

COMMUNITY ACCEPTANCE OF E – JOURNALS AS A ROBUST PRINT SURROGATE AND SCHOLARSHIP SUPPLEMENT: THE IIMK EXPERIENCE

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ABSTRACT

The dawn of the new millennium has registered a paradigm shift in the library environment and to the overall information access-dissemination-consumption culture the world over. Its repercussions on libraries, information systems and the user community, especially among the academic and research institutions in India, have been phenomenal and unprecedented. In particular reference to the Indian Institute of Management Kozhikode (IIMK), the advent of an array of ICT applications, the sudden upsurge and the abrupt penetration of a vast variety of electronic content, the multitude of electronic information services from the library, all these have attracted, potentially influenced and prompted the user community to step in and stick to the changed scenario. Among these, typically, the E-Journal services claimed a distinctive identity with a massive 40-fold increase in titles almost instantaneously. In the electronic scholarly publishing ecosystem E-Journals form one of the major stakeholders. E-Journals extend numerous advantages to libraries and to the user community. They offer concurrent and multiple access to the content, remote access, multimedia facilities, online searching, and considerable storage savings. IIMK, in phases, has been providing online access to approximately over 1300 E-Journals sourced directly from publishers and over 12,500 E-Journal content sourced through aggregators. Switching over to the technology pedestal gave us an exponential growth in the journal base, as well as facility to outreach to a wider community at a 24X7 formula. IIMK also explored numerous resource base enhancement innovations such as the IIM Consortium, INDEST Consortium and several Open Source Digital Library technologies towards making the library vibrant, resourceful, outreaching, accessible and visible. As a result of all these, over a period of 3 to 4 years, there have been tangible evidences of improved and increased scientific productivity registered by the institute. The overall intellectual capital of the Institute also has gone up exponentially as evidenced by the increase in publications and the conferences, symposia, workshops etc. hosted by us in the recent past. This paper portrays the cultural changes encountered and embraced by the faculty, students and researchers at IIMK, and the user acceptance as well as the appreciation of E-Journals over the past 6 years. It also narrates the internal institutional dynamism, information literacy measures and other strategies adopted by us towards this organizational transformation.

Introduction

Tremendous developments in digital technologies in the recent years have given an astounding boost to electronic publishing worldwide. There has been a substantial increase in the production of electronic content, trade as well as scholarly, over the past 10 years. According to statistics, out of over 1,50,000 serials published the world over, more than 70,000 cover scholarly communications, and among these more

than 20,000 titles are electronic journals and are accessible in the Internet. More than 2500 among these scholarly journals are free for all, which comprise a vast treasure of scholarly content from around the world (Goudar 2004). The proliferation of E-publishing across the world have brought in a revolution in scholarly publications. In the electronic scholarly publishing ecosystem, E-Journals form one of the major stakeholders. Today, the library's electronic subscriptions include E-Journals, E-books, scholarly databases (abstract, index and full-text), E-reference works, online E-book libraries, value added information portals etc. Among these, E-Journals form the major chunk of digital collections and they are growing at a phenomenal rate. This paper tries to portray the background and the set of strategies with which the Indian Institute of Management Kozhikode (IIMK) has been striving its best to keep pace with the trends in technology, scholarly publishing market, the LIS profession, the user demands and in winning the hearts of the user community by and large towards their effective usage and the resultant effects.

Electronic Journals: Features, Facilities, Functionalities

E-Journals are the electronic equivalents of their print counter parts and they possess numerous additional features. E-Journals are often referred to interchangeably as 'Electronic Serials', 'Online Journals' and 'Electronic Periodicals'. Lancaster (1995) defines E-Journal as 'a journal created for the electronic medium and available only in this medium'. Electronic serials may be defined very broadly as any journal, magazine or newsletter which is available over the Internet (E-Journal Miner). The unprecedented penetration of electronic content presently in the libraries is amazing. With the back up of technology, E-Journals are able to provide a number of features which attracts a wide user base and this has registered a notable increase in library subscriptions. Some of the salient functions and qualities of E-Journals include:

- Online access (endless outreach capability)
- Concurrent access by multiple users
- Anytime, anywhere access and at a 24 X 7 X 365 formula
- Support for multi-point searching capabilities
- Unique features like hyperlinks to related items, reference linking etc.
- Substantial saving in physical storage space
- Support for multimedia information

E-Journals' capacity and capability to break some of the predominant traditional barriers such as time and space outscore them as the most prospective among the new information genres. Influenced by the above advantages, libraries today subscribe to a growing number of Electronic Journals. The E-Journal access process utilizes a diverse set of technologies for uninterrupted and user friendly information delivery and management.

Upcoming Scholarly Communication Models

There are basically three models that exist in scholarly communication the world over, viz., the traditional paper based journal publishing process which has a track record of over 300 years, E-publishing and the Open Access Archives. The developments in IT and Internet have contributed considerably to shrink the supply chain of information and the libraries should respond positively to this welcome change. For the information industry, the supply chain extends from the source of information to the point of usage. The traditional journals in paper format took 36-52 weeks for journals to publish. Surprisingly enough, in this total cycle time of 1 year, the value addition (generation, review, correction and printing) takes place in not more than 2-3 weeks, indicating a huge wastage of time and money contributed mostly by non-value adding links. In this context, the advent of the E-publishing has really been a boost to the scholarly publishing domain, bringing down the publishing time frame to a remarkable 3-4 weeks. A noticeable departure from the traditional systems here is that the printing is delinked from the publishing process, which is quite obvious. It is important to note here that the much appreciated and respected scholarly value systems are not compromised in quality checks in the new processes too. In fact it improves and

strengthens them with its inherent advantages of being online with respect to processes and procedures. The third category is the growing sets of Open Access Archives, which are the offshoots of the Open Access movement, catching up globally. Authors are now able to publish their findings in an astoundingly fast pace such as 10-15 minutes or even lesser time. The relative features and merits of the three systems are illustrated in the following figure (Fig. 1).

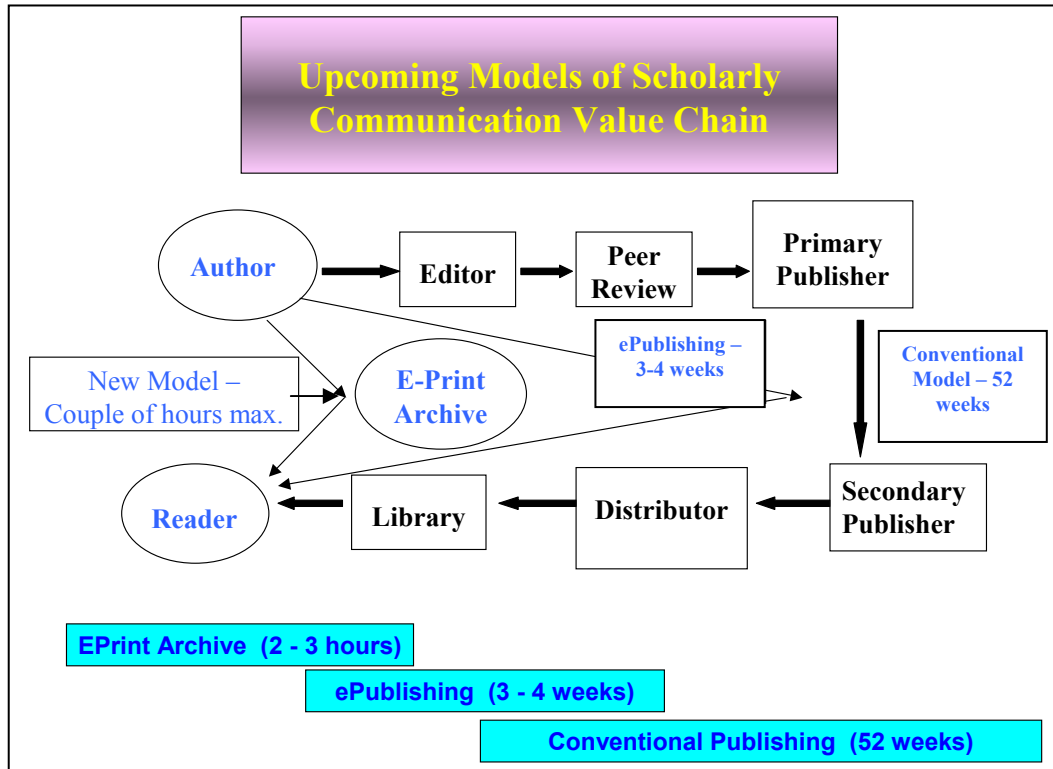


Fig.1 . Upcoming Models of Scholarly Communication Value Chain

The latter two major new entrants in the scholarly publishing domain are now in place for a while and they have time tested and field proven too. It is believed that these will supplement, complement and strengthen the publishing domain, though experts feel that the publishers will face consequences if their unscrupulous pricing / accessing policies are not streamlined unequivocally.

Background

From the ground up, the IIMK library had possessed around 140 journal titles and a fast growing set of books at the start point in 1998, of which majority of them were in the traditional print format except for a few electronic content. The electronic information held by the library included the corporate, electronic full-text (aggregated titles) as well as bibliographic databases in Management which were received in the form of CDs. The aggregated databases (EBSCO and Proquest) covered around 300-350 journals full-text.

There was also the in-house database of the library catalogue in the electronic format. The library occasionally used to receive some CDs which were issued as part of some of the journals, especially the IT/computer magazines. Soon we found the electronic content steadily increasing in leaps and bounds and penetrating into the collection by means of floppies, CDs, HDDs and eventually the Web. This was fairly fast but incremental a development, that took place in our collection domain and we had literally no control over it. It was rather a spontaneous development whether we wished it or not. Firstly, almost all journals began to publish their electronic version, in tune with the progress of the technology developments and the market demands. Soon there registered an exponential growth in the number of journals covered by the aggregated full-text databases. Also, most of the books started issuing electronic add-ons in the form of floppies or CDs, as attachments. Simultaneously, in line with the tremendous increase in the electronic publishing front the world over, IIMK initiated the ambitious IIM Consortium activities in 1999.

The IIM Consortium was instrumental in giving a face lift to the electronic content among the IIMs, taking the number of journals from a mere 140 (in the case of IIMK) in print format to a voluminous 12500 E-Journals across all the six campuses in India. The exponential growth of E-Journal collection at IIM Kozhikode over the past six years is illustrated in the following figure (Fig. 2).

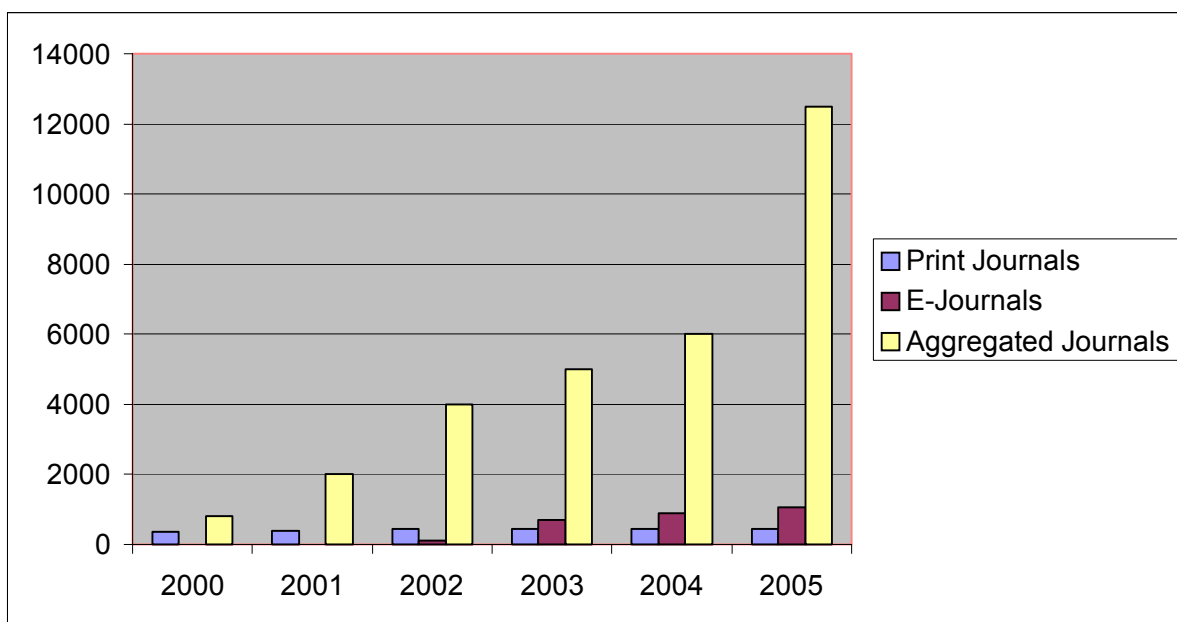


Fig.2. Growth of E-Journals in IIMs : 2000-2005

E-Journal Collection Development

Collection development of E-Journals is a tricky job, as there is a great deal of cultural divide and philosophical deviation between the traditional information resources being handled by libraries for centuries now and the new genre of electronic and digital information being sourced and accessed. In the traditional paradigm, the books and journals bought and subscribed to by the libraries were naturally owned by them, allowing them to make the best use of the resources within the ‘fair use’ clause or principle.

Whereas in the electronic publishing scenario all the traditional belief, approach and understanding about the digital documents that the library purchases / subscribes to, have a world of difference. Libraries get only a license to use the electronic information (books, journals, databases, softwares etc.) while purchasing, and even this license is issued only for a prescribed period of time. Librarians at the same time, have the professional responsibility to assure uninterrupted as well as perpetual access to the information subscribed to by the library. Issues of copyright, intellectual property, and fair use are very much important to libraries (Orsdel 2002). Considering the prevailing socio-cultural-economic situations, the libraries need to follow a pragmatic hybrid approach to collection development and presently they collect their resources in both print as well as electronic formats.

Hence the electronic collection development and management is absolutely a complex process, rendering a wide departure from the traditional paper based libraries. In the changed scenario it is observed that the librarian is becoming more and more involved in negotiating complex licensing agreements, addressing issues of copyright, organizing methods of access to information through networked resources and aggressively engaged in liaising with the academic community in the purchase of information products (Ashcroft 2000).

Subscription Models: Direct, Second Party, Aggregators and Consortia

There are three distinct ways by which libraries get access to E-journals / E-journal content, viz., directly from publishers, via second parties and through aggregators. The distinction between publishers and second parties is important. Second party electronic journal databases are different from other databases because in a second party electronic journal database, the entire journal is collected, as opposed to a full text database like 'Academic Search Elite', where all, some, or none of any given journal may be included. Examples of second party electronic journal databases include: 1. JSTOR, which specializes in making back issues of a wide variety of humanities and social science journals available electronically; 2. Ingenta, the most appreciated journal portal, facilitates users to read, print, and email articles from 4,500 electronic journals from 140 publishers; 3. ProjectMUSE, which provides electronic access to journals in the fields of literature and criticism, history, the visual and performing arts, cultural studies, education, political science, gender studies, and many others; 'Emerald Library', which contains over 140 electronic journal titles with full text articles published since 1994. In India, 'J-Gate' of the Informatics India Ltd. is an example for second party electronic journal providers.

Another category is aggregators. Some companies, called aggregators, create collections of entire journals and sell access to these collections. Aggregators use to buy the copyright of the journals in bulk and provide access to the journals through a single interface. Examples of aggregators include EBSCO Online and PROQUEST. There are advantages as well as drawbacks in each case. In the case of electronic journals, either sourced directly from the publisher or through a second party, the users have the advantage of accessing the journals direct. The disadvantage is that in the electronic journal services, mostly, search facilities are kept at a low profile. Whereas in the aggregated services, search facilities are fairly high, with low priority for content layout, get up etc.

A library may also get access to the electronic content from the publishers directly by virtue of their print subscription to a title. The library will have to be alert and vigilant in order that these facilities are not left unnoticed or the free offer access opportunities missed out.

A recent trend, being observed in India, is the formation of a number of library consortia most of which are well conceived and managed. A library consortium is a collective activity of a group of libraries towards a common goal of sharing resources (Janakiraman 2002). Consortium based subscriptions draws its strength from the vast outgrowth of E-Journals across the world in almost every subject area, the fast growing technology push, the unprecedented and ever increasing demand pull, and the diminishing budget

allocations being confronted by libraries. The situation prevailing in the current library scenario reveals that it has reached a critical mass both in terms of digital collections as well as the number of users. With the availability of the state-of-the art information technology solutions and the web revolution, libraries are now better off in terms of easy access to more information through meaningful co-operation among themselves.

Collection Management and Maintenance

As already described above, there is a great deal of difference between E-Journal subscriptions and their print counterparts. For E-Journals, a variety of subscriptions, access and pricing models are being practiced. Libraries can subscribe to electronic journals from publishers directly or through vendors. Online access to the E-Journals could be arranged through User ID / Password or through IP authentication. There exist a number of pricing models for electronic journals such as the online only, online and print, print and online, flip-pricing, pay-per-hit, pay-per-view, pay-per-download, pay-per-print, deeply discounted pricing etc. Some of the other popular models include the 'FTE (Full Time Equivalence) based pricing', 'core subscription plus pay-per-view', 'usage based pricing', 'licensee membership fees' etc. Based on the nature of the subscription / licensing arrangements and the availability of funds a number of models can coexist in a practical library setting (Sreekumar 2002). An alarmingly wide range of difference in the pricing patterns are observed and there is absolute absence of standard pricing policies for E-Journals, and this is found across the entire spectrum of E-Journals. Larger publishers tend to monopolize the market and libraries often become their prey, left with no alternatives.

Among the third party journals access services, 'Athens' is an Access Management system for controlling secure access to E-Journals and other web based services. It offers:

- Secure single sign-on access to multiple web-based services
- Devolved administration facilities at organisation level
- Remote access user accounts
- Encrypted bulk user account upload services
- Highly scalable services - supports millions of user accounts
- Replicated, load balanced and fully resilient architecture

IIMK has been following the IP based authentication to access majority of its online journals. In certain cases there has been User ID / Password based accesses too.

Marketing and Outreach Strategies

Marketing in the library domain reflects the array of efforts being put forth by the library towards increasing the use of its resources. Library marketing in today's context calls for a totally new and innovative approach while it offers a variety of opportunities to the information professional in the Internet era. A close watch at the changing dynamics of the information space reveal that all the stake holders in the information domain, viz., the producers, providers, intermediaries, buyers and consumers play significant roles – direct or indirect – in the provision, dissemination and consumption of a meaningful content relevant to their context. Eventually the libraries today are moving to a business environment and therefore they are bound to work by the rules of business. To achieve these objectives, the information professionals must understand their context-sensitive user needs which enable them launch their resources, products, services etc. customer oriented. The main components to understanding the customer requirements are need, want, demand, customer value, cost and satisfaction. Among these, creating the demand for each and every product is the core. The need and importance attached to the marketing of information products and services in libraries, and also the marketing strategies to be followed, are to be meticulously chalked out

taking into consideration the institutional and the community backgrounds.

In the case of libraries, marketing means 'selling the innovative idea of information utility irrespective of its format, type, form or the origin of the information (books, journals, e-books/e-journals, CD-ROM, Web etc.) and / or information services (User instruction etc.) exchanged for the benefit of the users'. Obviously the providers and the intermediaries shall have to add more value to the information value chain, if they want to make their presence meaningful and survive in the present IT enabled scenario. The main purpose of library marketing is 'Increased customer satisfaction will result in increased willingness to use and pay for the services offered'.

For the marketing of library and information products and services, we must first understand the applications of marketing principles in the library environment. This means that a library or an organization for their long run objectives, they should mainly focus on their customers. The quality of the goods or services offered to the market would be judged by the customers on the basis of how well their requirements are satisfied. In this customer focus, we should consider the 'What, How and Why do they buy?' fundamentals first. As stated earlier, marketing strategies are an integral component of a successful marketing process. Strategic marketing requires libraries to understand their customer's needs in order to provide better services.

State-of-art marketing efforts were launched by the IIMK library in its endeavours to outreaching the community, leveraging on technology. In other words, when technology brought in turbulence in the library's ongoing practices, technology itself was adopted as a strategic weapon to combat most of the challenges being posed by it.

Marketing the Library through the Web: Content Integration and Aggregation

Today a vast majority (> 70 %) of the library materials find its way into our libraries in a scattered and distributed manner and in a variety of electronic media and digital formats. There is an amazing penetration of scholarly digital information through a variety of forms such as E-books (published as such or issued as accompaniment), E-journals, portals, vortals, E-reports, CBTs, WBTs, cases, databases etc. (Terry 2000). To make matters more complex, the proliferating array of different file formats, standards and platforms in which documents are published, pose a multiplicity of threats to the information professional who is supposed to be the custodian and service provider of these information products once it has found its way into the library. Considering the above situation it is practically and technically impossible for a single monolithic solution towards harnessing and embracing the complex and complicated information domain of a library. The all-in-one-container strategy is no longer feasible and no more advocated. Seamless dissemination of scholarly information by means of Content Aggregation and Content Integration through library portals, digital libraries and Institutional Repositories are the recommended strategy sets to be adopted and practiced by the 21st century libraries.

Among the above, the library portals play a crucial and a pivotal role in showcasing and disseminating the library's wealth of online resources as a single window delivery mechanism. The portal is the library's homepage which will provide a plethora of related services, taking into consideration the requirement and context of the user. It also holds together tens of hundreds of different services under one umbrella and thereby save the precious time of the user/s without having to run pillar to post. IIMK started offering the E-Journal services through the web portal way back in 1999, and we have been carefully and consistently improving the online access services and facilities by using a variety of Web technologies. As the number of services and journal titles increase, the Web site monitoring and maintenance work also get intensified. At times maintaining the library page(s) turn out to be extremely crucial, as users may find problems in accessing certain titles even at odd times of the day. The interface frames of the library's pages are shown in the following figure (Fig. 3).

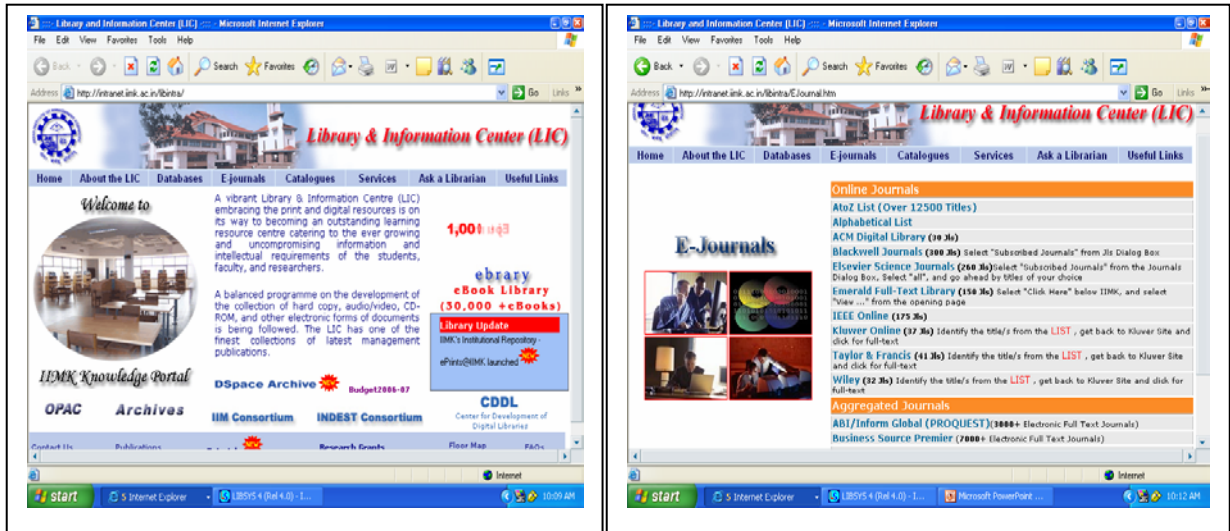


Fig.3. Library Portal Pages – Home Page and E-Journals

Usage and Usability

This is an area which requires much attention and thorough scrutiny. There are no arguments that the enormous amount of money invested in the E-Resources should be effectively and efficiently utilized. We could not see any convincing studies in this area from India so far. Unfortunately the publishers' usage reports and statistics, though we use to receive them quite regularly, do not project reliable and consistent figures. Some of the international studies conducted on the usage / usability of the E-resources concludes that there is no fool proof or hard and fast rule for assessing or ascertaining the usage patterns in a given context. A number of factors are to be considered while doing this exercise. We also agree to this philosophy, as the scenario comprise of complex multiple working environments and the same was our experience too.

In the case of IIMK, as we embraced technology and while switching over to the E-information environment, the Institute could really capitalize on it, especially in the strengthening of the collection / resources area. There has been a phenomenal increase in the number of E-Journals along with the other publication types, which could not have been possible in the traditional paper based systems. There have been evidences that the user community have embraced the newer forms of electronic materials such as E-Journals and E-Books, as there were immediate service requests from users whenever there were breakdowns in any of the major service links. Informal studies were however conducted by the library in order to ascertain the usage / utility of the electronic resources provided by the library. A usage study conducted at the University of Louisville posed the following research questions (Liu 2002):

- i. Who uses E-Journals?
- ii. How are E-Journals used?
- iii. How are E-Journals being accessed?
- iv. Are E-Journals meeting our users' needs?

- v. Should we cancel the print journals and only purchase the electronic versions of these journals?

Also, in order to show the accountability for the cost of E-Journals, the usage statistics are to be used as a source of information to guide the selection and acquisition decisions. The usage patterns were reasonably satisfactory at IIMK looking at the frequency of E-mails received from users and the telephone enquiries regarding the access of a resource / set of resources at times of difficulty / confusion. An online reference desk was thus set up through the library portal, in addition to the regular onsite trouble shooting services extended by the library. The increase in the usage of various electronic resources at IIMK during 2003-2005, received from the respective publishers, is shown in the table (Table 1) below.

Year	Wiley Interscience (John Wiley & Sons) (41 titles)	Science Direct (Elsevier Science) (260 titles)	Business Source Premier (EBSCO Publishers) (8000+ titles)
2003	147	1051	8697
2004	207	1167	12805
2005	420	2208	14406

Table 1. E-Journals Usage Statistics 2003-2005

As regards the publisher supplied statistics and usage reports, there are studies which advocate more reliable and consistent local or institutional level usage tracking methods of electronic resources by the user community. Liu’s study further enlightens on the usage tracking of E-Journals at the University of Louisville by evaluating two types of solutions which could be emulated and tried in the Indian context. The first method was to create an HTML intermediary page for each E-Journal and any journal accessed online will be directed to this page first, and then to the destination page. Each access to this intermediary page would be automatically recorded in a Web server log file and counted. The second method was to use a Common Gateway Interface (CGI) tracking program adapted from a commercial solution provider. This program would automatically append information about each E-Journal access to a designated log file that is separate from the Web server log file. The data in this designated log file could then be imported into a Microsoft Access database for analysis and final usage report generation. Finally the University of Louisville chose CGI tracking program over the intermediary page method, as the first lacked certain data required to be captured from the HTML page. More over, the HTML based monitoring and maintenance demanded more time as the number of E-Journals increased and the there were changes in the URL by the publishers / vendors.

Influenced by the above experiments, IIMK has started server-log based usage tracking techniques with the help of an interim HTML page which will collect the user accessed IP or the Persistent URL (PURL) details on an Access database. The usage statistics pertaining to each title / collection can be generated on demand or at regular intervals. IIMK has also plans for switching over the task to a tracking software developed by the student community of the Institute. The working model of the existing HTML based usage tracking technique along with the proposed software based approach is illustrated in the figure below (Fig. 4).

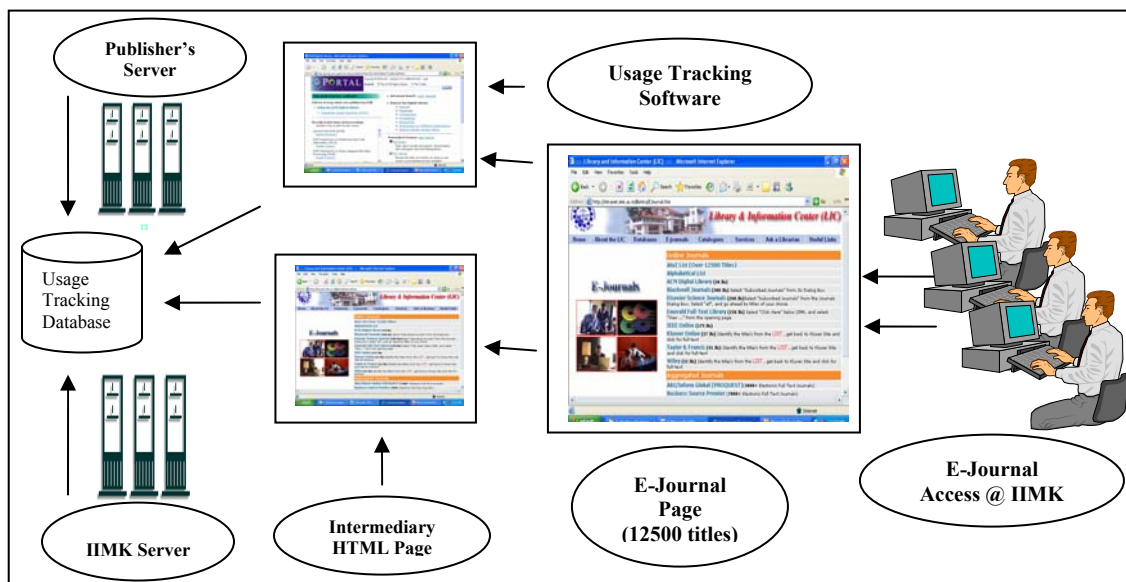


Fig.4. Working Model of E-Journal Usage Tracking Techniques at IIMK

Information Literacy

A well planned and nicely formulated information literacy effort in the form of regular user education initiatives by means of online tutorials as well as on site sessions, time-to-time orientation programmes on the various information services and products etc., can offer key contributions in enhancing the utility and usage levels of E-Journals. Aggressive marketing strategies such as E-Mail alerts, product banners, news flash etc. shall attract the attention of the user community in a better way. Formation of Institute level Usage Monitoring Committees with the active involvement of the students / faculty / scientific community shall pay rich dividends in the long run.

Conclusion

In the new information environment there has been a vast outgrowth of electronic resources, especially E-Journals, across the world in almost every subject area. Recent developments in technology have registered an unprecedented influence on the user community favouring the deployment of IT enabled services and in furthering the electronic resources in libraries. The situation prevailing in the current library scenario reveals that it has reached a critical mass both in terms of the digital collections as well as the number of users. With the availability of the state-of-the art information technology solutions and the Web revolution, libraries are now better off in terms of easy access to more information and in the provision of user friendly value added services. In order to achieve a substantial increase and a face-lift in the information resource base, libraries need a tremendous and a drastic reengineering of their processes and procedures and should aggressively participate in library consortia, say INDEST, just to name one. This paper has given a vivid picture about the step-by-step introduction of technology enabled relevant, qualitative and most reliable stat-of-art information resources and services through E-Journals in a variety of subscription models, successfully achieved and time tested at IIMK. These models could be followed and emulated by the academic and the research libraries in India. The paper also shared the plethora of library marketing as well

as outreach activities and the set of technology applications the library initiated and being continued in its endeavours to efficiently improve the utility and the productive usage of the enormous electronic resources being pumped into the library. This is all the more important as these exorbitantly costly information are being sourced out of the tax payers money. In the case of IIMK, the ROI (Return on Investment) on the electronic resources is measured in terms of the huge increase in the collection / resources against the relatively low investment and the increased usage of the E-resources and E-learning initiatives conceived by the Institute during the recent times. The extended usability of the costly information products, which are otherwise out of reach of most of the Indian Campuses, is ultimately reflected in the scientific productivity of the Institute which is evidenced by the increase in the publications. Ultimately, all these above efforts are targeted at the users and unless they are fully convinced and their sentiments are totally taken care of, the community acceptance will remain only as a Utopian idea. Community participation in the promotion of E-Journals is a pre-requisite for community acceptance as well.

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