are 4%.

TABLE II DISTRIBUTION OF RESPONDENTS BY USER CATEGORY

User Category	No. of Respondents
Faculty	20
Research Scholars	80

N=100

The study divided the users into two categories such as faculty and research scholars. Table II shows that out of total 100 respondents, 80% respondents are from the user category of research scholars which includes senior & junior research students and 20% of the respondents belonged to the faculty comprising of senior professors, associate professors, and assistant professors.

TABLE III GENERAL AWARENESS OF E-RESOURCES

User category	Aware	Not aware
Faculty	20 (100%)	0
Research Scholars	80 (100%)	0
Total	100 (100%)	0

N = 100

As shown in Table III, it is evident that all the respondent in both the categories are aware of e-resources. These two categories of respondents are the major set of users of library e-resources.

TABLE IV FREQUENCY OF USE OF E-RESOURCES

Frequency	Faculty	Research Scholars
Regularly	16 (80%)	71 (88.75%)
Frequently	03 (16%)	06 (7.50%)
Often	01 (4%)	03 (3.75%)
Rarely	-	-
Never	-	-

N=100

It may be observed from the Table IV that the majority of the faculty (80%) and research scholars (88.75%) use e-resources regularly for their research and study. It is also observed from the table that a very minimal number of respondents use e-resources frequently or often. It is very significant that the e-resources are widely used and accepted by many respondents.

TABLE V AWARENESS OF CONSORTIUM E-RESOURCES

User category	Aware	Not aware
Faculty	20 (100%)	-
Research Scholars	68 (85%)	12 (15%)
Total	88 (88%)	12 (12%)

N=100

Table V shows the awareness of e-resources among the respondents. All the respondents in the categories of faculty (100%) and research scholars (85%) are aware of e-resources made available through consortium. 15% (12) of respondents from the category of research scholars are not aware of consortium e-resources. As shown in the previous table, majority of the respondents from both the categories are aware of e-resources in general available through the library and they use them for their research.

TABLE VI PERCENTAGE OF INCREASE IN E-RESOURCES WITH ACCESS TO CONSORTIA

Increase	Faculty	Research Scholars	Total
Above 75%	3 (15%)	7 (10.29%)	10 (11.36%)
50-75%	9 (45%)	31 (45.58%)	40 (45.45%)
25-50%	5 (25%)	24 (35.29%)	29 (32.95%)
0-25%	3 (15%)	6 (8.82%)	9 (10.22%)
Don't know	-	-	-

N=88

To determine the awareness about the increase and addition in e-resources collection after the NCBS library became a member of consortia, the respondents were

asked to rate their opinion. It is observed from the Table VI that majority of the respondents from the category of faculty (45%) and research scholars (45.58%) rated 50-75% increase in the total collection of library e-resources. Total 32.95% of respondents (faculty 25% & research scholar 35.29%) rated their opinion on increase of e-resource collection between 25-50%. It is observed that 11.36% of respondents say increase is above 75%. At the same time, 10.22% of the respondents in the both the categories are aware of these developments and think that there is an increase between 0-25 %.

TABLE VII CONSORTIA E-RESOURCE MOST FREQUENTLY USED

E-Resources	Faculty	Research Scholars	Total
Springer LINK	20 (100%)	65 (95.58%)	85 (96.59%)
ScienceDirect	20 (100%)	68 (100%)	88 (100%)
Annual Reviews Online	14 (70%)	47 (69.11%)	61 (69.31%)
American Institute of Physics	06 (30%)	14 (20.58%)	20 (22.72%)
American Physical Society	06 (30%)	16 (23.52%)	22 (25%)
IoP Science	06 (30%)	14 (20.58.5%)	20 (22.72%)
Royal Society of Chemistry	11 (55%)	40 (64.70.5%)	51 (57.95%)
Springer E-Books	10 (50%)	38 (60.29%)	48 (54.54%)
Taylor & Francis Journals	08 (40%)	32 (47.05%)	40 (45.45%)
Web of Science	17 (85%)	42 (61.76%)	59 (67.04%)
Wiley Journals (selected)	12 (60%)	34 (50%)	46 (52.27%)
Elsevier Journals Back files	08 (40%)	29 (42.64)	37 (42.04%)
Springer Journals Archive	06 (30%)	19 (27.94%)	25 (28.40%)
Oxford Journals Science Archive	03 (15%)	18 (26.47%)	21 (23.86%)
Wiley Journals Archive	04 (20%)	23 (33.82%)	27 (30.68%)

N=88; Respondents allowed selecting multiple options.

The data regarding consortia e-resources most frequently used and accessed by the faculty and research scholars has been presented in this Table VII. It is observed that, all the faculty respondents regularly use ScienceDirect (100%), SpringerLink (100%), Web of Science (85%) and marginally they use other e-resources based on their need for the information. With regard to the research scholars' responses, it is seen that the same three resources and Annual Reviews (69.11%) are very frequently used by them. Overall, the ScienceDirect and SpringerLink offer large number of e-resources/e-journals and covered major subject areas such as biological, physical, chemical, mathematical sciences and its interdisciplinary areas. It is also observed that the subject specific resources from American Institute of Physics, American Physical Society, IoP Science, Royal Society of Chemistry, etc. and archival collection like Elsevier, Springer, Wiley and Oxford backfiles are less used resources by both the categories of respondents.

However, the analysis of all the consolidated responses on frequently used e-resources reveal that all types of e-resources are most widely used by the respondents on day-to-day basis based on their need of information and availability of information from a particular or various types of resources.

TABLE VIII SATISFACTORY LEVEL OF USE OF CONSORTIA E-RESOURCES

Satisfactory level	Faculty	Research Scholars	Total
Highly satisfied	15 (75%)	51 (75%)	66 (75%)
Satisfied	4 (20%)	11 (16.17%)	15 (17.04%)
Neutral	1 (5%)	6 (08.82%)	7 (07.95%)
Dissatisfied	-	-	-
Highly dissatisfied	-	-	-

N=88

This table VIII shows the satisfactory level towards e-resources made available to the users through the consortia. It is noted that majority of the respondents from faculty (75%) and research scholars (75%) are highly satisfied with these e-resources. About 17.04% of both the categories of respondents rated as satisfied. At the same time, it is also observed that 1 faculty and 6 research scholar respondents are neutral with neither satisfaction nor dissatisfaction to e-resources available through consortia. None of the respondents have expressed dissatisfaction with e-resources. Yet it is required and essential that the library should make available more e-resources either by participating in various consortia which are open or by subscriptions to meet the needs of users.

## V. DISCUSSION OF FINDINGS

The results of this study on the approach of TIFR libraries consortia e-resources and its impact on users in its usage in particular to National Centre for Biological Sciences (NCBS) members provides significant information. It also, confirms the importance of e-resources under consortia subscription, as they are used by the members regularly and factors that influence libraries to participate in consortia. The role of consortia is to expand information use and also to create and make systems available for information access and retrieval.

Results of the current study indicate that majority of respondents are aware of e-resources and their frequency of use is high on day to day basis for their research and study. It is also noted that the respondents are very much aware of wide range of e-resources available through consortia subscriptions and NCBS library's participation in various consortia.

The rapid change in information seeking behavior and use of internet and on-line access to various e-resources has become the important part of information needs of users. Since the library is participating in various consortia subscriptions, respondents feel that there is a sharp increase in their library collection of e-resource and provides access to range of collections in their subject and interdisciplinary area of research. The consortia resources even provide access to archival contents of various publishers' collection. It is very difficult for individual libraries to procure wide range of resources of various publishers in bundles and getting access to archival collections as they are very expensive and impossible to manage within the budgetary limitations. But this evidences that, benefits of participating in consortia creates advantages for libraries as well as to the users.

A notable finding from the study is that majority of the respondents are highly satisfied with the availability of consortia e-resources. It is important that the libraries need to participate in various consortia which benefits the users by meeting the growing needs of users for information.

The explosion of information and the access to e-resources has created new expectations in patrons, which libraries attempt to satisfy creating cooperative alliances that lead them to share solutions and expertise. It is necessary to find new ways to interpret user needs, which have to remain the main focus of libraries.

However, the explosion of information and impact of e-resources has created new expectations in users. The libraries are making attempts to satisfy these expectations by creating consortia alliances to share the resources. The availability of various electronic information resources through consortia helps users in their research and study to do better in the field.

## VI.CONCLUSIONS

Due to journals crisis, constraints with 'big deals', rapid escalation of costs of journals, ever changing technologies and static library budgets have necessitated in formation of consortia at various levels. With reference to TIFR, it has few centers spread across the country and it necessitated consortia formation in order to avoid many duplicate titles thereby saving time and money and could provide access to many e-resources to TIFR and its centers. The consortia approach has brought many benefits to the users to access large number of e-resources and equally favored the libraries. The users are very much satisfied with consortia arrangement which is growing in a sustainable manner.

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