

Problem or Panacea for Higher Education?

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This article describes the evolution of e-journals, their advantages and disadvantages for contemporary libraries. Developments in information technology have brought e-journals as basic information sources to research community and these are emerging as major sources of scholarly communication. There are different types of access to e-journals like free access, exclusive subscription, selective access, fee based access and consortium access. The advantages of saving storage space and the availability of multimedia information also seem to be non-negligible factors in the usage of e-journals. 'Need special equipment' and 'lack of compatibility among different publishers were affirmed as some of the challenging factors in mounting e-journals.

Role of journals in Higher Education:

A journal may be looked upon as an information shell in a subject. Ever since the first journal 'journal Des Scavans' was published as a new medium of communication during 1665, for more than three centuries print journals have occupied a central role in information creation and dissemination. Research in higher education institutions has been greatly influenced by the quantum of information available. The access of available information has been motivated by the information needs of the users in one way or another. Libraries have been primarily responsible for information management (which involves the complex process of acquisition, classification, storage, preservation and dissemination) and provide valuable information to the society. Journals have always played an important role in information management i.e., information creation and dissemination. A journal is a looking glass through which the actual status of a subject can be understood.

In recent times, the evolving demand of the information society for easier, cost effective and reliable mechanisms of information management complemented by the advances in Information and Communication Technology (ICT), has resulted in the development of modern means of information management. Also, changes in the publishing industry have a direct impact on the information systems and services, which in turn has facilitated in the creation of many new types of documents. Increasingly, information is being created and offered in a digital format, generally referred to as electronic documents. Documents of this sort are created using an appropriate 'authority tool' sorted in computer's memory system and subsequently displayed using visual display technologies. E-journals form one such sophisticated form of information management employing information technology. E-journals have emerged as a basic information source to research community and fundamental tool for scholarly communication.

E-Journals:

Advances in the field of ICT had a major impact on the field of information science. As an

impact of ICT innovative, reliable and faster mechanisms of information management were devised; e-journal is one of them. Electronic journals or e-journals may be defined very broadly as any journals, magazines, e-zine, web-zine, newsletter or type of electronic serial publication which is available over the internet and can be accessed using different technologies such as www, gopher ftp, telnet, e-mail, or list serve. An e-journal is a journal available online or offline containing research papers, review articles, scholarly communications etc. **Gail Macmillan** defines E-journals as "any serials produced, published and distributed nationally and internationally via electronic networks such as Binet and Internet". According to **Jones (W)** "E-journals are available electronically via a computer or a computer network, that they may or may not be published in some other physical medium, but that are not CD-ROM's". By the above definitions we can say that e-journals are periodicals that are made available as individual titles via electronic medium, typically the World Wide Web (www).

Types or Variant of e-journals:

- 1. Classic electronic journals:** Some of the electronic journals are available through internet applications, which are also called classic e-journals. Originally they were distributed via e-mail but now are available on the web and only alerts of new issues are distributed by e-mail. Access to this category of e-journals is free of cost.
- 2. Parallel electronic journals or Electronic version of print:** These are journals that are available both in print and electronically. Sometimes the electronic version may differ from the print journal e.g. article may appear electronically before they are printed or the electronic version may have supplementary material on it. The website offers previews and experts view of issues. The online version may include the full text of journal, only table of content, or selected articles from print versions.
- 3. Database model and software model:** Another type of e-journal is called database model and software model. Under the database model articles reside in a centralized database maintained by the publisher and subscribers are given permission to access the database to locate and download articles. The software would have an expiration date that corresponds with the length of the subscription.
- 4. CD-ROM journals:** Commercial publishers have also made journal titles available on CD-ROMs. The full text of journals has been made available on CD-ROMs. In many cases these titles duplicate print titles already held by libraries. Libraries have often subscribed to journals both in print and in CD-ROMs.
- 5. Full text:** These are e-journals where complete articles are available rather than just summaries or abstracts. Usually the whole of the journals is available online.
- 6. Electronic only journals:** These are journals that are only available electronically, no counterpart likes print or CD-ROM is available of these types of journals.

Advantages of e-journals:

E-journals as defined to be publications available in electronic form and has numerous advantages as they are space saving, provide powerful searching tools, hyper text links and multimedia that the printed journals can not offer. The electronic formal offers many advantages to both users and publishers which paper publications can not match, they are:

- 1. Customization:** Only the articles of interest are, "delivered" and the user has some control over the appearance of the article both printed and on the screen.
- 2. Full text searching or navigation:** Navigation and search are two of the most attractive features that an online journal can offer. The retrieval capabilities of journals in electronic form are far better than those in paper. Every word in the article is potential

retrieval point so that even a caption of figure can be used find a half remembered article.

3. **Speed of access:** It takes some minutes or even seconds rather than hours or days to access. Much less time is required to browse through electronic journals than print journals.
4. **Speed and cost of publication:** Avoiding the printing and mailing process can easily drop 2 or 3 weeks off the current publication cycle. Machine readable text from author is gradually lowering cost and reducing time as authoring and publishing system become better integrated and as electronic transmission is used more in the review process. Hence, additional time will be saved.
5. **Integration with other work:** As the capabilities of computers grow, a situation is rapidly developing in which many people do most of their work at personal computers. The two most important tools for scholars are probably e-mail and word processing, but other activities, such as searching bibliographic databases, working with spread sheets and feeling and creating personal databases, are all being done with personal computers. The ability to refer to articles at the same time on the same machine as other tasks are performed will become invaluable.
6. **Economical:** E-journal could be distributed more economically than print journals, because the main cost of preparing the text, the review process and other such procedures are not as capital intensive as the costs of printing and mailing print copies.
7. **Hyper text links:** Existing journal articles contain a large number of links both within the articles and to other articles. They will gradually become useful links in the electronic version where a simple click on a reference will either lead on to where it was cited, to an abstract of it, or to the article itself. As article change in response to this sort of capability, their organization may change into something more highly linked relying on the ability to easily follow links to include reference to other articles or to other data sources.
8. **Can be saved digitally:** Saving the article as text, html, or PDF files is extremely easy and can be accessed any number of times. Binding and other related activities does not arise.
9. **No physical processing:** Activities like accessioning, classification and cataloguing pertaining to print journal subscription is completely avoided, and the time of the library staff can be saved.
10. **Multimedia facility:** Print journals have only text and two dimensional pictures. E-journals can include text, audio and video images as well which help to easy understand the text.
11. **Save physical storage:** Generally an electronic journal has no space restrictions, i.e. an e-journal can publish a greater number of articles and lengthy articles compared with a print journal. No shelve space is require to store them.
12. **Search capabilities are tremendous:** Search based on titles, keywords, author, subjects, abstract, article, full text, can be executed to identify the journals and articles of interest by the user. Viewing an article's abstracts from an e-journal allows you to judge whether the article is worth using or not.
13. **Multiple simultaneous access:** E-journals can be can be simultaneously use by more than one user, which is possible with print journals.
14. **Less paper:** Paper has many excellent qualities, but electronic version of documents

consume fewer resources and is easier to manage.

15. **Availability:** E-journals provides 24/7 accessibility and remote access to the user. No longer does the patron have to come to the library to obtain a copy of the article as they are available at the same time for readers all around the world, round the clock across geographical barriers, makes them omni present.

Disadvantages of e-journals:

1. **Difficulty in reading computer screens:** The main disadvantage of electronic journals is the limitations of the computer monitor. This leads to problem with reading, particularly over four or five screen. Long reading from screen can cause eyestrain.
2. **Reliance on equipments:** Unlike print journals, an electronic journal needs the availability of electricity, telephone system, computers, internet, appropriate soft wares and hard wares etc. Though this is not the matter in the developed countries, access to these can be a problem for developing countries.
3. **Less permanent:** Electronic version of online journal is easy to lose and their reliance on soft wares and hard wares makes them impermanent. This is a problem both for institutions such as libraries that might want to preserve them and for individual as well who wish to maintain their own collection.
4. **Higher cost:** The system needed to display and network needed to retrieve electronic articles are added cost to the end user. Access to electronic article is easier to monitor than to paper collections. Hence, there is more possibility of publishers for collecting free for use.
5. **Complexities for acquisition:** Acquiring electronic journals is in some way entirely difficult that acquiring print journals. There are license agreements to negotiate and librarians end up dealing with vendors whose subscription rates and cost models aren't always crystal clear.
6. **Lower quality:** Although recent e-journals may rival a photocopy of an article, few rival the original print publication, especially on computer screens. These screens have lower resolution than paper and are usually smaller than two pages of journals. Sometimes photographs too scanned incorrectly.
7. **Frustrating interfaces:** - Anyone who has used computers at all has encountered the frustration being incapable of accomplishing a simple task. The same sort of thing can happen to conventional library users, but it is often less obvious and frustrating, and very often there is someone available to ask what to do manual solutions are often more obvious and easier to remember as well.
8. **Requirement to log on:** This is at least an annoyance and can lead to higher or at least more immediate costs. Requiring a password also raises a barrier to use since it requires remembering it. There are also privacy issues; electronic access is only private when designed to be so and publishers are obviously interested in what and how much material is being used and to some extent and by whom.
9. **Less material available:** This is probably the most crucial problem. The source material is the key to any successful library whether it is paper or electronic. Electronic bibliography databases have essentially achieved parity with their paper versions in coverage, but full text journals cover only a small percentage of what is available in paper, therefore you will still need to use other sources of information except electronic journals only.
10. **Maintenance:** E-journals provide many facilities but it takes more and expertise staff to

maintain e-journal finders, records in OPAC etc.

Our higher education system is passing through lot of problems due to economic recession and cost-recovery concepts. University libraries in India are faced with the challenges to meet the users' requirements due to various reasons such as exponential growth of knowledge, price escalation and budget restrictions. Now in the present age, when the volume of electronic literature or journals is increasing immensely everyday, prices of the journals are spiraling higher and especially with the emergence of multidisciplinary and inter disciplinary subjects, a librarian faces acute difficulties in formation the subscription list of periodicals, which ultimately serve the researchers. This becomes all the more problematic because of the inelastic budgetary provisions. Moreover there is also a change in the information habits and spiraling expectations of users. In such a situation, the e-journals open up many existing opportunities and potentials for higher education institutions.

Access e-journals: The access to e-journals through Internet is gaining prominence because of the inherent advantages of the Internet over media such as CD-ROMs and advancement in web technology. The publishers provide the following different types of access mechanisms:

- **Free Access:** Access to the electronic version of a journal is free with the subscription to the print journal.
- **Exclusive Subscription:** Library can have complete access to all the e-journals brought out by the publishers without subscribing to its print counterparts.
- **Selective Access:** Subscribing library chooses a few e-journals from the publishers and pays for them as per agreed terms and conditions.
- **Consortia Access:** Institutional access to e-journals is expensive and not many libraries can afford to subscribe to all the e-journals, particularly in developing country like India. The best solution is to form a consortium of institutions having common interests and requirements. This will provide an economic model for the wider accessibility and development of a strong information base for the user community.

On the basis of above, three access modes have emerged for e-journals:-

A. Remote Access: In this type of model vendor/publisher host their journals at their website. When some institute or library subscribes to the e-journals through that particular publisher, it is provided right of access. Depending on how this right is defined, the patrons of the library can have access from set of IP addresses or through library's LAN or even both. Publishers grant the right to subscribing library/institution through one of the following methods like:-

- (i) **User-ID and password:** The subscriber gets a user-id and password, which can be used, from any user terminal in the library, largely restricted to one simultaneous user at a time. This is suitable for dial up access users.
- (ii) **IP enabled (Intranet):** This method can be used by the libraries who have intranet based LAN in their libraries or campus. Here publisher's server site will recognize and validate the IP address of subscriber's intranet server when each time a user logs into publisher's website for a subscribed journal. This is a controlled method of access the e-journals. This method can be used by only those libraries who have an intranet based LAN in their library or institution. Large publishers like ACS (American Chemical Society) and Elsevier find this method more secured for both them selves and the library.
- (iii) **Combined:** Some publishers offer combination of both the models. This issue is largely decided by publisher policy of how much to keep the access upon and how much to restrict.

B. On Site Access: In this model, the library can host the e-journals within its campus. Publishers deliver the e-journals to subscriber through CD-ROM or through their website or by FTP option. This is more suitable than above options because it is more secure to maintain the journal at its end as it has paid for the journal (the library) and is used to the ownership concept. As library can host the journal within its campus through LAN it offers wider and better bandwidth for access than access through internet.

C. Access through Database: Some publishers have been producing their content in an electronic format for years. Access models offered by publishers limit the access to their journals, but the users often find articles of their interest through database. Over the years, the bibliographical database has considered as a users' favorite option for searching and locating Information.

Predicaments for e-journals: Despite of all the advantages, there are some apprehensions associated with the access of e-journals. Some of them are listed below:

- **Peer-viewed:** Whether the e-journals/articles are peer reviewed so as to bring some kind of authenticity and quality in the information being viewed?
- **Economics:** whether e-journals are going to offer any added value to the users in terms of service? Further, it is to be decided if the print version is also to be subscribed.
- **User-flexibility:** whether downloading/printing can be accomplished easily? The downloaded data should be readable on a word-processing programme.
- **Comprehensiveness:** Whether the e-journal is as comprehensive as its print version?
- **Archival:** Whether back-up files of the e-journal are available for archival function?
- **Accessibility:** Whether any password is required to access the e-journal? Is there any limit to the number of simultaneous users? Whether the flow of information becomes slow with the heavy traffic on the system?
- **Future Assurance:** Whether the service will continue to be made available or will the library eventually be forced to switch on to the print version, after some time?
- **Users Support:** Does it provide online help to the users?
- **Copyright/Licensing:** Copyright, licensing and distributing restrictions vary from one publisher to another. It is essential to review these rights and restrictions before proceeding further.
- **Future Plans:** with the continuous research, there is going to be a change in the technology. Is it giving assurance that upgrades would be available in case the technology goes obsolete?

E-journals: a consortia approach: "Shared subscription" or "consortia-based subscription" to electronic resources through consortium of libraries is now considered to be a feasible strategy to increase the access to e-journals across the higher education institutions at highly discounted rates of subscription. The consortia-based subscriptions can be successfully deployed to meet the pressures such as minimized budget, increased user demands and rising costs of journals. The libraries all over the world are forming consortia at all levels with an objective to take advantage of global network to promote better, faster and most cost-effective ways of providing electronic information resources to the information seekers. Consortia provide union strength to negotiate with electronic publishers for the best possible price and rights. The collective strength of consortia members facilitates the libraries to get the benefit of wider access to electronic resources at affordable cost and at the best terms and conditions.

Conclusion:

With the emergence of IT applications in libraries in general and with the advent of

Internet in particular, there is a paradigm shift from traditional print journals to electronic journals in higher education institutions. E-journals have revolutionized the information seeking activity of researchers. Information is no longer confined within the four walls of a physical building called library but is virtually omnipresent in the form of e-journals. Subscription of e-journals and their effective management generates satisfaction among user community. More and more libraries are redirecting their funds to provide services of e-journals to their users. The bottom line is that with all the advantages of e-journals over their print counterparts, these can be virtually considered as a boon for the higher education libraries, striving for quality and speedy information to its user community. Also the support provided by consortia subscription adds to sheer strength of the library by providing e-journals at a highly discounted rates thus enabling library to meet with the increasing pressures of diminishing budgets, increased users expectations and rising cost of journals.

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