# Professional Skills of Librarian: An Elixir to the Information Ailments of Library Users

Prof A Srimurugan
Former University Librarian and Head,
Department of Library & Information Science,
Madurai Kamaraj University

sriwinsall@gmail.com

Let me wish you all a happy New Year 2015. Wish you all the academic prosperity

The very beginning of the New Year is marked by an auspicious event in all your career lives and at the same time, in all the academic progress of the library clientele. Service to humanity is the principal concept of all religions and it stands focused in Christianity as the main theme.

Kerala is the land of libraries that initiated a region-wide movement and no wonder it is the state with highest literacy rate in India. This is the state where missionaries are involved in service of high magnitude in general and the library service in particular. Of all the states, I love Kerala for two reasons: It was Prof.K.A.Isaac my Godfather who inducted me into the library profession way back in 1975. Even today, my community has the common suffix "Servai" with the names of males as a mark of this community's origin to Sera Naadu – i.e., Kerala

I am happy to be here today participating in a festive environment ant smears happiness on all your faces.

Library continues to remain a trinity of information, library professionals and the readers. There has been a paradigm shift from the traditional physical document oriented world to an automated internetized (my own term) digitized format of information and hence the nature of collection, their location, information retrieval strategies and format of services that have been on a transformational paths retaining the philosophy of librarianship and related services. The academic community have already become information and data users deviating from the physical world of libraries though not totally. Library has become one among the various access points to the sources of information. The only factor which makes the reader look upto libraries is the skills of the library professional who is the hope of sincere and serious readers

What S.R.Ranganathan prescribed in 1933 as the qualities of a reference librarian though fundamentally form the cornerstone, have taken multidimension in information formats and modalities of information delivery. Integrating 21st century skills into engagement strategies of library audience calls for a holistic approach that expands the vision of what it means to be vibrant,

relevant institution. This encourages libraries to evolve from an intuitive approach toward learning to a more targeted and deliberate one.

The relationship between academic libraries and their communities is at a critical intersection. There has always been a rapid period of change affecting academic libraries and the user communities. As a result, there has been a better opportunity for libraries to act as leaders for positive change and collaboration. Libraries can and should seize the opportunity to position our institutions in light of these 21st century challenges.

The present programme of 21st Century Skills for library professionals designed to help library professionals play a catalytic role and libraries are prepared to take critical steps.

In fact, library users today – students, scholars and teachers – spend a majority of their academic life in learning through resources outside the library – mostly from the World Wide Web through the Internet. Marketing strategies of library information has taken digital dimensions of the traditional services with a format difference. Yet, the possibility of readers traversing through the library website is not ruled out. The inseparable relationship of the reader with the library is indispensable for both depends upon the efficiency and skills of the library professional in achieving their successful retrieval of relevant information in time.

In the 21st Century, the reader has grown accustomed to personalized, customized, and in anticipation as well as on-demand experiences that are easy to access and simple to share and build upon. When people have realized that self-medication is dangerous, users must be given to understand that self-efforts without the library expert assisted search may prove them to be the losers.

In physical settings and online, audiences expect higher levels of interactivity and programs tailored to individual needs. From online resources that record customer preferences for books and periodicals, authors, and websites and such collections that automatically add personalized recommendations, there are seemingly no limits to an individual's ability to access, store, re-experience, re-create, and re-imagine any number of highly personal preferences and experiences – commercial and non-commercial. Yet the flaw lies in the difference between a lack luster search by users and the library professional assisted search.

As a matter of fact, the library user needs no qualification while the library professional need to be ready with skills that shall fulfil the needs of users.

In practice, we find the average the library user with surprising skills and enhanced knowledge about resources. They have self-taught knowledge to capture, curation, preservation and sharing of knowledge. This is only a section and exempted category. Hence the academic library in the digital era needs to reflect a service environment that embraces digitization, electronic publishing, Web 2.0, Web 3.0, Library 2.0, Library 3.0, social media, open access, and a host of other fast evolving ICTs. Academic libraries having shifted into this digital era, these developments and

innovations impact on the knowledge and skills profiles of LIS professionals in academic libraries. New skill sets are required to mediate this digitally oriented academic library environment.

## INFORMATION LITERACY

### Access and Evaluate Information

- Access information efficiently (time) and effectively (sources)
- Evaluate information critically and competently
-

### Use and Manage Information

- Use information accurately and creatively for the issue or problem at hand
- Manage the flow of information from a wide variety of sources
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information

### Media Literacy
### Analyse Media

- Understand both how and why media messages are constructed and for what purposes
- Examine how individuals interpret messages differently, how values and points of view are included, and how media can influence beliefs and behaviours
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media Create Media Products
- Understand and utilize the most appropriate media creation tools, characteristics and conventions
- Understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments.

### ICT (Information, Communications and Technology)
### Apply Technology Effectively

- Use technology as a tool to research, organize, evaluate and communicate information
- Use digital technologies (e.g. computers, PDAs, Media players, GPS, etc..), communication/networking tools, and social networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy.
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies

As an integral and significant partner of academic institutions, libraries should envision, define, and implement approaches that support 21st century skills in more purposeful, visible ways. They are capable of leveraging their tremendous learning assets to help individuals and scholar communities by emphasizing skills like critical thinking, problem solving, global awareness, innovation, communication and collaboration. There are the skills that audiences and employers need to thrive in the 21st century.

Beyond skills, every library professional should realize that his/her willingness to help is the pinnacle of service quality. It is more with you all. This workshop may brush up your original qualities innate to this land and the skills that you acquired during your course of study and through workshops shall help you learn which is timeless. Skill is not a destination, but a journey. Wish you all a successful professional and service journey.

---

# Innovative Curriculum to Infuse Teaching and Technical Skills in Library and Information Professionals

Dr. A.T. Francis
Kerala Agricultural University
Thrissur – 680 656
francisaloor@yahoo.com

**Abstract**

Modern libraries need to extend conventional services in the digital environment for which the capacity building of the library professionals is of paramount importance. The digital environment warrants variety of skills for a library professional to discharge their duties effectively. As the factors like technical knowledge, teaching and research skills, managerial ability, dynamic leadership, etc. are key determinants in achieving desired result in a modern library, curriculum of the library and information science courses can contribute much towards this. This paper discusses the need for innovation, essential orientation and regular updation in the curriculum to infuse required skills among the professionals.

**Keywords:** Digital resources, Library Skills, Library and information science education, library science curriculum, library management, library services

## Introduction

The libraries in the modern age are changing fast in pace with the changes happened in the society, especially in the technological ground. But in the global digital environment, most students and even researchers and administrators are looking first to search engines for their information. But, it is a valid question that whether they were able to retrieve most relevant information from the big ocean of digital resources comprised of unwanted information than

wanted. The service principle of search engines developed and owned by private corporations, and is basically designed to take advantage of advertising revenue. This generates different avenues for librarians and educators.

As the technological barriers are declining along with the increasing penetration of internet and mobile, modern education goes online and mobile and also becoming global. IFLA (2013) reports that today there are over 2.4 billion Internet users around the world. By 2015, Brazil, Russia, India and China alone will have 1.2 billion Internet users. Mobile technologies are facilitating the rise of Massive Open Online Courses (MOOCs) and open access in the global classroom, while posing interesting questions for educators…. Traditional concepts of "authorship" and "ownership" have broken down in the new information environment. New digital content is being created at an unprecedented pace, and is crowd-sourced, computer-generated and re-mixed as well as created by individuals.

## Libraries in the Digital Age

The flood of knowledge resources has made the management of the present day libraries more complex than ever before. At the same time, a large number of libraries in India are not equipped to adopt the latest technologies to the best satisfaction of the users. Rejuvenating libraries by incorporating all possible innovations is a difficult task addressed by the modern librarians.

We have seen a paradigm shift in the management and service system of libraries. The traditional library system has been turned to digital regarding resources as well as management. Digital information resources including books, journals, reports, theses, standards, patents, etc. are out numbered now as compared to print materials either as born digital or converted into digital format. Open access resources and consortia based subscription or access of journals and databases became order of most of libraries.

Growth of digital resources is happening at an exponential rate which comes several million times than that contained in all printed books ever written. In tune with this, internet traffic also increased by 13,000 per cent in the last decade which enabled speedy delivery of digital documents.

Digital resources and modern technologies added further complications in the management of libraries. The role of the library professionals has undergone a paradigm shift.

The proliferation of hyper-connected mobile devices, networked sensors in appliances and infrastructure are transforming the global information economy. With advancements in machine translation and availability of internet access, potentially any book in any language could be available to a user, regardless of their location. These are all impacting the functioning of libraries much more beyond the normal guess.

## Challenges of Modern Libraries

Libraries face a number of challenges posed by emerging technologies. If we take into consideration library automation in India, a number of issues are of serious concern. Most of the time, the job is half done and compliance with standards is a serious matter for us to address.

Managing e-resources in libraries is highly complex as well as challenging which warrants librarians multiple skills. The need of the hour is development of the librarian's technical skills to cope up with the new magnitude that the digital era has generated.

Integrating internet resources with library services is a challenging job of a librarian. This can be accomplished by creating a library website or e-resources portal, providing links to existing portals. There are information search tools that one can use like online catalogues, web lists, bibliographic and full text databases, e-resource gateway, subject directories etc.

Search engines, social networks, cloud computing, etc are another modern area where libraries have to make an effort to stay relevant without compromising the core library principles and policies. Librarians should be able make use of open source software where ever possible for library and network management, digitization, institutional repositories, data security etc. Effective use of best technologies can be possible only when librarians themselves understand the innovation that is ongoing in the area.

## User Education and Teaching Tasks

Budd (1982) viewed that like teachers, librarians deliver students with information in a systematic and orderly fashion, thus increasing the student's store of knowledge. While librarian met the student's informational need at the reference desk, teacher is providing the same at the classroom. Hence the librarian's role as teacher is evident and also need faculty status to perform well. Werrell and Sullivan (1987) presented a detailed analysis of the teaching role of librarians. Donnelly (2000) observed that instruction librarians and teaching libraries are getting a lot of attention due to their teaching role. Librarians agree that they have to teach their users on the effective use of resources, internet, etc. Librarians can guide students, teachers and researchers efficiently on their cognitive, technological emotional, and physical roadblocks they encountered when performing academic and research tasks.

Teaching in a discipline area would be a major avenue for increased visibility of a librarian. Personal and professional benefits as involvement of librarian in teaching were enormous Peggie Partello (2005). He identified several benefits accrued to the students were: "They learned to use the library because library instruction was embedded throughout the course and assignments required students to use library resources; They felt comfortable asking me questions about doing research and locating information for other courses; They learned that the library is less intimidating than they had thought".

A study by the author revealed that there is a strong affiliation between the user education and use of knowledge resources. It is also realized that many of the problems created by the transition of documents from print to digital medium could be better addressed with the help of proper information literacy courses with stress on ICTs. It also revealed that such courses as part of academic curriculum is more effective and the contribution of library professionals as teachers and trainers will have an over all impact on improving the performance of the libraries and satisfaction of the users (Francis et al, 2006).

Walter (2006, 2008) discussed the leadership role of librarians and how better librarians can perform as teachers. He also argues that the present-day practice in academic libraries reveal that the function of the librarian as teacher is increasingly significant.

Effective involvement of librarians in user education has raised deep concern about their development as teachers. A study by Bewick and Corrall (2010) revealed that library professionals were engaged in a variety of teaching-related activities and most of them felt confident about teaching and thought their knowledge sufficient. Respondents favoured incorporating a teaching module into initial professional education and providing tailored programmes for librarians with substantial teaching roles.

Though most of the library professionals admit the teaching role librarians, it is a fact that library science education especially that in India did not really train them for the significance of teaching in the profession. Many studies have explored the question of the availability of teaching-related courses in LIS programmes. It is identified that the instruction courses that are available in LIS programmes are highly inadequate to mould the librarians in the present setting. Large number of pedagogical skills essentially to be imparted is lacking in most of the LIS curriculum.

As compared to the nature of work of librarians in public and special libraries, teaching is a core focus of the work of the academic librarians. It is a fact that teaching, instruction or similar user education programmes can add special horizon in maximizing the resource utilization and user satisfaction, especially in the modern digital environment. Though the reference librarians are not in the classroom, they should approach, analyse and instruct the users as they are in the class room and should provide service just like home tuition.

IFLA (2013) reiterated, “An ever-expanding digital universe will bring a higher value to information literacy skills such as basic reading and competence with digital tools. People who lack these skills will face barriers to inclusion in a growing range of areas. The nature of new online business models will heavily influence who can successfully own, profit from, share or access information in the future”.

## Professional Development towards New Technologies

IFLA indicates the following trends in information arena:

1. New technologies will both expand and limit who has access to information
2. Online education will democratise and disrupt global learning
3. The boundaries of privacy and data protection will be redefined
4. Hyper-connected societies will listen to and empower new voices and groups
5. The global information economy will be transformed by new technologies

Consequent on the flood of digital resources and development of internet, the online education and MOOCS is spreading through out the world without geographical boundaries. In this context,

the direct as well as indirect education and teaching roles of librarians are increasing in the global education scenario.

Multiple tasks to manage a modern library lead to stress and burnout among modern librarians, especially the solo librarians. The essential skills to manage a modern library are to manage manpower, including superiors and subordinates, finance, hardware, software, networks, internet, data security, computer viruses, power, knowledge resources, etc. Communication skills, public relation skills, teaching skills, presentation skills etc. are also important as other technical skills.

Support from colleagues, supervisors and subordinates are critical to the librarian's ability to focus on his or her work as a teacher and technocrat. The importance of colleagues willing to provide help for backup service on reference desks and in other venues contribute much to the performance of the library. Also noted was the importance of support among the administration as evidenced by the allocation of human and other resources.

Appropriate professional development programmes oriented towards latest technologies are required for the librarians.

## Library Science Curriculum

As libraries grew, the processes and procedures used in library services gave birth to a new discipline called Library Science. Various universities started courses and during the 1990s, the universities added 'information science' to the course name as the society identified new role of the librarian in the technological era. The librarian of today has the same responsibility to adopt new technology to improve discoverability of and access to all types of information in all physical media and formats. In spite of large scale changes in technologies and digital resources, Dr. S.R. Ranganathan's Five Laws of Library Science still apply to libraries today. Michael Gorman redefined these laws in the context of the digital era and stressed the intelligent use of technologies to enhance service and ensure free access to knowledge.

Though the role of the librarian remains fundamentally unchanged, modern librarian should discharge multiple roles as academician, researcher, technocrat, manager, marketing expert and so on. In tune with these roles, the LIS curriculum needs to be designed. The tasks of the modern library professionals are managing conventional and digital resources in order to effectively satisfy the needs of the users.

The twenty-first century information professional must possess skills in selection, content management, knowledge management, organization of information, research services, developing and maintaining digital libraries, and bringing information resources to the desktop. People with the right skills are crucial to the success and competitiveness of contemporary information environments (Varalakshmi 2006). Singh and Shahid (2010) opined, "Most of the curriculum followed in Indian LIS programs is outdated with little or no focus on the requirements of libraries or IT organizations. Programs may have traditional courses like classification and cataloguing, reference, bibliographic searching, and professional values, but the curriculum does

not reflect the current needs of LIS field…. Teaching departments are suffering from having a small staff and a lack of expertise in ICT. Many LIS programs in Indian universities have only two or three teachers available to teach and for research work. Some have most faculty on a contractual basis. Limited non-teaching staff are available for office, library, and computer labs work. There are insufficient classrooms for the BLIS and MLIS students, and not enough rooms for research scholars and teachers in the departments. There is inadequate infrastructure for student seating as well as for teachers. The laboratories attached to the teaching departments have an inadequate number of computers and other equipments. Some university departments, polytechnic institutes etc., have no computers, Internet, or library software for students, although they are conducting library courses through distance as well as in person. Many university departments have very limited space for a library, and have a very small collection as well. Some departments have no library, and students can use only the central library of the university. There are inadequate training facilities to update the professional competence of in-service teachers. Existing UGC refresher courses fail to provide needed expertise and skills to meet the growing complexities of information environment".

Most of the LIS Schools in India are not able to update their curricula as per the contemporary demand from the market. UGC Model Curriculum 2001 is obsolete which reflects the rigidity of teaching profession in LIS.

IGNOU and some other LIS schools in India are doing some efforts to revise their syllabus. IGNOU has recently revised its BLISc syllabus with new orientation on topics like ICTs, Communication Skills, Management, Information Products and Services etc.

The MLISc syllabus of IGNOU also has some theoretical coverage on latest technologies like ICTs, Management, Preservation and Conservation, Research Methodology, Technical Writing, Informetrics and Scientometrics etc. As these are distance mode programmes, at the practical level, these course offer less importance.

Integration of theory and practice in teaching is an essential need and ideal model of the day. Medicine, dentistry, nursing, etc. are some disciplines in India following this model. Some universities are running library science courses without libraries, laboratories and regular teachers. Many courses in distance education mode are offering without any quality check. Though the quality of librarians and performance of libraries is directly affecting all fields of a society, no proper mechanism in India to regulate the LIS profession.

## Academic Excellence and Placement Record

One of the major criteria of evaluating an educational institution is the placement record of its products. Very few LIS schools in India like DRTC are doing some effort in this line. The following indicators will explain the situation and interest of the LIS schools in this regard:

1. Though UGC insists to have qualified librarians in universities and colleges in India, large number of posts of university and college librarians in India is vacant for several years and

no effective measures to fill these posts either by LIS schools or by professional associations.

2. Majority of public libraries and school libraries in India are running without qualified librarians.
3. Even after the three decades of implementation of UGC Scheme in India, not even a single library professional has been appointed in the UGC Cadre in universities and government colleges in Kerala.
4. All posts of University Librarians in Kerala are vacant for the last several decades. Ten universities, including three deemed universities, have not even created the important post of the University Librarian even after several years of their establishment.
5. Out of several hundreds of govt. colleges in Kerala, only 12 colleges have created the posts of College Librarian in the UGC Cadre and few of these posts itself are vacant without appointment. All other college libraries are running with library professionals only with CLIS or BLIS qualification and in the cadre much below the UGC Cadre which lacks academic parity and professional management.
6. The then British Authorities of the University of Madras created the post of University Librarian during July 1923 and appointed Dr. S.R. Ranganathan as its first librarian on 4th January 1924 and sent him to Britain for Library Science Education. This provides real a comparison of the quality standards on library system enforced by the present authorities of universities and colleges in India after 90 years.
7. All schools (about 15,000 nos.) controlled by the Govt. of Kerala are running without libraries and qualified librarians.
8. Even after the three decades of enactment of Library Legislation in Kerala, not even a single library professional has been appointed in the Kerala State Library Council. At the same time, even the posts of Development Officers are being filled by non-professionals. The positions of Secretary of the State, District and Taluk Library Councils are also not reserved for library professionals.
9. Our modern society desires medical experts with MD and PhD plus degrees even to treat a simple fever. Nursing profession improved with BSc Nursing, BEd course is becoming two year programme, the qualifications of clerks and police constables upgraded to Higher Secondary, Computer qualification has been added along with Degree for Office Assistant. But to manage a library whether it is with thousands and lacks of documents, computers, networks, digital libraries, internet, powers systems, etc. of several crores, a professional with CLIS or even a non-professional is more than enough. Many of the LIS teachers and UGC Librarians have no botheration in this regard because even otherwise they will get handful salary, promotion, and dignity in the profession and so on.
10. UGC, ICAR, NAAC, IMC, INC, BCI and other accreditation and assessment agencies are mainly looking on the physical structure of the libraries than its
11. functioning effectiveness. Most of the assessment teams of these agencies are not able to assess the service effectiveness of the libraries. Even the staff working in the libraries will be prompted by the authority to hide the deficiencies and inefficiency in services as the institutions want good grade by any means.
12. There is no statutory regulation or accreditation agency in India to control the LIS education and functioning of libraries.

## Conclusion

From the above discussion it is clear that innovative curriculum to infuse teaching and technical skills in library and information professionals in the digital world is an essential need. The LIS curriculum requires proper evaluation and statutory control by agencies like American Library Association, Indian medical Council etc. to enforce quality standards. LIS professionals in India lack several essential skills needed for the modern library management which reflects in their placement and job market. A profession not offering placement even for toppers of the profession will encounter dark days without adequate enrolment of talented and interested students to the profession. In the long run, this will affect the reading, learning, researching, managing, good governance, health and other positive functions of a society. The UGC may appoint a committee to evaluate the situation in the LIS curriculum and profession.

So, it is the duty of the professionals to work hard to reinvent the real role of the curriculum in the modern society to rejuvenate our libraries.

## References:-


1. Bewick, Laura and Corrall, Sheila (2010). Developing librarians as teachers: A study of their pedagogical knowledge. Journal of Librarianship and Information Science. 42(2): 97-110, June March 11, 2010. DOI: 10.1177/0961000610361419
2. Budd, John M. (1982). Librarians are teachers. *Library Journal 107,* Oct. 15, 1982.
3. Donnelly, Kimberley (2000). Reflections on what happens when librarians become teachers. *Computers in Libraries*, 20(3), March 2000.
4. Francis, A.T., Abdul Razak, C. and Humayoon Kabir, S. (2006). Role of Library and Information Professionals as Teachers and Trainers in Agricultural Education: an Experience of the Kerala Agricultural University, India. In C. Khoo, D. Singh & A.S. Chaudhry (Eds.), *Proceedings of the Asia-Pacific Conference on Library & Information Education & Practice 2006 (A-LIEP 2006), Singapore, 3-6 April 2006* (pp. 642-644). Singapore: School of Communication and & Information, Nanyang Technological University.
5. IFLA (International Federation Library Associations and Institutions) Trend Report 2013. Hague: IFLA. Available at: http://trends.ifla.org/ (Accessed on 10 Nov. 2014
6. Peggie Partello (2005). Librarians in the classroom. The Reference Librarian, 43:89-90, 107-120, DOI: 10.1300/J120v43n89_08
7. Walter, Scott. (2006). Instructional improvement: building capacity for the professional development of librarians as teachers. Reference & User Services Quarterly, 45 (3), 213-218.
8. Walter, Scott. (2008). Librarians as teachers: a qualitative inquiry into professional identity. College & Research Libraries, January 2008; 51-71
9. Werrell, Emily and Sullivan, Laura. (1987). Faculty status for academic librarians: a review of the literature. College & Research Libraries, March 1987; 95-103 - crl.acrl.org. Available at: http://crl.acrl.org/content/48/2/95.full.pdf

10. Singh, Joginder and Shahid, Syed Mohd (2010). Changing needs of library and information science curricula in India
11. Varalakshmi, R.S.R. (2006). Educating 21st century LIS professionals: The needs and expectations: A survey of Indian LIS professionals and alumni. In C. Khoo, D. Singh & A.S. Chaudhry (Eds.), *Proceedings of the Asia-Pacific Conference on Library & Information Education & Practice 2006 (A-LIEP 2006), Singapore, 3-6 April 2006*. Singapore: School of Communication & Information, Nanyang Technological University.

---

**OPEN ACCESS AND ITS IMPACT ON LIBRAIRES**

Dr. Veerankutty Chelatayakkot
Assistant Librarian
Cochin University of Science and Technology
veerankutty@cusat.ac.in

## Abstract

The emergence of Internet has changed publication medium from paper to paperless publication. This technology helped the researchers and libraries to come from the vicious circle of traditional publishing and business model of traditional publications to Open Access. This paradigm shift of publication model has impact on library budget as well as on library services. The author analyzes the impact of Open Access on Libraries.

Keywords: Open Access, Open Archives, Impact on libraries

## 1. Introduction

The vicious circle of traditional publishing and business model of traditional publications necessitated rethinking for an alternative publication model by researchers and libraries. In traditional publication model, the public funded research outputs are hand over to commercial publishers at free of cost. They publish the research output in their peer reviewed journals and these journals are subscribed by libraries on payment basis. The higher subscription rate affects the library budget and the libraries compelled to cut down their subscription, which finally affect the information dissemination and research activities. This business model where the publisher gets higher margin in profit is running on assumption of citation analysis and impact factor.

The emergence of Internet has changed publication medium from paper to paperless publication. The cost of publication and distribution were marginally reduced due to the implementation of modern ICT. Online versions of print publication along with back volumes revolutionized the information retrieval activities. Libraries are cannot avoid online databases even though they have back volumes. The publisher industry again adopted new business model by

bundling journals as packages which the subscriber have to subscribe unwanted journals along with their required journals.

Open Access movement started as an alternative to traditional publication model. In the year 2002, a meeting held at Budapest adopted policy framework for Open Access. Budapest defined the open access as follows.

" By Open Access to this literature, we mean its free availability on the public internet permitting any users to read, download, copy, distribute, print ,search , or link to the full text of these articles, crawl them for indexing, pass them as data to software, or use them for other lawful purpose, without financial , legal or technical barriers …. " [1]

## 2. Open Access Models

Steven Harnard, the champion of open access, grouped open access publication models in two broad categories *i.e.* Green Model and Gold Model. In Green model, the article is published in Institutional Repositories or personal homepages of authors. There is no peer review activity in green model and comparatively less cost which is the intermediate phase of Gold model. In Gold model, article is published in Open Access Journals and a portion of cost is bear by the authors or author institution. [2]

In addition to this, to reflect actual practice in providing two degrees of open access, a further distinction was added, namely *gratis* OA and *libre* OA. *Gratis* OA refers to free online access and *libre* OA refers to free online access plus some additional re-use rights. [3]

## 3. Pros and Cons of OA

Supporters of Open Access put forward many advantages to open archiving. It includes increased visibility and higher citation rates, fast and toll-free access to information, open access to publically funded research result and early publishing and priority. On the same time, it is far being the last word on new modes of access with some disadvantages like authenticity, quality control, findability, and legal concern. [4]

## 4. Impact of open Archives

Shifting from the traditional model of scholarly communication to open access is highly significant relating to library. The libraries which are the subscribers of traditional publication model become access providers in open access system. This paradigm shift of publication has impact on library budget as well as on library services which can be broadly divided as following

### 4.1 Economic Impact

Every publishing, even though E- publishing, has its own cost. The hardware requirement, bandwidth, network are the essential of e-publishing. In gold model, a portion of publishing cost

is bear by the author. The sustainability of open archives relates to who bear these expenses. Some institutions library bears the expenses of author payment. Open archives also direct impact on library budget. The availability of open archives can reduce the library subscription requirement.

## 4.2 Technological impact

In technological side, the institution which support institutional repository has to face the issue of how to handle citation permanence. Links to electronic resources are creating the problem of broken links or find outdated. Providers of online materials have to find out way to provide persistent identifiers such as DOI, ARK, or PURL. Similarly, institutions have to select better software to publish their work.

## 4.3 Collection development and management

The flood of open resources resulted a situation in which librarian have to carefully evaluate the resources and prepare directory of resources. The directories like DOAJ list out internationally accepted Open Access Journals, librarian can evaluate locally available resources and can create directory on national or regional level. [5]

## 5. Role of Librarian in Open Access

The paradigm shift from the content ownership to access providers, the open access publishing has great impact for librarian and librarianship. In traditional publishing model, the resources are available at library. In open access model, the resources can access from anywhere. So the role of librarian is to connect users with resources. For this, we can provide single point access to digital resources. To enhance discoverability of open archive content because of lack of coverage in indexing journals and aggregators, librarian can create link in library home pages.

Academic librarian can apply his knowledge to evaluate open access resources to save time to users. It will help to overcome the difficulties relating to authenticity of open access resources. In additions to this, librarian can digitize the copy left resources and put into their digital repositories. This way they can enhance the use of resources.

Academic librarian can helps to authorities to develop policies regarding the institutional repositories and copyright issues. Preservation of OA materials also very important. Librarian can download and keep the copies of important documents in their repositories.

## 6. Conclusion

Shifting from the traditional model of scholarly communication to open access is highly significant relating to library. The paradigm shift of publication has impact on library budget as well as on library services along with collections development and policy making. The librarian come forward to utilize the benefits of open archiving by developing institutional repositories, digitizing copy left resources and provide awareness to users.

## Reference

1. Open Society Institute, 2002. *Budapest Open Access Initiative: Read the Budapest Open Access Initiative*. Budapest, Hungary, 2002-02-14. Available from: http://www.budapestopenaccessinitiative.org/read
2 Crawford, W. (2005). Policy, technology, and the digital corpus. Library Technology Reports, 41(2), 41-48
3. Suber, Peter, (2008) " Gratis and Libre Open Access " http://www.sparc.arl.org/resource/gratis-and-libre-open-access
4. http://www.openaccess.nl/whatisopenaccess/prosandconsofopenaccess
5. Giarlo,Michael J " The Impact of Open Access on Academic Libraries " http://www.lackoftalent.org/michael/paper/532.pdf

---

# 21st Century Librarian –Highly skilled in ICT

Dr Susan Mathew K
Assistant Librarian Sr scale
University Library,CUSAT
Cochin-682022

**Abstract** The paper outlines the role of library professionals in the changing electronic environment especially in academic libraries. The paper gives a brief overview about the application of Information and communication technology in library services. An attempt is made to describe the skills and competencies required by the library professionals to be successful in the profession.

**Keywords**: Information and communication technologies, ICT skills, Competencies, Library professional, Academic Libraries

## 1. Introduction

The developments in information and communication technologies have changed the role and functions of libraries and information centres the world over. Information Communications Technologies(ICT) are the " technologies that enable society to create, collect, consolidate, communicate, manage and process information in multimedia and various digital formats for different purposes i.e. computing and telecommunications technologies like the personal computer, CD-ROM, cable TV, cellular phones and the Internet." (David, 2001) In short, ICT covers all the processes of acquisition, processing, storage, retrieval and dissemination of information by means of computers and communicating systems. Due to the shift to digital information, Libraries in general, have to expand their resources and services by devising strategies

to attract more users. Users are now inclined to access the information they need outside the walls of the library. Library professionals in a digital environment have to act as a mediator between the huge amount of web resources and the users. To effectively organize the web resources and manage the internet services requires certain skills and competencies for the library professionals. Moreover they have to assist the user community in getting specific data or information using latest technologies. For this the library professionals have to continuously update their knowledge base. In addition to the technical and professional skills they have to possess management skills, teaching and soft skills .Library professionals get numerous opportunites for continuing professional development (CPD) with special focus on ICT. This paper gives a brief overview of the skills and competencies required for library professionals to succeed in the present electronic environment.

## 2. Background

Several studies have reported that developments in information and communication technologies have an impact on the knowledge and skills of library professionals. Various national and international studies have identified the competencies required by librarians. Nonthacumjane(2011) described that the key skills and competencies of LIS professionals can be classified as personal skills, generic skills, and discipline specific knowledge. Partridge(2010) examined the knowledge and attributes required by librarian 2.0. It was found that Library 2.0 has changed the way libraries and librarians connect with user communities. Ramesh Babu, Vinayagamoorthy and Gopalakrishnan (2007) examined the ICT skills of librarians and identified their constraints in acquiring ICT skills. ICT skills include knowledge about operating systems, programming languages, library automation software, web awareness, and knowledge of online facilities/services, technical and managerial skills.

According to a survey reported by Mohamed Haneefa and Shukoor (2010) majority of the library professionals had confidence in routine ICT and Internet tasks, and need training or orientation in library automation, digital library and institutional repository software. Biddiscombe (2001) detailed the Internet and IT skills that are required by information professionals in their support for learning, teaching and research within the changing context of the higher education sector in UK. The author stressed that though IT skills are essential, some of the basic skills that are important to the information professional should not be abandoned.

Wilson and Halpin (2006) discussed the effect of operational convergence, and the subsequent growth of the hybrid library model, on the professional identity of academic library staff. Information communication technology and electronic information services have a profound effect upon learning and information services (LIS) in British academia. As a result academic LIS professionals have evolved to become new hybrid information professionals. Rajyalakshmi (2007) discussed the knowledge and skills required for information professionals with respect to the changing concept of Information management. The author discussed the impact of information technology, resources in information management, the changes in work culture of libraries, and

the current trends in information management. Patel (2006) described the changing role of libraries and LIS professionals in the digital learning environment and outlined the library services in an integrated environment.

## 3. ICT in Academic Libraries

It is important to assess the ICT applications in library and information centres in the context of changing user needs. The application of Information and communication technology in library services and the resultant changes in information activities from conventional practices to the advanced methods can be summarized in the following table:

**Table 1 Developments in Information activities (Source: Kumar, 2003)**

| **Information Activity** | **Conventional Method** | **New Technology** |
|---|---|---|
| Generate, Originate | Writing, Typing | Word Processing, Text Editing Voice Recognition etc |
| Preserve, Store | Manuscript, Paper, Print Media | Electronic Publishing, Magnetic tape, CDROM,DVD,BlueRay,USB |
| Process | Cataloging, Classification, Indexing | Electronic Data Processing, Artificial Intelligence/Expert Systems etc |
| Retrieval | Catalogues, Indexes | DBMS, Information Retrieval Online/ Offline etc |
| Disseminate , Communicate | Lists, Bibliographies, Abstracts, Hard Copies | E- Mail, Electronic Document Delivery, Teleconferencing, Tele Facsimile etc |
| Destroy | Physical weeding | Magnetic Erasers, Optical Erasers, Reuse the Medium |

Advances in CPU speed, storage capacity, low power consumption and multitasking have resulted in the design and development of highly advanced microprocessors. Even though new personal computers and notebooks have evolved in the market, the conventional personal computers are the main computing device for providing basic services in an academic environment. Microform were used as the substitute for printed materials as they saved storage space, binding costs and. also

reduced chances of damage. Developments in optical storage technologies saw the introduction of a number of new optical storage products, including erasable systems.CD-ROM was one of the most popular optical medium, used widely in numerous library services . Developments in storage media have evolved from traditional data storage media like magnetic tapes, floppy disks, etc., to CD-ROM, DVD Rewritable CDs and DVDs, Blue ray disc (which allows for five times more storage than on a DVD), USB flash drive, etc. Now USB drives are more popular because of its data storage capacity, lightweight, and easy to carry options.

In libraries, the most commonly used hardware for the input of bibliographic information of books and other materials are keyboards, barcode scanners for reading barcodes and member IDs, and flatbed scanners for images and other documents. The common output devices used in academic libraries are printers like Dot-Matrix printers, Ink-jet printers, Laser printers and Monitor. Another technology in libraries is Computer-aided learning using multimedia which has assisted students at all levels of education.

The most common computer software used are library automation software, database management software, antivirus software and application software like word processing, spread sheet, etc. In most academic libraries, Microsoft Windows and Linux are used as operating system. Linux is used as it has comparatively less virus issues. Word processing tools commonly used are Word 2003 and 2007 and spreadsheet, Microsoft Excel. Microsoft Word 2007 and now Word 2010 has many advanced features being a powerful tool allowing users to export and save their file in portable document format or PDF and XML format. Library automation software is the one which can handle all the housekeeping operations of the library such as acquisition, circulation and serial control. The database management systems (DBMS) commonly used in academic libraries are Oracle, MySQL, PostgreSQL and Microsoft SQL server, etc. MySQL and PostgreSQL are examples of open-source database software popular around the world. For small and medium-sized libraries, MySQL forms one of the components of LAMP (Linux, Apache, MySQL, and PHP/Perl) and it is the database software used in Koha library software. Microsft SQL server is the software used for Microsoft Windows operating system.

The free and open-source movement was started in 2001 by Richard Stallman and it refers to the software that is developed, released and can be modified by anyone free of cost. Users can access the source code to see how the software works. Open–source software is gaining popularity in academic libraries because of the reduced maintenance cost and ease of customization. Koha developed by Katipo communications in New Zealand, is one of the popular open-source library software. Koha software provides different modules for acquisition, Circulation, Cataloging, Online public access catalog, Serials for a library's housekeeping operations.

## 3.1 Communication technology

The progresses in communication technology and media have helped to increase access to educational resources and thereby enhance the quality of education. To meet the increase in demands to access, locate and transform large amounts of data, libraries are struggling to make the best use of available telecommunications technology. A communication network provides interconnection of several computers wherein a user can communicate with any computer as local user. The system will have facilities to create, transmit and print a message or document electronically (Kawatra, 2000).

Email or electronic mail is one of the most commonly used communication method by which a person can create and transmit messages electronically to an individual or group of individuals. In an academic institution, email is used effectively for providing better services like Current awareness service, SDI, Alert service for new books, etc. Voice mail is an advanced form of email where a person can dictate or transmit a message over telecommunication lines using modem.

Facsimile transmission or Tele fax is a useful system for communicating data images over telecommunication lines enabling a user to transmit a text or graphics securely. It is used in some academic libraries for document delivery and other scholarly communications. A dedicated telephone line and fax machine is to be installed for this purpose. Video conferencing is another communication technology that uses high-speed telecommunication network to transmit audio and video allowing people to conduct meetings across the world. In an academic institution, this can be applied effectively to link several classrooms to hold debates or discuss topics with an eminent person.

Network technology is the backbone of data communication and dissemination in academic libraries. A network can be local within an institution, i.e., local area network, LAN, or it can be national, regional or international, i.e., Wide area network or WAN. Examples of national networks are ERNET, DELNET, INFLIBNET, NLIST etc. Internet is now a common term, which signifies interconnections of multiple networks (both LANs and WANs), located in different parts of the world enabled through the TCP/IP protocol. It is a boon for the academic community worldwide, providing infrastructure to support digital libraries, virtual learning, research, collaboration and publications. The Web enables the user to access bibliographic databases, full texts of journals, courseware and provide links to other library catalogs through Online Public Access Catalog or OPAC.

There are innumerable applications of Internet and web based services .Some of these are Subject gateways, Portals, Subject directories, Search Engines, etc. Subject gateways are internet services where all internet resources on a particular subject are indexed for the users to access easily. Examples are SOSIG in social sciences and PINAKES, a comprehensive index of subject gateways. Portals provide information services to a specific group of users. The information

provided by portals includes web searching, news, shopping information, reference tools and communication in the form of chat and email. Examples are consumer portals like Yahoo, MSN, AOL, etc. Search engine, one of the most popular internet application widely used around the world is software used to search a database. Search engine is useful to get an idea about a subject or concept. Examples are Google, Bing, etc.

## 3.2 Wireless Network technology

Though there are a lot of developments in wireless network technology, in most academic libraries in India, cabled computer networks are more common than wireless broadband network. The emerging wireless, mobile and internet technologies may take some more time to have an effect in the academic Libraries; however, a brief outline of some of the recent developments in wireless, mobile, internet and web technologies are listed below.

Bluetooth is an emerging wireless technology meant for broadband wireless communication between devices like digital cameras, laptops, mobile phones, Personal computers, printers, scanners, etc., within a short range. 3G telecommunication or third-generation wireless communication technology is meant for wide area wireless cellular telephone network. It can process audio, graphics, video, etc., at high speed. It helps the users to have uninterrupted access to internet through mobile phones or computer.

VoIP or Voice over Internet Protocol is an internet technology to transfer digitized voice over broadband network. As communication is over internet, the cost of phone call is less than that of regular phone. VoIP can empower academic libraries to promote and expand their distance learning services, virtual reference services and other global collaboration services. RFID or Radio Frequency Identification or electronic tagging is a non contact automatic wireless identification technology to track objects at a distance from a couple of inches to 20 to 30 ft away (Li, 2009). RFID implementation in academic libraries will help to increase efficiency in circulation section, in better security management and can be used for stock verification.

Semantic Web is an intelligent web technology that allows machines to understand the meaning or "semantics" of information on the World Wide Web. World Wide Web Consortium (W3C) director Tim Berners-Lee coined the term. According to W3C, the core of semantic web is the resource description format (RDF), an XML-based mark-up language for defining metadata about web information (Semantic Web, 2010). The semantic web is a vision of information that is understandable by computers, so that computers can process the information on the web.

## 3.3 Electronic Publishing

Electronic publishing covers all aspects of traditional publishing, but in a digital environment, it is another major technological development facilitated by the convergence of computer and communication network. Electronic publishing means the use of electronic devices in the publication and distribution of information. The end product of electronic publishing can be

print-based or non print based. In the non print form, the end products are accessed electronically through traditional medias like CDROMs, or through Internet as Electronic journal, Online databases , E-book, or in the form of OPACs, blogs, wikis, podcasts, etc.

Digital Library is a virtual library providing access to information based on resources, including text, images, audio, video and other scholarly library materials that have been electronically converted or in electronic formats. There are many different kinds of digital libraries creating, delivering and preserving digital objects from many different formats of data. It is a managed collection of digital objects, created or collected according to principles of collection development (Deegan & Tanner, 2002). A digital library provides instant access to digitized information and offers a solution to the problems of storage and maintenance. It can provide access to simultaneous users from multiple locations. Another example of electronic publishing is electronic journal, which is a full text journal published electronically, and can be accessed on the web. Either an electronic journal can be free or subscription based. Advantages of electronic journal are its ease of access and regular updating, ease of downloading articles, etc. Many publishers now offer electronic journals along with print version with sometimes free access to the electronic journal on subscribing to the print version. Libraries subscribe various types of online database depending on the subject requirements of the academic community. Most of the online databases have a user-friendly search interface to search the database and save the required results for future use. Examples are Ebsco, (Humanities and social sciences), Web of science, Library and Information Science Abstracts (LISA), Manupatra (Legal studies), etc. E-books are the latest addition in the world of electronic publishing. E-books are designed to use with E book readers. Though they can save a lot of space, due to the high cost, E-books are slowly becoming popular in academic libraries. With the progress in electronic publishing, a number of academic institutions are making available their collection of doctoral thesis and dissertations online. NDTLD digital thesis and in India, Vidyanidhi digital thesis, Shodhganga of INFLIBNET, Electronic thesis collection of Mahatma Gandhi University and Cochin University of Science and Technology (Dyuthi), etc., are examples.

## 3.4 Web 2.0 in Libraries

Technological innovations together with the influence of Internet and WWW have transformed the methods of communication, entertainment, teaching, and learning in the academic community and society as a whole. The developments in web applications and services are now termed as the Social Web or Read /Write Web or Web 2.0. There are different definitions for Web 2.0 .It is a user-centric web, including various web tools like Blogs, Podcast, Wikis, RSS feeds, Social networks, Social bookmarking, Mash ups, etc. The application of Web 2.0 in libraries can be termed as Library 2.0. Some of the tools that are relevant to libraries are briefly described here.

An individual with regular entries, events or materials such as graphics or video usually maintains Weblogs or Blogs. It is a kind of web portal containing chronological web publication for personal or professional purposes. There are different types of blogs defined by the method in which content

is written, by type of media, device like mobile phone, by type of subject, etc. Blogs are created using blogging software available on the net. E.g., Blogger (free), Web logger (fee based). Its application in library setting is to organize a library's activities, news, notices, reports, etc., in a chronological order. It can be used to announce new services of library and publish web pages easily without depending on hardware and HTML skills. Librarians can get current information on different subjects, .e.g., forthcoming conferences through blogs and provide this current information to users through library blogs. Using blogs library staff can directly communicate with the users (Majumdhar and Roy, 2008).

Podcast is a pre-recorded piece of audio and sometimes video, available online. It is usually downloaded and saved for future listening. Librarians have to explore this method of content delivery as users can access different types of content from media and other service-oriented institutions. Libraries can experiment by sharing audio content and, including book reviews, interviews with authors, etc. Podcasts also enable students and teachers to share information, and teachers may create podcasts to be used as a preparation tool for students.

RSS or Really Simple Syndication is a service that transfers contents from blog or other syndicated content to an aggregator. It facilitates users to keep track of new updates on selected web sites. All blogging software create an RSS feed as back end of HTML web pages (Stephens, 2007). RSS feeds is a family of web feed format used to publish frequently updated works such as blog entries, news headlines, audio, and video in a standardized format. Librarians can place RSS feeds of content on their web sites to build awareness about their new services, forthcoming books, etc.

Wiki is innovative server software, which permits any user or specified users to create and edit web contents via web browser or build knowledge management application. To enhance intranet communication, a library can use Wiki as an information gateway to access, create and edit information guides, resources, services, tutorials etc. Wikipedia is an example of Wiki.

Instant Messaging or IM service or 'Chat' enables real time conversation between two or more people on the internet platform. Google talk, Meebo, MSN and Yahoo messenger are leading free IM applications commonly used. In Libraries, it can be used for online reference service and real time consulting service.

Social Networks are websites that encourage interaction among users. These contain user generated contents focusing on community where users get a chance to make connections, post pictures and share various types of information. Libraries can create a forum through social networking sites to discuss about library related issues, services and resources. Popular social networking sites are LinkedIn, Facebook, Twitter a micro blogging service, Flickr an image hosting community, LastFm a music-sharing site, YouTube a video sharing, and hosting community.

Social bookmarking is a service for internet users to store, manage and organize web pages. Delicious is an example of Social bookmarking site. Yet another Web tool is Mashup, a hybrid

application of the web, which combines two or three internet-based applications, or all applications of web 2.0 in one platform. It thus combines data or functionality from two or more external sources to create a new service For instance pictures uploaded on Flickr can be combined with Google Map to show correct location.

Librarians have started using Web 2.0 tools finding that their users are actively living and playing online. As new web tools are added, Librarians have to be alert to familiarize these tools from a user's perspective and use their experience to devise new strategies and apply these developing tools to provide innovative library services. There has been an increasing trend in higher education to use mobile technology in the classroom. Web 2.0 technologies offer an effective platform for librarians to help delivery of information literacy content and enhance interaction among students and faculty.

Association of College & Research Libraries (ACRL) Research Planning and Review Committee has identified top ten trends in academic libraries. They are communicating value, data curation, digital preservation, higher education, information technology, mobile environments, patron driven e-book acquisition, scholarly communication, staffing and user behaviours and expectations. According to ACRL "these ten issues were the most mentioned and discussed trends in the current literature, at conferences, and by experts." (ACRL, 2012)

## 4. ICT skills and competencies for library professionals

The dynamic environment of the library and information sector stresses the need for academic library professionals to remain flexible and adaptable to change. Effective organization of resources in the web and managing internet tools and services requires certain skills and knowledge for Library professionals, to meet the different information needs of faculty and students. They have to assist the academic community in getting relevant information using innovative methods. For this the mere enhancement of the present skills of traditional librarian may not be enough. It might require a total transformation of the skills and the way library professionals think and act. Using the platform of Internet and WWW, University libraries have to expand their resources and services by devising strategies to attract more users to the library when the users are now inclined to access the information they need outside the walls of the library.

A number of competency studies have been conducted in the field of library and information studies during the last few years in the wake of developments in information technology. Most of these studies were generally concerned with the common competencies needed by LIS professionals. The Special Libraries Association (SLA) undertook one of the major studies on competencies entitled Competencies for Special Librarians of the 21st Century, revised edition, June 2003. The SLA identified two main types of competency. These are two core competencies very essential for every library or information professional.

(1) Professional competencies related to the special librarians' knowledge in the areas of information resources, information access, technology, management and research and the ability to use these areas of knowledge as a basis for providing library and information services. Professional competencies further include four major competencies, each supported with specific skills:

A. Managing Information Organizations
B. Managing Information Resources
C. Managing Information Services
D. Applying Information Tools and Technologies

(2) Personal competencies comprise a set of skills, attitudes and values that enable librarians to work efficiently, be good communicators; focus on continuing learning throughout their careers; demonstrate the value-added nature of their contributions; and survive in the new field of work.

Web Junction supported in part by OCLC has made a compilation of competency statements that deal with a broad range of library practice and service. This includes Library Management, Technology (Core Skills and Systems & IT skills) and Personal/Interpersonal competencies.

Successful running of an organization require certain leadership skills and careful management techniques. It is important that academic librarians acquire the skills that will enable them to operate effectively in large and increasingly competitive organizations.

## I. Important library management competencies are:

- Effective financial management using sound business and financial judgment.
- Use appropriate business and management approaches to communicate the library's value to university administrators.
- Promote the library as a canter of lifelong learning for the community.
- Maintain good public relations through communication and promotion of library's services and needs to all stakeholders.
- Maintain a user friendly and safe physical environment to encourage library use by the academic community.
- Maintain an awareness of current law and policy that may impact library services, administration and up-to-date policies/procedures for staff communication.
- Understand the basic principles of marketing and how they apply to library services.
- The librarian has to assist the professional and personal development of people working within the information organization by creating development plans for staff to gain necessary competencies (knowledge, skills, abilities, behaviour, and attitudes).
- Management of human resources effectively to increase productivity, which is highly important to achieve the library's mission and goals.

## II. Personal and Interpersonal competencies

- The library professionals have to develop good communication skills to help build good relations with co-workers and users. They must have the ability to communicate both online and face-to-face. Librarian must anticipate and maintain awareness of users' needs and wants through user surveys, complaint logs and other means.
- Developing interpersonal competencies helps to maintain effective relationship with other staff in the library and achieve common goals.
- Library professionals must understand the importance of lifelong learning for all levels of library work and actively pursue personal and professional growth through continuing education.

In an academic library environment, the librarian must be alert to the importance of library in the context of higher education (its purpose and goals) and the needs of students, faculty, and researchers and seek to provide services that will enhance these endeavours. Librarian must be familiar with the structure, organization, creation, management, dissemination, use, and preservation of information resources, new and existing, in all formats. The subject knowledge to support collection development within the library and research and teaching within the university will come under the competencies of technical services. Now the collection development of E-resources has assumed much prominence in the world of information. Academic institutions and librarians will continue to allocate more resources towards technology. Academic libraries will have a crucial role in not only providing technology for users but also in creating new information systems for managing, disseminating, and preserving information regardless of format. At the same time, traditional library collections books, serials, sound recordings, maps, videos, films, photographs, archives, manuscripts, etc., will still need to be acquired, made accessible, and preserved (Shaping The Future: ASERL's Competencies For Research Librarians).

## III. Technology competencies

As technology has saturated all levels of library's operations and services, the library professional in an academic institution has to anticipate the changing expectations of users, and be flexible in adapting and adopting new skills and levels of awareness.

Listed below are some of the basic technology competencies important for an academic librarian.

- Knowledge about relevant developments in information technology like email, internet, and web search strategies.
- Skills in basic computer hardware, troubleshooting and networking
- Knowledge about software applications and operating systems
- Automation of library services and its management

- Familiar with web tools like blogs, social networking, RSS feeds, etc.

In addition to the core technology competencies, there are other technology systems that control the operations in a library about which the librarian must have sufficient information. As lot of library's resources may be in digital format, especially in large academic libraries, a number of new skills and knowledge are involved in creating, selecting, organizing, managing and providing access to these digital resources. The academic librarian's skills have to be developed for designing and developing web based materials and documents for online use. Self-archiving in Open access repositories, metadata harvesting, electronic document management, etc., are presenting a new dimension of the information landscape. Recently UNESCO has developed a set of manuals to facilitate capacity building of library and information professionals and researchers. The OA curricula developed by UNESCO includes a set of customized modules for Library and Information Science professionals and researchers which can be downloaded from the website of UNESCO.

To summarize, understanding design and development of webpage, E-resource management, working knowledge of programming languages, network security, Intellectual property rights, and copyright issues, etc. are some other competencies required for a library professional in the current digital age .

## 5. Conclusion

Even though librarians in the 21st century are facing challenges for new and emerging skills, the most important aspect of this change is to be able to adapt the existing skills, many of which are traditional librarianship skills and the ability to remain flexible in a working environment that is constantly changing. The rapidly changing environment of academic libraries needs attention of the authorities that manage LIS education in the country. Information technology competencies demanded by most of the institutions require particular emphasis in our LIS curriculum.

## References

1. Abels, E. (2003). *Competencies for information professionals of the 21st century*. Available at Special Libraries Association: http://sla.org/wp-content/uploads/2013/01/0_LRNCompetencies2003_revised.pdf
2. ACRL Research Planning and Review Committee: 2012 top ten trends in academic libraries Available at http://crln.acrl.org/content/73/6/311.full.pdf+html *College & Research Libraries News* ,2012 73 (6 ),311-320
3. Biddiscombe, R. (2001). The development of information professionals' needs for Internet and IT skills: experiences at the University of Birmingham. *Program , 35* (2), 157 - 166.

4. David, T. L. (2001). *ICT for Library and Information Professionals: A Training Package for Developing Countries(ICTLIP).* Available at: http://arizona.openrepository.com/ arizona/handle/10150/105247
5. Deegan, M., & Tanner, S. (2002). *Digital futures:strategies for the information age.* London: Library Association Publishing
6. Kawatra, P. S. (2000). *2000 Plus : Library and information systems in the 21st century.* New Delhi: Crest PublishingHouse.
7. Kumar, P. S. (2003). Information Technology : Basics.New Delhi: B R Publishing Corporation
8. Li, L. L. (2009). *Emerging technologies for academic librarians in the digital age.* London: Chandos Publishing
9. Majumdhar, R. P., & Roy, S. (2008). Application of blog in library and information services. *IASLIC Bulletin , 53* (4), 241-246.
10. Mathew, K. S. (2011). Impact of Information Communication Technology (ICT) on professional development and educational needs of library professionals in the universities of Kerala. Cochin: Faculty of Technology, CUSAT .http://shodhganga.inflibnet.ac.in /handle/ 10603/3137
11. Mohamed Haneefa, K., & Abdul Shukkoor, C. K. ( 2010). Information and communication technology literacy among library professionals in Calicut University, Kerala. *DESIDOC Journal of Library & Information Technology , 30* (6), 55-63.
12. Nonthacumjane, P. (2011). Key skills and competencies of a new generation of LIS professionals. *IFLA journal*, *37*(4), 280-288.
13. Patel, D. (2006). *E-learning and its Impact on LIS Profession.* Retrieved January 16, 2010, from https://drtc.isibang.ac.in/bitstream/handle/1849/231/ paperX_Dimple.pdf
14. Partridge, H., Menzies, V., Lee, J., & Munro, C. (2010). The contemporary librarian: Skills, knowledge and attributes required in a world of emerging technologies. *Library & information science research*, *32*(4), 265-271.
15. Rajyalakshmi, D. (2007). Information professionals –knowledge and skills ,for information management. *ILA Bulletin , 43* (4), 8-15.
16. Ramesh Babu, B. P., Vinayagamoorthy, & Gopalakrishnan, S. ( 2007). ICT Skills among Librarians in Engineering Educational Institutions in Tamil Nadu . *DESIDOC Bulletin of Information Technology , 27* (6), 55-64.
17. *Shaping the future:ASERL's competencies for research librarians*. Available at ASERL: http://www.aserl.org/programs/competencies/
18. Wilson, K. M., & Halpin, E. (2006). Convergence and professional identity in the academic library. *Journal of Librarianship and Information Science , 38* (2), 79-91.

# TRANSFORMING LIBRARIANS TO CYBRARIANS

Humayoon Kabeer P.
Librarian UGC, Govt. Arts & Science College, Kozhikode.
humayoonk@gmail.com 9447832375

## INRODUCTION

Libraries have been significantly transformed with the advent of Internet and the ability to provide resources to people who may never visit a physical building, but use resources intensively in their own homes or work places. The unimaginable developments in the information environment such as improved accessibility, interoperability and open access to educational materials has on one side facilitated the nature, role and services but on the other side pose a serious challenge to harness the technology and provide state of the art services, otherwise librarians will be left behind in the transformational phase. Libraries are changing dramatically from print to e-environment like printed library card catalogues have been replaced by computerized OPAC system and a variety of web-based graphical user interface (GUI) functions, online accessibility for 24/7, availability of numerous e-databases, e-journals, information resources, services for users. To face the new information explosion, academic libraries will have to meet even more challenges and opportunities to serve students, faculty, staff, scholars and other users, all with much expectations and many more demands triggered by the growth of emerging and cutting edge technologies in academic learning environments. Academic libraries are adopting emerging and cutting edge technologies, new array of services with packaging and repackaging according to the needs and demands but still many specific functions have to be inducted to really justify the essence of service oriented philosophy of libraries.

The emergence of new technologies transformed libraries drastically that traditional libraries are now turning into cybraries. A marking transformation can be observed in all areas of library activities and resources as illustrated below.

| Print Resources | Electronic Resources |
|---|---|
| Books | E-books |
| Rare books | E-text archives |
| Journals | E-journals |
| Manual/Print Catalogues | Databases/ OPAC |
| Theses / Reports / Conference proceedings | Repositories /CD-ROM databases |

## Transformation of Services

| Traditional Services | New Services |
|---|---|
| Circulation of books | Circulation of electronic products |
| Collection development | Development of e-sources |
| Manual processing of books | Computerised processing |
| Reference service | Searching databases for information<br>Blogs / Websites |
| Bulletin Boards | Social networking sites |

Thus libraries are experiencing transformation in all sides and so is the case of librarian.

## Transforming Librarians to Cybrarians

The word 'Cybrarian' is a compound term of Cyber and Librarian. A Cybrarian is a library and information science professional who specializes in using the internet as a resource tool. A Cybrarian can be defined as an information specialist who deals with more of a web-content, in order to reach his targeted user group. He always updates his knowledge of information resources, information handling tools and the fast changing needs of users as a result of net revolution or web revolution. A Cybrarian is a person who integrates, infuses and injects Internet Technology into education. The Cybrarian is more than a computer technician, who maintains the hardware and software. He is more than a teacher who uses the internet in the class room. He is more than a webmaster, who maintains a World Wide Web presence. A Cybrarian is community oriented which means the Cybrarian helps families, business and government and integrate the internet into the educational environment in a coordinated effort.

The traditional libraries are becoming hybrid libraries and hybrid libraries are becoming digital libraries at a rapid speed in case of special, research and academic libraries. The speed with which they are moving towards net libraries is rather slow in public libraries with reference to India. The comparable scenario with the developed world is entirely different. Even the public libraries have become hybrid libraries long back quickly and are able to become full-fledged net libraries at a fast pace, due to governmental support and enormous funding, trained manpower in those advanced countries.

## BECOMING A CYBRARIAN

A traditional librarian has to improve his technology skills in order to become a Cybrarian. The vision for Cybrarian is therefore to encourage increased internet usage, to provide easy access to information and knowledge services that will be of interest to target users. To allow target users to become involved in the electronic community and as a result be able to engage more positively in modern society.

To succeed, a Cybrarian needs the following three key components:

1. The service and its benefits will need to be marketed to target users to raise their awareness as of it and encourage them to overcome initial barriers in trying the service.
2. Sufficient content will need to be accessed and reorganised in order to create services that appeal to users, satisfy their needs for particular information and encourage them to use the service regularly and progressively; and
3. Technology will need to be brought together to manage and deliver the services, to allow users simply to search for and find the information they are looking for, and to present information in a manner that accommodates users with various special needs.

## CHARECTERISTICS OF A CYBRARIAN

The key characteristic feature of the Cybrarian is his superiority in the knowledge of using new technological devices, especially computer technologies and his wide knowledge in the area of web resources and skills in accessing information and repackaging or tailoring it to meet the target groups. A Cybrarian easily manages remote patrons by providing apt information from web resources. He is able to evaluate the web contents so that his patrons will not be cheated by wrong information. A Cybrarian is well aware of various types of software and is able to select the right ones for performing his information activities.

## SKILLS NEEDED BY A CYBRARIAN

Following are some of the essential skills a Cybrarian should have:

- ❖ Technology skills
- ❖ Electronic presentation skills
- ❖ Web-navigation skills
- ❖ Web site design skills
- ❖ E-mail management skills
- ❖ Word processing skills
- ❖ Database skills
- ❖ File management skills
- ❖ Soft skills

A Cybrarian should have knowledge of the following:

- Computer Networks
- Internet Resources
- Deep-web resources
- E-publishing
- E-books
- Downloading software from web
- PDAs
- Computer-Related storage devices

- Copyright issues
- Scanning devices
- Data security etc.

## SUCCESSFUL CYBRARIAN

The success of a cybrarian depends on following three components:

- Proper marketing of the services rendered by the cybrarian.
- To enhance the satisfaction level of the targeted group, Cybrarian should collect the web resources, evaluate it and repackage it for ready use. This will encourage the targeted group to use the service regularly.
- Mastering the technology for integration of information resources with remote users.

## CHALLENGES FOR LIBRARIAN TO BE CYBRARIAN

A librarian cannot be transformed to a cybrarian in a day or two. There are many challenges that come across a librarian while becoming a cybrarian. The librarian, who being a custodian of printed or hybrid resources, has to change from custodianship to disseminator of information sources. A traditional librarian is always dealing with patrons who come to library, where as a cybrarian has to deal with remote patrons. Constant updating of technical skills and knowledge of source of information should be a habitual process of the librarian if he wanted become a successful cybrarian. Because he is no more interested in the ownership of resources but uninterrupted access is the question before him. Another area of challenge before a cybrarian is the authenticity of the resources accessed and copy right issues while dealing with web resources.

## CONCLUSION

All the library professionals shall be tuned themselves to the changing information world. Unless a librarian become master of modern information communication technology, he will be overtaken by computer professionals. Thorough knowledge of web resources, their access, repackaging and timely serving to the patrons, who sit remotely, are the key points that a cybrarian should be mastered in.

## References:

1. *Developing Cyber Libraries: Festschrift in Honour of Professor M. Sankara Reddy*. T. Ashok Babu and L.S. Ramaiah Ed. Allied Publishers-New Delhi
2. *Creating Cyber Libraries: An Instructional Guide for School Library Media Specialists* Kathleen W. Craver. Pub. By Libraries Unlimited Professional Guides in School Librarianship Series U.S. 2002
3. My personal vision: The Cybrarian by Ted Nellen accessed from www.tnellen.com/ted/tc/cybrarian.html

# LIBRARIAN AS A TEACHER AND PRO

Vineetha Davies.V
Librarian UGC
St. Aloysius College
Elthuruth, Kerala

Today with the advent of new technologies every profession evolves new roles and responsibilities according to the need of the society. The development of the society is based on the effective and efficient service of professionals of different field. Nowadays, knowledge and skills would increasingly become the primary determinants of economic growth and social development of a country. The persons involved in the professions related to information and knowledge should shoulder the responsibility to lead the society into the heights at global level. The Librarianship is a noble profession which provides right information to the right user at right time.

As every profession Librarianship also satisfies the characteristics of a Profession. The Library and Information Science Schools provide formal education about the subject and professional development programmes like workshops, seminars and conferences helps the library professionals to update their professional knowledge. The professionals in Library and Information Science field provide current awareness service, reference service and other information service to their clients in a professional way. But the degree of professionalism varies from person to person. Nowadays the library professionals should follow some principles to lead the society into a knowledgeable society.

## Library professionals: Guiding principles

- Embracing change and creating opportunities
- Be technology friendly
- Commitment to excellence in services
- Develop a good environment for self learning
- Motivating and Rewarding the staff
- Develop good relation with the clients
- Communicate with clients regularly

## Librarianship: a multidisciplinary profession

Dr.S.R.Ranganathan stated “librarianship is a noble profession. A Librarian derives his joy by seeing the dawn of joy in the face of readers, helped by him to find the right book at right

time" But nowadays a drastic change occurred in the needs of the readers, physical location of the information and medium of information. Library Professionals should acquire multidisciplinary skills to see the joy on the face of his clients. Librarians become a Teacher, a PRO and Information Manager and so on. The multidisciplinary roles assigned to the librarians increase the professional nature of Library and Information Science field

## Librarian as a Teacher

Nowadays the technology based education replaced the traditional method of teaching and learning environment. In the new environment the student centred inquiry based active learning replaced the old lecture method and passive learning environment. The changes in the field of education reflected in the field of Library and Information Science also

## Librarian as a learning facilitator

There are two types of learning:

1) Faculty Directed learning
2) Self Directed learning

**1) Faculty Directed learning**:

In this method the faculties will teach the core subject and guide the students to acquire specialized knowledge in the particular subject area.

**2) Self Directed learning**

In this method the student tries to acquire knowledge from books and other resources independently. In this type of learning student need the professionals to identify his core area of study, to locate the available information resources in his area of interest. Here comes the role of library professionals to help the leaner learn independently in a right way. The learner develops his reading skills through the self directed learning.

## Libraries: better place for self directed learning:

- Libraries provide right atmosphere
- Right resources for the learners
- Better place for self learning
- Unbiased services to everyone
- Stands for intellectual freedom

## User Education

The core area of the Librarian's teaching role is user education which helps the user to use the resources effectively. The changes in technology intensified the need and importance of user education and the teaching role of the librarians. The user education became the need of the day due to following reasons:

- Multidisciplinary approach to education and research
- New methods of information transfer
- Lack of awareness among the users about the sources of information
- Lack of awareness to handle new technical equipments

Teaching role of Library professionals mainly depend upon user education which includes the following areas:

- **To handle the new technologies**

  There are new technical equipments are available today to access information from the world of information and knowledge. They are e-book readers, tablets , i-pods etc .As an intermediary between the user and the information, librarian should know the new technologies and train the users to handle the new technologies. It will increase the accessibility of information and in turn increase the fund of information and knowledge.

- **To retrieve appropriate resources**

  The librarian through user education delivers the information about the resources available in the library and physical location of print resources and methods to access e-resources. This will help the users to locate the appropriate print and e-resources.

- **Bibliographic Instruction**

  The librarian should train the users to access the bibliographic databases through the bibliographic instruction sessions. The bibliographic instruction will help the users to know the related documents of his area of interest

- **Internet navigation**

  Internet navigation is also one of the core areas under the user education programmes of libraries. Many of the users are not aware of the internet navigation. The librarian should teach the techniques

of internet navigation and methods to connect to the related links in the internet. This will reduce the digital divide in the society.

- **Online searching**

The online searching includes the following steps:

Selecting online databases - formulating search strategy - evaluation of search results

User education programmes will provide an appropriate platform for the librarian to train the users how to do online searches through Federated Search providers like Google Scholar, Scopus and Liberty etc.

## Methodology of conducting UE Programmes

The methodology of conducting user education programmes were following:

1. **Group instruction**

The group instruction method is suitable for the new users of the library through orientation programmes, seminars and library tour. The groups can be divided on the basis of their subject of specialization or class etc in order to deliver the user education more effectively. The group instruction method helps the user to get information about the library rules, resources, physical location of books. In order to make the user education effective in group instruction method following points should keep in mind.

- Limit Speaking Time
- Make the clients do the exercises than the lecture method
- Embrace the Technology
- Collect feedback from the users and improve
- Conduct user education programmes continuously

Nowadays Libraries use ICT to deliver User Education Programmes effectively like videos, presentations, online user guides, websites and social networks

2. **Individual instruction** :

In the individual instruction method, librarians deliver the user education through self instructional materials like handouts and through the personal communication to the clientele. Instructional Handouts explains the sections of library, subscribed journals (Print + Online), list of online databases

and list of useful website address. The effective individual user education attracts the clients to the library to use the resources effectively. In order to deliver an effective user education librarian should mix the two methodologies according to the environment.

## Librarian : as a PRO

The role of librarian as a Public Relation Officer (PRO) adds the multidisciplinary face to the library profession. The PRO is a person who manages the spread of information between individual and organization, establish and maintain relation with an organization's target audience, media and other opinion leaders and a deep understanding of the interests and concerns of each client. So in order to become a PRO in library profession librarian should learn the public relation skills and management skills.

The functions of librarian as a PRO were following:

- Selection of resources
- Publicity
- Information services
- Referral Services
- Professional Development

### ➢ Selection of resources

The selection of resources is a crucial work of a librarian which will reflect the quality of a Library. The librarian should select the resources based on extensive knowledge of subject, knowledge of available print and e-resources and in consultation with the clients regularly to know needs of the client. A good library collection building will show the professionalism of the Librarian and it will reflect the interests of its target audience.

### ➢ Publicity

The publicity is one of a major role of a PRO which helps to be close with his clients. Librarian as a PRO should communicate with the clients regularly through personal talks, e-mails and discussion groups to keep pace with their interests and interest of the society .Through new methods of information technologies librarian should spread information about the new library services and new arrivals

## ➢ Information services

The Librarian should know the interests of his clients and provide information services like CAS ,SDI etc. tailoring to the needs of the users. New methods of reference services through emails and instant messaging services will help the user to get right information at right time.

## ➢ Referral Services

Through referral services the librarians can direct the clients to available information centres which will add beauty to the professional face of the Librarian.

## ➢ Professional Development

The librarian should conduct library extension programmes like book exhibition, quiz club activities and other user oriented programmes. The seminars and workshops with the new topics related to the library profession will help to improve the professional knowledge.

## Conclusion

Librarians should come up with multidisciplinary roles to make the library a centralized location where new and emerging information technologies combined with traditional knowledge resources user focused, service rich environment that support today's social and educational patterns of learning, teaching and research .Today's society demands a library professional with multidisciplinary skills to meet society's information needs.

## Ref.

1. B.K, Vishala and M.K, Bhandi. "E-journal management: the role of training in the effective use of electronic journals." 3rd Convention PLANNER -2005, Assam Univ., Silchar, 10-11 Nov., 2005.

2. Christen Cardina and Donald Wicks. "The Changing Roles of Academic Reference Librarians over a Ten-Year Period". Reference & User Services Quarterly, Vol. 44, No. 2 (WINTER 2004), pp. 133-142.

# Information Literacy & Its Inportance in E-Environment

Dr. G. A. PRASAD RAO
Sr.Lecturer & HOD,Dept. of LIS
Andhra Loyola College, Vijayawada
Andhra Pradesh.
loyolaprasad@gmail.com

## Abstract

Progress of a modern society greatly depends on the knowledge creation, access to knowledge, exchange of knowledge and consumption of knowledge. Information is power and wealth in the information society. It is an indispensable resource for socio-economic development of the society. Sharing the knowledge and experiences gained with others is an ascribed feature of human beings. The e-information world is characterized by access to information rather than holding the information. The concept of information literacy and its importance in the present e-information world are discussed. This paper attempts to identify various information skills and abilities required for effective use. It recommends, in conclusion, that adequate decisions relating to information literacy as well as fair use of available e-information.

**Key Words:** Information literacy, e-information, user expectations, e-learning, digital.

## Introduction

We are living in an era of change; increasing competition and the tendency to excel are the characteristic features of an organization today. In an earlier age, people used to come to libraries by and large for books, but now the tendency seems to be changing: most people visit libraries for information. Information is playing an increasingly important role in our lives. The concept of information as well as information dissemination is becoming increasingly important in this Information and Communication Technology (ICT) environment. Society is changing very fast and, correspondingly, information requirements are also changing rapidly. To catch the trend and sustain in this fast-changing scenario, libraries need to change, adapt themselves to the new demand and import all the ICT that is available in order to meet the demand effectively.

Information is that which can be appraised, ascertained, known, told, observed, communicated or disseminated. Databanks, databases, websites and the Internet are also sources of information. As such, all types of conventional or non-conventional documents provide information, which may be old and new; facts or figures; technical, professional or general in nature. It can be based on research, experience, emotions or observations. Each and every piece of information available in the world is important and useful, not for everybody, but for those who need it.

An information professional is responsible for providing needy and intelligent information services. The main aim of libraries is to provide the right information to the right user at the right time. To meet this goal, libraries have to provide access to information regardless of format and location of the information collected and stored. Information market has now been transformed from supply-driven to demand-driven. The increasing use of the internet has developed awareness

and concerns about access and retrieval of information across the networks. E-information is a new concept. The concept has brought phenomenal change in information collection, preservation and dissemination. Any user from any part of the world can access the information he wants in a e-environment.

Knowledge is not static; it is a dynamic one. Today lot of information is generated through printed media such as books and periodicals and mass media such as newspaper, cinema and television. 20th century witnessed an "information explosion" owing to the exponential growth of publications. A decade back The Hindu daily news paper publishes: "It is estimated that 3000 pages or 250 million words are being printed every minute at the global level. The growth rate in book publication is roughly three times greater than global population growth".(1)

## Developments in E-Information

Our country is perhaps one of the few cultures of the world where the pursuit of knowledge has been more or less continuous from the earlier ancient times to the present. Enormous growth of electronic information coupled with global access to information via telecommunication infrastructure, are some of the underlying factors of the present transformation process. Assimilation of scientific and technological information is an essential precondition for progress in developing countries. Most of the world's scientific and technological activity is centered in the industrialized world and less percent of the world's research work is taking place in developing countries. Not surprisingly, the bulk of the world's scholarly communication is generated and exchanged among advanced countries.

Though it is universally accepted that ICT enabled e-information learning is the best for supplementing the knowledge beyond the class room. Still whether it is more of a supplementary, complementary or comprehensive learning mechanism is a question. "The internet not only provides e-learning where questions are answered by the most proficient people of the field, it gives an enormous scope for discussions, exchange of views, resulting into multidimensional research on the subject".(2)

The present modern times, number of internet users in India is expected to rise 18.53 percent in the coming eight months to reach 24.3 crore by June 2014. India is also expected to overtake the United States ( US )as the second largest Internet base in the world by the same time. At present, China leads with more than 300 million Internet users while the US has an estimated 207 million Internet users.

The report said the number of Internet users in India, registering a year-on-year growth of 40 percent over last year. "The Internet in India took more than a decade to move from 10 million to 100 million and only 3 years from 100 to 200 million. From here on, we can hope to develop a robust Internet ecosystem with a multitude of local and global players and a thriving Internet economy," said IAMAI Chairman Rajan Anandan.(3) "Every second active Internet user claims to have bought something or the other over the Internet," it added.

## Right Information & Person

Every person requires the information as per his/her need, very quickly, accurately and economically. He/She wants to search from the very comprehensive and wide sources, that too pin-pointedly and precisely. The right information means to identify the level of the users; to identify the relevant subject of the users and to use the relevant source of information to retrieve the right information required for the purpose of the right users. As such, certain piece of information is right information for someone, but the same piece of information is not at all right information for other persons.

## Information Literacy:

Definitions of information literacy (IL) and related concepts like computer, IT, Internet, digital, or media literacy are certainly important, though it might be hard to agree on a single definition or term. IFLA's (2009) discussion of aspects of information literacy includes: "user education, learning styles, the use of computers and media in teaching and learning, networked resources, partnerships with teaching faculty in the development of instructional programmes, distance education, and the training of librarians in teaching information and technical skills".

One thing is certain, however we define IL, technology will change it. Initially planned to list numerous challenges librarians face as they promote information literacy. For example, changes in media technology have led to large- scale transformations in text. The results include digital books, as well as a host of online media, everything from web pages to wikis, blogs, tweets, and even 2.0 applications like Face book, Linkedln, etc.

Currently libraries purchase materials regardless of their economic prospects to fill key collection needs, and this gives publishers an incentive to publish such works. Ultimately, if patron assisted collection development grows; IL might well encompass collection policies so that library users understand how browsing a catalog will shape library collections.

Libraries and librarians have to think and devise innovative ways to reach out to their communities. This is possible only, when they combine the principles of traditional librarianship with information technology and instructional technology skills. IL is the key to sustain society and to enable citizens to participate in democracy. The contemporary environment is full of rapid technological changes and proliferating information sources. Moreover, increasing sophistication of information and technological resources has transformed the nature of search for knowledge.

Internet access and information in a wide variety of formats- digital, video, audio, photographic, graphic and print- are providing users with many choices and capabilities. As a result of it, the task of identifying, locating and using information has become more complex. Further, the ability to evaluate information for its authenticity, validity and reliability has become more crucial. This challenge of uncertain quality and expanding quantity of information is enormous for today's society. The sheer abundance of information cannot create itself a more informed citizenry without a complementary cluster of abilities necessary to use information effectively.

As such, IL skills have become more important for students' academic work and personal lives. In academia, discipline specific information is constantly changing, and much of what students learn in class soon becomes outdated. An information literate student is a lifelong learner, with the skills necessary to continually find and evaluate information about new developments in an academic discipline.

## Skills and Abilities:

The skills and abilities expected from LIS learners are broadly grouped in to following categories.

**ICT Skills:** The changing library profession in to information profession requires ability to handle sophisticated technology including networking and Internet skills.

**Information Management:** The ability to collect, access, store, retrieve and disseminate information to users.

**Communication Skills:** Effective and interactive communication skills of the **LIS** professionals add value to the library and information centers to cater the potential users. Good communication skills not only make users to understand library services, but an effective means of marketing library and information services.

**Leadership Skills:** The curriculum should also include the ability to develop leadership skills of the LIS professionals to carry forward the plans and policies of the libraries and information centers, in $21^{81}$ century. To nurture, encourage and reflect intellectual leadership capacity by focusing on student-centered and practice in teaching learning is the need of the hour. Traditional skills of Librarianship need to be revamped to suit the e-information environment.

## Conclusion

The growth, development, use and impact of Information and Communication Technology in general and Internet in particular have given utmost recognition and importance to information and serve as essential constituents and endeavors to empower, enrich its people. Knowledge is used as a powerful tool to drive societal transformation. A learning society is committed to innovation and has the capacity to generate, absorb, disseminate and protect knowledge to create economic wealth. Library and information professionals as knowledge managers with all the IL skills are expected to play a vital role in collecting organizing and dissemination information to users at large.

A serious thought on IL skill development direction may be made in different professional forums to restructure, redesign and revamp LIS education and training and reorient the existing professionals in to information and knowledge professionals. The schools of library and information studies play an important role in transforming the existing education, training and research to meet the changing needs of the users of emerging e-information society. The library and information profession both at national and international level have taken a sea change, which has necessitated to restructure and revamp library and information science education integrating the IL knowledge and skills

It is evident that as a result of information explosion and technological developments, throughout the world, the very concept of providing the right information to the right person at the right time and at the right place has altogether been changed. It is no more impossible. The above mentioned suggestions are viable and can help to achieve the goal. It is not a problem but a challenge to accept and to achieve.

## References:


1. Ravi,N(ed). The Hindu speaks on education, Kasturi & sons Ltd., Chennai. (2000) pp287.
2. Bundy Alan, Changing the paradigm: Libraries education and networking. 24th IATUL Conference, (2003) .2-5 June.
3. http://gadgets.ndtv.com/internet/news/internet-users-in-india-set-to-reach-243-million-by-2014-report-446653
4. International Federation of Library Associations and Institutions (IFLA), 05-03-2009
5. *Brown, A.R. and Volts,B.D. (2005): Elements of effective e-learning design. IRRODL, 6:1 available at http://wwwirrodl.org/index.php/irrodl/article/view/217/300.*
6. *Bruce, C. (2003): Seven faces of information literacy: towards inviting students into new experiences, slides presentation, QUT Available at http://wwwbestlibrary.org/digital/files/bruce.pdf*
7. *Tobin,T and Kesselman, M. (2000): Evaluation of Web based library instruction programs. INSPEL, 43, 67-75*
8. *Vaisiliki, Mole et.al. (2013): Web based information literacy in an academic library: the example of the library of ATEI of Thessaloniki, Greece. In: The second International conference on integrated information. Procedia-Social and Behavioral Sciences 73 (2013),181-187.*

# E-RESOURCES USE AND ACCESS PATTERN OF SELECTED ARTS AND SCIENCE COLLEGES IN SALEM DISTRICT: A CASE STUDY

**Dr.M.Jayaprakash**, M.L.I.S., M.Phill, Ph.D.,
Assistant Professor, Department of Library and Information Science,
Periyar University, Salam-11.
E-mail:lisjayaprakash@gmail.com, Mobile: 09894877756.

**ABSTRACT**

In this era of Information Revolution, not only the books and journals but also the digital information and online resources are of paramount importance for the students. The books, CDs and Online journals are now being used by the users of the library. However, these resources are not fully utilized by students and staff members. They are mostly browsing through internet. Apart from teaching, research and extension activities students and scientists are exploring and reforming library facilities for updating their knowledge. Hence, there is an urgent need to study the use pattern of the Library as whole and digital libraries in particular in the constituent of Salem based selected ten Arts and Science Colleges. In addition, the study would also helpful in the development of appropriate measures for enhancing the utilization of the library facilities on the part of management and the beneficiaries as well.

**Keyword:** Digital Information System and Service, Electronic Library, Electronic resources.

## INTRODUCTION

Information services are usually provided through the information sources, where the required information's are likely to be available. For the convenience information sources are classified into primary, secondary and tertiary sources. The primary source or document is one in which the information contained is original. It is a material which is the most original and authentic. The Primary means the basic source of new information in documentary form. Primary sources usually take the form of a journal article, a monograph, dissertation, report or a patent.

## OBJECTIVES

The following objectives are framed for the purpose of the study

- To study the Distribution of Gender wise Information
- To identify the various means used by the respondents to use different information.
- To identify the techniques and tools used to get information from digital information environment.
- To fine Distribution of Searching Full Text Scientific Journal Articles
- To find Preference and use of Scholarly Resources Databases
- To identify the Usage of Search Engines
- To find Frequency of Accessing E-Resources

**NEED FOR THE STUDY**

It is to mention that the information service of the workplace community varies from that of the general readers of the library system. The work place community needed much pinpointed information in relation with their working environment and day to day activities. It is note that there is no significant studies on assessing information access pattern of Arts and Science College library users is found in the library science literature, particularly in the Salem city.

**AREA OF THE STUDY/SURVEY**

study has adopted simple random sampling method and questionnaire has been randomly distributed to the users of selected Arts and Science college libraries that comprises of Professors, Associate Professors, Assistant Professors and Students. 250 questionnaires were distributed, of which 174 filled in questionnaire were used for the analysis and response rate is 69.60 percent.

**Table – 1**

**Total Number of Respondents Selected as Sample in the Type of Arts and Science College Libraries Surveyed**

| S. No | Arts and Science Colleges in Salem | Questionnaire Distributed | Responses Received |
|---|---|---|---|
| 1 | Jairam Arts and Science College | 50 | 38 |
| 2 | AVS College of Arts and Science | 50 | 35 |
| 3 | Ganesh College | 50 | 32 |
| 4 | Salem Kongunadu Arts & Science | 50 | 33 |
| 5 | Sri Balamurugan Arts and Science College | 50 | 36 |
| | **Total** | **250** | **174** |

There are 250 structured questionnaires have been distributed among 5 selected Arts and Science Colleges from Salem District. 50 questionnaires have been randomly distributed to the respondents in each Arts and Science Colleges which includes the faculty members (Assistant Professor, Associate Professor, Professors) and the Students.

**Table – 2**

**Distribution of Gender wise Information**

| Respondents | Gender | | Total | Percentage |
|---|---|---|---|---|
| | Male | Female | | |
| Students | 61 | 41 | 102 | **58.62** |
| Assistant Professor | 24 | 13 | 37 | **21.26** |
| Associate Professor | 13 | 09 | 22 | **12.65** |
| Professor | 08 | 05 | 13 | **7.47** |
| **Total** | **106 (60.92)** | **68 (30.08)** | **174** | **100.00** |

It is found from the above table that Male are dominated with 106 (60.92 percent) respondents while the rest is of 68 Female (30.08 percent) respondents. Between the categories of the respondents, Students are major group with 102 respondents, which is followed by 37 Assistant Professors, 22 Associate Professors and 13 respondents in the Professor Cadre.

**Table – 3**

**Type of Information often required**

| Type of Information often required | Students | Assistant Professor | Associate Professor | Professor | Total |
|---|---|---|---|---|---|
| Information for writing research articles | 99 | 34 | 19 | 10 | 162 |
| Product Information | 89 | 31 | 17 | 11 | 148 |
| Factual and Statistical Information | 93 | 29 | 15 | 08 | 145 |
| Procedural Information | 81 | 22 | 14 | 08 | 125 |
| Information for preparing project proposals | 78 | 16 | 17 | 07 | 118 |
| For special lectures and Academic activities | 58 | 34 | 21 | 04 | 117 |
| For administrative progress | 55 | 31 | 17 | 09 | 112 |
| For guiding the Students | 29 | 35 | 20 | 12 | 96 |

Among the various types of information often required between the categories of respondents, a majority preferred information for writing research articles (162), Product Information (148), Factual and Statistical Information (145), Procedural Information (125) and Information for preparing project proposals (118). Highest percentage of Associate Professor (21), preferred for special lectures and academic activities, while highest percentage of Professors (12) and Assistant Professors (35) to guiding the students. Students are differing with others as majority preferred information for writing research articles (99), factual and statistical information (93) and product information (89).

**Table – 4**

**Distribution of Searching Full Text Scientific Journal Articles**

| Particular | Students | Assistant Professor | Associate Professor | Professor | Total |
|---|---|---|---|---|---|
| A multi-journals search website with links to full text | 95 | 34 | 19 | 11 | 159 |
| A specific journals website | 89 | 30 | 18 | 09 | 146 |
| A general purpose search engine | 73 | 28 | 17 | 06 | 124 |
| Online citation indexes | 75 | 29 | 12 | 04 | 120 |
| Local libraries reference room or stacks | 55 | 15 | 11 | 05 | 86 |

The above table reveals that distribution of searching full text scientific journal articles, the majority of the respondents are preferred to multi-journals search website with link full text (159) and specific journals website (146). Only 86 of the surveyed respondents preferred local libraries reference and stack rooms as the source to search full text scientific journal articles. Between the categories, Assistant Professors (34) were the major group preferred a multi journal search website with links to full text, which is followed by a high number of Students (95), Associate professors (19) and professors (11) to use multi-journals search website with link full text.

**Table – 5**
**Preference and use of Scholarly Resources Databases**

| Database | No. of Respondents | Percentage |
|---|---|---|
| EMERALD | 55 | 31.61 |
| EBSCO | 80 | 45.98 |
| ASTM Standards | 78 | 44.83 |
| SciTech Connect | 75 | 43.10 |
| Elsevier Science Direct | 94 | 54.02 |
| INSPEC | 51 | 29.31 |
| JSTOR | 45 | 25.86 |
| Others | 63 | 36.21 |
| OUP Journals Online | 38 | 21.84 |
| Proquest | 58 | 33.33 |
| Sage online | 26 | 14.94 |
| Springer link | 81 | 46.55 |
| ERIC Database | 61 | 35.06 |

Among the various databases, available in e-resource environment to the users, a maximum of 54.02 percent of the respondents using Elsevier Science Direct. Next to this, 46.55 percent of the respondents using Springer link. The response for Sage online is 14.94 percent and it is 21.84 percent for OUP Journals Online.

**Table – 6**
**Usage of Search Engines**

| Search Engines | No of Frequency | Percentage |
|---|---|---|
| Google | 174 | 100.00 |
| Yahoo | 134 | 77.01 |
| Lycos | 101 | 58.05 |
| Alta Vista | 123 | 70.69 |
| Ask.com | 88 | 50.57 |
| Hot Bot | 61 | 35.06 |
| Others | 39 | 22.41 |

Regarding the usage of search engines, hundred percent of the respondents are using Google and 77.01 percent of the respondents are using the Yahoo. 35.06 percent of the respondents are using Hot Bot and 22.41 percent of them are using other search engines.

**Table – 7**

**Frequency of Accessing E-Resources**

| Frequency | Students | Assistant Professor | Associate Professor | Professor | Total |
|---|---|---|---|---|---|
| Daily | 62 | 17 | 10 | 03 | 92 |
| Weekly | 21 | 09 | 05 | 05 | 40 |
| Fortnightly | 15 | 04 | 04 | 04 | 27 |
| Monthly | 04 | 07 | 03 | 01 | 15 |

The present study has been identified frequency of accessing e-resources among Arts and Science College library users in the study environment. It is found that, a majority of them are accessing e-resources daily (92), which are followed by weekly access (40) and monthly access (15). Between the categories, Assistant Professors are the major group (17 percent) accessing the e-resources daily, followed by the Students (62). Associate Professors are a major group accessing e-resources weekly (05) and the Professors (05) respectively.

**Table – 8**

**Overall Web Based Services from the Arts and ScienceCollege Library**

| Opinion on Overall Web based Services | Students | Assistant Professor | Associate Professor | Professor | Total |
|---|---|---|---|---|---|
| Not at all | 01 | 01 | 01 | 00 | 3 |
| Poor | 07 | 01 | 03 | 01 | 12 |
| Fair | 14 | 04 | 04 | 01 | 23 |
| Good | 52 | 18 | 09 | 06 | 85 |
| V .Good | 28 | 13 | 05 | 05 | 51 |

The overall satisfaction among the respondents in surveyed Arts and ScienceColleges vary between the categories and as to the five point ratification on the extent of use of web-resources. A Fair number of respondetns felt Good (85) and Very Good (51) in terms of the overall web based services from the Arts and ScienceCollege libraries.

## CONCLUSION

E-Resources use and Access Pattern of the respondents studied in encouraging as the students and faculty of the surveyed Salem based selected Arts and Science Colleges are adopting the range of search methods and approaches to information. E-Resources use and Access Pattern information through library staff and colleagues are the most preferred mechanism used by the respondents to get the information. Respondents prefer search approached to the documents by the title, keywords and by the journal name. Search through the author, publisher were preferred by less number of respondents. The mean were used as source to consume the scholarly information are both print and e-resources. Among the e-resources, e-books, full text articles, abstracts, models and designs were mostly used forum of documents. Study could find the limitations pursued by the users in the Salem based selected Arts and Science College towards E-Resources use and Access Pattern. Such as lack of knowledge in computer handling browsing the e-journals, limitations of internet access speed the attitude of library staff and power fluctuations.

## REFERENCE


1 Barooah, and Sarmah, N.N (2007), Evaluation of Information Services and Facilities Offered by a Technical Library: A Case Study, *Herald of Library Science,* 46(1-2), 51-58.

2 Hines S (2007) wikis, blogs and other collaborative tools in library services: a workbook and reference, PNLA quarterly, 71(2), 27-31.

3 Korobili, Stella et.al (2006), Factors that Inference the Use of Library Resources by Faculty Members, *Library Review,* 55(2), 91-105.

4 Naushad Ali, P.M. and Ehsan Hasan, M.D (2006), Library and Information Services in Central Library of Aligarh Muslim University from the Teachers points of View: A survey, *SRELS Journal of Information Management,* 43(4), 357-362.

5 Sami, Lalitha K. and Rabia Iffat (2009), Use of Electronic Information Services in Research Libraries, *SRELS Journal of Information Management,* 46(1), 43-50.

6 Sevukan, R and Sivaraman P (2008), Use of Internet Service in Pondicherry University Library: An Evaluate Study, *Indian Journal of Information Science and Services,* 2(1) 5-11.

7 Sakthivel,T, Subramaniayan,N (2013), Information Use Pattern by the Faculty Members and Research Scholars in Muthayammal Institutions (Arts & Science and Engineering),Rasipuram, Tamilnadu: a Study, *International Journal of Scientific Research*, 2(5), pp.342-344.

8 Sakthivel,T, Subramaniayan,N (2013), Study on Use Pattern of Electronic Resources by the Science Research Scholars in Periyar University, Salem (Tamilnadu), *International Journal of Scientific Research*, 2(6), pp.327-329.

# EFFECTIVE UTILIZATION OF INTERNET BY THE MEMBERS OF FACULTY AND STUDENTS IN LOURDES MOUNT COLLEGE OF ENGINEERING AND TECHNOLOGY, MULLANGANAVILAI.

Dr.W.Vijaya Shoba
Librarian
Lourdes Mount College Of Engineering And Technology, Mullanganavilai
libvijayashoba@gmail.com

## Abstract

The aim of this study is to analyze the use of the Internet among the teachers and the students of Lourdes Mount College Of Engineering And Technology, Mullanganavilai . A well structured questionnaire was distributed among the teachers and students of the college. The response rate was 100 %. The present study demonstrates and elaborates the various aspects of Internet use, such as frequency of Internet use, methods used for learning of Internet skill, most frequently used place for Internet use, purposes for which the Internet is used, use of Internet services, ways to browse the information from the Internet, problems faced by the users and satisfaction level of users with the Internet facilities provided in the college. The result of the survey also provides information about the benefits of the Internet over conventional documents. It was also found that the Internet has become a vital instrument for teaching, research and learning process of these respondents. Some suggestions are set forth to make the service more beneficial for the academic community of the engineering colleges under study.

**Keywords:** Internet,E-mail, Search engines.

## 1. Introduction

Today, the Internet plays a vital role in the teaching, research and learning process. It is assumed that the Engineering students feel more dependent on the Internet for their class assignments and for the latest information of their subject areas than conventional resources of information. College teachers also feel a bit handicapped in updating their knowledge base quickly without using the Internet for their research and classroom teaching activities. This paper is based on a survey given to teachers and student of Lourdes Mount College Of Engineering And Technology, Mullanganavilai.

## 2. About Lourdes Mount College Of Engineering And Technology, Mullanganavilai.

Lourdes Mount College Of Engineering And Technology was established in the year 2013. The College is approved by All India Council of Technical Education (AICTE ), New Delhi and Affiliated to Anna University ,Chennai.The College is situated close to Marthandam and is located amidst lust green stretch of land in a scenic and peaceful environment surrounded by trees near the border between Kerala and Tamil Nadu .It has magnificent and artistically elevated infrastructure with well-equipped class rooms , laboratories and Library.

## 3.Literature review

A review of literature reveals that the teachers and the students are the most frequent users of the Internet. They use the Internet mainly for educational purposes rather than for entertainment.

**Bavakutty and Salih** (1999) conducted a study at Calicut University which showed that students, research scholars, and teachers used the Internet for the purpose of study, research and teaching, respectively[(1).] .

**Jagboro** (2003) conducted a case study of Internet usage in Nigerian universities. The objective of this study was to evaluate the level of utilization of the Internet for academic research at the Obafemi Awolowo University, Ile-Ife, Nigeria. Questionnaires were administered to postgraduate students spanning art and science based programmes. The results from the analysis of the responses showed that the respondents ranked the use of research materials on the Internet fourth (17.3%). However, respondents who used the Internet ranked research materials second (53.4%) to e-mail (69.9%). The study concluded that the use of the Internet for academic research would significantly improve through the provision of more access points at departmental and faculty levels[(2).]

**Panda and Sahu** (2003) conducted a study of the engineering colleges of Orissa. The study revealed that 50% of the engineering colleges used dial-up connection. A majority of the colleges used the Internet to provide on-line demonstrations[(3).]

**Mishra, Yadav and Bisht** (2005) conducted a research study to learn the Internet utilization patterns of undergraduate students at the G B Pant University of Agriculture and Technology, Pantnagar. The findings of the study indicate that a majority of the students (85.7%) used the Internet. The findings of the study also showed that 61.5% of the males and 51.6% of the females used the Internet for preparing assignments. A majority of the respondents i.e. 83.1% male and 61.3% female respondents indicated that they faced the problem of slow functioning of Internet connections[(4).]

## 4.Objectives

The main objective of this study is to analyze the patterns of Internet use,the Internet skills of the Engineering professionals, the perceived impact of the Internet on their academic efficiency and problems faced by them while using the Internet.

The Main Objectives Were:

- various purposes for which the Internet is used;
- various Internet services used for teaching, learning and research;
- impact of the Internet on the teaching, learning and research;
- Satisfaction with the Internet facilities provided by the Engineering college under study.

## 5. Methodology

The investigator personally visited to collect data from the respondents. The questionnaires for Internet users were filled up by the teachers and the students of the Engineering college. A total sample of 25 teachers and 25 undergraduate Engineering students was taken up for the present study. For sampling, random sampling process was followed for data collection after consulting experts on statistics. The sample was random in the sense that the teachers and the undergraduate students were randomly selected from 5 Various Departments in the Lourdes Mount College Of Engineering And Technology, Mullanganavilai.

5 respondents were selected randomly from each Departments such as CIVIL , MECHANICAL ,EEE,ECE&CSE of the college taking at least five teachers and five undergraduate students from each branch of the college under study. Accordingly, 50 questionnaires (i.e. 25*25=50) were distributed among the teachers and undergraduate Engineering students of the Lourdes Mount College Of Engineering And Technology.Under this study ,all questionnaires (i.e. 25 from the teachers and 25 from the students) were received back duly filled in.

## 6. Respondent profile

Out of the 50 respondents, 25 (50 %) were teachers and 25(50 %) were students. Of the respondents 20 (40 %) were male and 30 (60%) were female. 25 of them (50 %) were aged 17-21, 5 (10%) were 26-30, 10(20%) were 31-35, 10 (20 %) were 36-40 years or over.

## 7.Analysis

**Table 1. Experience of Internet Use**

| Experience | Frequency | %age |
|---|---|---|
| Less than 6 months | 5 | 10 |
| 6 months – 1 year | 10 | 20 |
| 1-2 years | 12 | 24 |
| 2-4 years | 15 | 30 |
| More than 4 years | 8 | 16 |
| Total | 50 | 100 |

Note: n = 50

The question was asked to find out the facts such as when did the users start using the Internet and how long they had been using the Internet. It was found that 15 (30%) of them had been using the Internet for 2-4 years. Another 12 (24 %) respondents had used it for 1-2 years; 8 (16%) respondents indicated

having used it for more than 4 years; 10 (20 %) respondents had used it for 6 months – 1 year and 5 (10 %) respondents had been using it for six months or less. It is evident that the majority of respondents have been using Internet an average for more than 2 years (Table 1).

**Table 2. Frequency of Internet Use**

| | Frequency | %age |
|---|---|---|
| Daily | 25 | 50 |
| 2-3 times a week | 15 | 30 |
| 2-3times a month | 8 | 16 |
| Once in a month | 2 | 4 |
| Total | 50 | 100 |

Note: n = 50

Another question pertained to the frequency with which respondents use the Internet. A total of 25 (50 %) indicated that they used the Internet every day,15 (30 %) of them reported that they used it 2-3 times in a week, 8 (16 %) used it 2-3 times in a month, while 2 (4 %) respondents reported that they used it once in a month. Again, this indicates that most of them use it every day (Table 2).

**Table 3. Amount of Time Spent on the Internet**

| Hours | Frequency | %age |
|---|---|---|
| Less than 1 hour a week | 5 | 10 |
| 2-4 hours a week | 25 | 50 |
| 5-6 hours a week | 10 | 20 |
| 7-9 hours a week | 10 | 20 |
| Total | 50 | 100 |

Note: n = 50

Table 3 shows that the maximum number of respondents i.e. 25 (50 %) use the Internet for 2-4 hours a week. 10 (20 %) use the Internet for 5-6 hours a week, 10(20 %) for 7-9 hours a week, Only 5 (10 %) respondents have indicated that they use Internet for less than one hour a week.

**Table 4. Most Frequently Used Location of Internet Use**

| Place | Frequency | %age |
|---|---|---|
| College | 25 | 50 |
| Home | 15 | 30 |
| Other places | 10 | 20 |
| Total | 50 | 100 |

Note: n = 50

A total of 25 respondents (50 %) indicated that they accessed the Internet from college , while only 15 (30 %) accessed the Internet from home. Another 10 (20 %) also used other places such as cyber cafe, friend / colleague's home etc. for accessing the Internet. It indicates that most of the respondents use the Internet from their respective colleges (Table 4)

**Table 5. Methods of Learning Internet Skills**

| Method | Frequency | %age |
|---|---|---|
| Trial and error method | 20 | 40 |
| Guidance from colleagues and friends | 13 | 26 |
| Training from college | 10 | 20 |
| External courses | 7 | 14 |
| Total | 50 | 100 |

Note: n = 50

Respondents were asked to indicate the methods used for acquiring the Internet skills. It was found that most popular method of acquiring the necessary skills to use Internet is trial and error method .A majority of the respondents used this method with 20 (40 %) responses. A total of 13of them (26 %) indicated that they took guidance from their colleagues and friends, 10 (20 %) of users learnt the Internet through formal training offered by the college and 7 (14 %) participated in other training courses such as external courses and workshops. (Table 5).

| Table 6. Purposes for Browsing Internet | | |
|---|---|---|
| **Purpose** | **Frequency** | **%age** |
| Research | 12 | 24 |
| Entertainment | 3 | 6 |
| Education | 25 | 50 |
| Communication | 10 | 20 |
| Total | 50 | 100 |

Note: n = 50

One of the significant research questions was to explore the purpose for which they are using the Internet. 25 (50 %) respondents used the Internet for an educational purpose, 12 (24 %) respondents for the research purpose, 10 (20 %) for the communication purpose while as 3 (6%) respondents admitted that they also use Internet for entertainment purpose It indicates that majority of respondents mainly uses the Internet for educational purpose compared to others and least number of respondents uses the Internet for entertainment purpose (Table 6).

| Table 7. Use of Internet Services | | |
|---|---|---|
| **Internet Services** | **Frequency** | **%age** |
| Electronic Mail | 11 | 22 |
| World Wide Web | 10 | 20 |
| Search Engine | 9 | 18 |
| FileTransfer Protocols | 5 | 10 |
| Frequently Asked Questions | 7 | 14 |
| Chatting | 8 | 16 |
| Total | 50 | 100 |

Note: n = 50

Another question was related to the use of various Internet services by the respondents. Table 7 shows that among Internet services, electronic mail has been chosen as the most popular Internet service. It is being used by 11 (22 %) respondents. Browsing of Internet for the World Wide Web

comes next. This is being used by 10 (20 %) respondents. Next in order come search engines with 9 (18 %) responses, chatting with 8 (16 %) responses, FAQs (Frequently Asked Questions) with 7(14 %) responses, FTP (File Transfer Protocol) with 5 (10 %) responses, It is seen that use of File Transfer Protocols and Frequently Asked Questions is very low among the Internet users (Table 7).

**Table 8. Problems While Using Internet**

| Problem | Frequency | %age |
|---|---|---|
| Obtaining Connection/Slow Internet access speed | 16 | 32 |
| Opening Web Pages/download pages | 14 | 28 |
| Search Difficulties | 9 | 18 |
| Virus Warning | 7 | 14 |
| Privacy problem | 4 | 8 |
| Total | 50 | 100 |

Note: n = 50

It can be inferred from Table 8 that using the Internet is not free from problems. The barriers or problems encountered while using the Internet mainly come from five factors.16 (32 %) respondents face the problem of Obtaining Connection and slow Internet access speed which takes a lot of their slot time to retrieve the relevant information. 14 (28 %) respondents are of the opinion that it takes too long to Opening Web pages/ download pages. 9 (18 %) respondents find it difficult to get the relevant information from the Internet. 7 (14 %) respondents report that they face the problem of Virus Warning on the Internet. 4 (14 %) respondents face the privacy problem on the Internet.

**Table 9. Ways to Browse Information from the Internet**

| Ways | Frequency | %age |
|---|---|---|
| Type the Web address directly | 19 | 38 |
| Use of search engines | 20 | 40 |

| | | |
|---|---|---|
| Use of subscription databases | 11 | 22 |
| Total | 50 | 100 |

Note: n = 50

Table 9 exhibits that a majority of the respondents with 20 (40 %) responses browse the required information from the Internet by using Internet search engines. 19 (38 %) respondents admit that they type the Web address directly for browsing information and only 11 (22 %) respondents indicate that they use subscription databases for getting the required information from the Internet.

**Table 10. Satisfaction with Internet Facilities**

| | **Frequency** | **%age** |
|---|---|---|
| Fully | 21 | 42 |
| Partially | 18 | 36 |
| Least satisfied | 6 | 12 |
| No comments | 5 | 10 |

Note: n = 50

Table 10 shows that only 21 (42 %) respondents feel fully satisfied with the Internet facilities, 18 (36 %) partially satisfied, 6 (12 %) least satisfied and 5 (10 %) have not expressed any opinion regarding the service.

## 8. Suggestions to Improve Internet Services

Based on the findings of the study, the following suggestions are put forward to improve the use of the Internet among the teachers and the students in Lourdes Mount College of Engineering and Technology, Mullanganavilai.

- The timings of the Internet service should be increased and if possible, the service should be made available round the clock so that the users can make maximum use of the Internet facility.
- More computers with the latest specifications and multimedia kit should be installed so that the users can use Internet telephony, video-conferencing, chatting and other useful services of the Internet.
- More efficient technical staff should be appointed and they should always be present in the Internet section for expert advice.

- There should be complete campus networking with the Internet browsing facility connecting the teachers' rooms as well as hostels.
- The problem of slow connectivity should be overcome by increasing the bandwidth.

- Sites providing only entertainment should be locked so that the students should not unnecessarily use computers.

- Some orientation training programmes should be organized by the colleges at regular intervals so that the maximum users can improve their excellence or proficiency in the use of the Internet for academic purposes.

- All the academic news should be provided at the college Website and it should be regularly updated.
- Information regarding the popular and the latest Websites with their addresses should be displayed on the Notice Board in the Computer Centre.

## 9. Conclusion

The Internet has emerged as the single most powerful vehicle for providing access to unlimited information. The Internet is an inseparable part of today's educational system. The dependency on the Internet and its services is increasing day by day and the user's of Engineering colleges too are depending more and more on the Internet for their various educational purposes. The Internet facility has enabled the teachers and the students to enhance their academic excellence by providing them the latest information and access to the worldwide information.

The present study has concentrated on the most frequent users of Library & Internet in the Lourdes Mount College Of Engineering And Technology, Mullanganavilai. i.e. the teachers and the students. The scope of the study was limited to the Lourdes Mount College Of Engineering And Technology, Mullanganavilai.

There is a vast scope for future research in "different types of users behavior and comparison of users behavior and attitudes towards the Internet".

The use of the Internet is an evolving phenomenon at this stage. We can very well visualize a situation when all the 100% users will have achieved a near perfection in the use of and full dependency on the Internet for their information needs.

## 10. References

1) Bavakutty, M., and T. K. Salih Muhamad, (1999). Internet Services in Calicut University. Conference, Academic *Libraries in the Internet Era.* Ahemdabad, India: Proceedings of the 6th National Convention on Academic Libraries in the Internet Era. Pp37-44.
2) Jagboro, K.O, (2003). A Study of Internet Usage in Nigerian Universities: A Case Study of Obafemi Awolowo University, Ile-Ife, Nigeria. *First Monday,* v8, i2. Retrieved June 26, 2004.

3) Panda, K. C., and N. K. Sahu, (2003). Use of Internet in the Engineering Colleges of Orissa: An Analysis. Conference, *Mapping Technology on Libraries and People.* Ahemdabad, India: Proceedings of the 1st International Conference on Mapping Technology on Libraries and People. pp619-631.
4) Mishra, O.P., Neelam Yadava, and Kamini Bisht, (2005). Internet Utilization Pattern of Undergraduate Students. *University News* v43, i13, pp8-12.

# Gender Development and Technology – Focusing on Internet Usages in Women Scientific communities in Kerala

BINU.K,
Assistant Professor
Department of Sociology
St Mary's College Thriisur.

## Abstract.

Digital As a communicative instrument, internet is restructuring organizational environment and communication pattern of modern world. Internet is often regarded as a hostile environment for women. Women have been facing a number of practical issues in accessing technology because of our socio-cultural context. Differential treatment of women from the childhood onwards has an adverse influence on her power of knowledge accsibility, personality, and roles and status. Women's communication pattern has some difference to that of men's. Interpersonal communications of women are very much influenced by socialization and contacts. Freedom from the family and socio-cultural stigmas has significant influence on her social relationships. In the microelectronic society many barriers had been faced by women in using the internet. However, recent advances and strategies have been employed to minimize the barriers encountered by women and, hopefully, increase her presence in the knowledge-building process. The major analytical concerns of this study include gender issues and technological based gender development in Kerala. The study also inquires various types of knowledge accessibility problems, and how it related to masculine values, in Kerala context. This study is also highlights the issues of internet and gender inequalities in the Kerala context and also investigates the degree to which the diffusion of internet technologies has improved the resources acquisition capacity of the females in Kerala. It also explains the ability of internet technology to liquidate the patrifocal nature of scientific productivity in Kerala.

**Key Words.**

Technological Domination – Superimposition of Technological ideas over human values. Diffusion – Movement of knowledge from highly concentred place to less concerted place to less concerted place. Partifoclaity – Male focused family rules and obligations in everyday life. Divide Stratification of society on the basis of technological accessibility and utility. Gender development – Upliftment of women with the help of technological artifacts and mechanisms

## Introduction.

Internet diffusion and its extensive utilization create changes in the process of life and the formation of new realities in our society. Internet technology also has a profound impact on the career development of woman scientists especially in their research and intellectual development. As a socially integrating mechanism, it tends to reduce the isolation of women from different parts of the world. Internet becomes a companion of female scientists both in the developing and the developed countries in their professional life. Internet has been playing a crucial role in the scientific activities of women scientists in Kerala by reshaping their professional potentials and prospects. Internet has also some role in redefining socially constructed inequalities between men and women in the Kerala society. Science has increased the pace of women's progress and development and has also influenced their familial, social and career developments. At the individual level, the attitude and aptitude of the women scientists have dramatically changed due to the involvement of science and technology. In modern world, women participation in scientific processes in terms of communication, collaboration and productivity seem to have improved. Science is inherently patriarchal in nature, that is, it is constructed on the basis of masculine norms and behavior (Anderson 2006). Traditionally, science and scientific activities were considered as male dominated activities. Masculine norms and principles had a great influence in productivity of knowledge and its execution. But the emergence of internet has influenced on the patriarchal structure of knowledge in Kerala society. In other words, internet seems to impact on the dual role of scientific women, namely, in terms of women's responsibilities at the domestic and professional fronts.

Social and economic networks of female scientists seem to have increased with the advent of internet technology. Previously social networks of women were more locally oriented than those of men, resulting in a lower level of attainment among female scientists in developing world. (Palackal 2006), Sex-based inequalities limited women's career attainment and resource-acquisition capabilities to a high degree. The orthodox nature of Indian family system restricted women from attaining social mobility and personal development. The use of internet technologies allows Indian women scientists to get access to a greater degree of mobility and, ultimately, to improve their contributions in scientific knowledge. (Campion 2004).Internet technology seems to emerge as a means to promote career development of women by facilitating international and local communication and improving access to information and enabling international collaborations. . In these circumstances the present study is to asses in the role of internet technology to liberate women scientists from the tradition of patriarchal nature of knowledge in Kerala society.

## Is technology is a solution for Gender Issues in Kerala.

Women have been facing a number of practical issues in accessing technology because of our socio-cultural context. Differential treatment from their childhood onwards has an adverse influence on her power of knowledge, personality, and roles and status. Interpersonal communications of women are very much influenced by socialization and contacts. The experience of freedom and socio-cultural stigmas at the domestic and professional arenas has significant influence on her social relationships and professional accomplishments. In the microelectronic age, number of strategies has been employed to minimize the barriers encountered by women and, hopefully, increase her presence in the knowledge-building process. In contemporary society, internet technology is likely to have a revolutionary power to create new relationships between researchers in geographically distinct locations. The information technology enables women to tap global markets for their products and raise income. New technologies are the new means by which women are empowered with so as to improve their economic and social status. Women's contribution in national income, research and technology production has significantly increased due to the involvement of internet and related technology.(www.un-documents.net Oct1 2012 ) . Information and communication technology has paved new way for the availability of latest information irrespective of gender and location. Its effect will have to be examined in the prevailing socio-cultural context of our society wherein persistent gender inequality in scientific production and productivity. Scientific activities occur within the cultural framework of inequality between the sexes. This kind of inequality can be seen in resource allocation and interaction, and in the formation of social network. In this context the sociological analysts of the interrelationships between internet and gender is an important are of discussion for sociologist and social scientists. The study is mainly focusing on scientific communities because of their intense and high degree of internet usages for personal and professional purposes.

## Materials and Methods.

This study is cross sectional in its content and nature, focused to assess the current pattern of internet usages among women scientific communities in Kerala and also asses the current nature of technological and gender issues bounded with technological accessibility and prductivity. It is alo focussing on how internet is acting as catalysts to liberates women from the traditional male dominant social enterprises . For the analysis purposes the total population of the study is divided into three strata namely South, Central and North based on the internet connectivity and accessibility, and geographical parameters. Each of these stratums is further divided in four, based on the nature of scientific practices and mode of research in the organization. 139 samples of scientists from around 340 scientists working in science stream of various leading universities and research centers in Kerala. In addition to this, in order to increase the authenticity of the study, 35 qualitative samples were collected from the three zones for substantiating the quantitative findings. .In this research both quantitative and qualitative data were used for analysis and interpretation.

The quantitative data was analyzed with the help of popularized statistical techniques like simple percentage analysis, cross table analysis, Chi test and AVOVA test. The date gathered from the qualitative methods was classified on the basis of frequencies of the same answers and most appropriate and relevant answers were used for the analysis part. The analyzed data was interpreted with qualitative date and the review of literature.

## Internet and Social Stigmas

Social stigmas are the persistent disapproval of or discontent with a person from other members of the society. It may be attached to a person or an institution or society. Erving Goffman (1990) .The intensity of social stigmas depends on sociopolitical context of the world. This question deals with the issue of internet related social stigmatization in Kerala society or any forms of social restriction in Kerala to use internet technology. To understand the effect of internet on existing social stigmas and taboos, analysis was done and the result shows that a great majority of scientific community (83.5 %) is of the opinion that in Kerala there is no internet- created social stigmas or differential treatment of women in the utilization of technology prevailing at present. All scientific staff irrespective of sex and gender are able use this technology for their personal and professional carrier development. The opinion of scientific communities clearly indicates that as an interconnecting informational pool, internet has been reducing the problem of isolation of women scientists and providing them with more chances to contact with their peers and research institutes. In that way, Internet and related technology has some role in reducing the problem of gender discrimination among scientific practioners in Kerala. In this context internet is channelizing new career relationships to the women scientific communities. Internet and related technology tend to reduce the patrifocal nature of science and scientific activities.

## Internet Connectivity and Gender Issues

The social structure of Kerala has experienced some significant reconstruction as a result of the advent of internet technology. Today Women and men occupy multiple and intersecting role in the socio-cultural context of Kerala. It is clear that Patriarchal society gives importance to male kinship, family structure and ideologies. It is the ideology that emphasized on chastity and subservience of women in her social and economic milieu. Persistent Regulation of female behavior, marital role and her social involvement are directly or indirectly controlled by the powerful members of our society.

This study examined the factors responsible for changes in the degree and magnitude of gender relations of scientific communities in Kerala society as a result of internet technology. In this cybernetic world, technology has been an agent for liberating the women scientist from her technological isolation and backwardness. The effect of internet on the general gender issues and benefits of internet usages for the scientific communities in Kerala. The study in general focused on the common gender regulations and issues prevailing in the day-to-day life of females in the

Kerala society. The field evidence and findings reveal that internet and existing gender issues have no connection in the current socio-cultural contexts of Kerala society. On the other hand, Internet is one of the key elements of social reformation and rejuvenation. The majority of the scientific community states that they are using this technology for research and development, and for the enhancement of knowledge. This study reveals that internet diffusion has improved the resource acquisition capacity of women scientists by redefining the gender roles and capabilities of female scientists in Kerala. It has been acting as a means of communication which helped to reduce the intensity of masculinity existing in the Kerala society by providing new opportunities and research areas to women scientific communities in Kerala. Internet is trying to eliminate the traditional or age-old basics of patrifocality of knowledge by creating new avenues of research and resources. Internet access has trying to remove the communication barriers of women scientists and increased the social mobility in the personal and professional sphere of the women scientists. It also created a path to resolve the problems of masculinity in knowledge production in the professional life of the women in our society.

## Gender based Skills in Internet Usages.

In modern society the nature and application of internet technology has changed for the formation social capital. Women scientists have been increasing their capacity to improve their technological resources and to solve the problems of dual role syndrome in their family life to some extent. Internet has created number of opportunities to acquire knowledge and skills from different places and extend the horizons of knowledge and skills of the women scientific communities. Our qualitative and quantitative interpretation of the data indicates that internet does not represent any significant kind of technology based gender discrimination and male domination. In Kerala, it appears that internet acts as an agent to circumvent the traditional types of masculine values and orientations in the field of knowledge and is likely to act as a safety valve to that absorbs gender based discriminations in the realms of scientific achievement.

## Internet and Patifoclaity in Knowledge.

Success in any endeavors, whether scientific or not, depends on the socio-cultural conditions of the society. In the case of internet-based social stigmas, it signifies differential treatment of women in internet use and adoption of new technology. It describes social restrictions in the accessibility of internet technology and the effect of internet on women empowerment. From our study, it is quite evident that internet is not propagating any type of social stigmas and biases; on the other hand it is trying to reshape all existing social complexities and cultural rigidities by opening up new opportunities and venues to the women scientists. The social, cultural and educational conditions of Kerala society are favorable for the rapid growth of internet technology.. But it is clear that the emergence of internet helps them to establish and sustain their professional and personal contacts. Internet and related technology is really beneficial to women scientists in Kerala society in the acquisition of new knowledge and for the formation of new interpersonal relationships and for their career advancement. It is a very useful mechanism to acquire greater

access to social and organizational resources outside of their local settings. In contemporary society, it may be postulated that internet connectivity is helping women scientists to circumvent, but not yet to undermine, the patrifocal social structure that acquire more social capital and impede career development. Internet has reduced the constructed inequalities in gender relationships or has reduced the degree of isolation of women scientists in Kerala. It has also helped them to acquire more intellectual and social resources.

## Internet and Gender-based Discrimination in Scientific Knowledge.

Technology is definitely liquidating all types of gender discriminations in scientific communities. From qualitative and quantitative findings of this research findings suggest Women scientists are now more open with the latest technological advancements. The association of the statement 'Internet reduced the gender based discrimination in scientific knowledge' with variables like age, sex, marital status, organization and education was assessed with the chi-square test. In the result except age-group all factors are not associated with the opinion regarding the internet and gender based discrimination because the chi-square test results indicates that in the case of Age, Marital status, Organization and Education the p-value is greaterthanthe 0.05.Hence the association is non-significant or respondents from all sex, marital background, organization and educational background have the same opinioned that internet reduces the gender based discrimination in scientific knowledge..

Inequality in Indian scientific community results from a stringent system of gender roles, combined with the ethnocentric tendency of dealing research careers on those of developed world (Campion and Shrum, 2004). Indian values have high degree of patriarchal and patrifocal outlook.Patrifocality denotes a general set of rules and regulations revolving around male lines. In the state of Kerala, patrifocality describes or demands extreme commitments to localism which restricts interactional opportunities of Indian women scientists out of micro familial concerns. It prescribes certain gender based restrictions like women should first attend to their caretaking obligations, and their movements out of the household should ordinarily be limited to those required for the fulfillment of those duties. The social limitations implied by patrifocality are clearly pronounced. Gender inequity in educational, travel, and work opportunities results in lower access to social capital and embedded network resources (Lin 2001). Our study shows that the current usage of internet technology is cut across the limitation of sex, marital status, organization and education. Techno zealotry nature of information has been reducing due to the advent of internet and associated technology. Hence it is a social agent which can reduce intensity of technological or organizational discrimination and techno feminism is anew wave of socio cultural movement, can affect the gender based socio economic inequalities in the modern technological context or between sex in current scientific communities In such circumstances the role of internet is to function as an equalizer in enhancing professional woks and knowledge entitlements of women scientific communities in Kerala.

## Conclusion.

The social structure of Kerala has experienced some significant reconstruction as a result of the advent of internet technology. Women and men occupy multiple and intersecting role in the socio-cultural context of Kerala.. Changes in technology may associate with changes in inequality in resource, gender status and lifestyle of the people. The diverse use of internet technology enabled women to occupy different skills and talents in their life. In this modern world, with women empowerment, tremendous changes took place in the social and academic fields. The support from information and communication technology is of great help to liberate women from some areas of social relations defined by male members of the society. Indian women are considered to be low in scientific productivity and less likely to acquire an advanced degree and technological competence as that of males. Social networks of Indian women are very limited and informal interaction with unrelated men was problematic and misinterpreted on various grounds. Indian women are technically and professionally isolated in the last few decades. The Internet and other forms of communication technology have some role inredefining gender-based relationships and communicative structure of Kerala society. It has been acting as a means of communication which helped to reduce the intensity of masculinity existing in the Kerala society by providing new opportunities and research areas to women scientific communities in Kerala. Internet is trying to eliminate the traditional or age-old basics of patrifocality of knowledge by creating new avenues of research and resources. Internet access has trying to remove the communication barriers of women scientists and increased the social mobility in the personal and professional sphere of the women scientists. It also created a path to resolve the problems of masculinity in knowledge production in the professional life of the women in our society. Technology reduces or neutralizes existing gender discriminations in scientific communities. It is very evident from the qualitative and quantitative findings of this research. Women scientists are now more familiar with the latest technological advancements. Techno zealotry nature of information has been reducing due to the advent of internet and associated technology. Hence it is a social agent which can reduce intensity of technological or organizational discrimination. Techno feminism seems to be a new wave of socio cultural movement, which can influence the gender-based socio-economic inequalities in the modern Kerala society.

## References.

Berguss, Kimberly R. “Social Networking Technologies as Vehicles of Support for Women in Learning Communities.” *New Directions for Adult and Continuing Education* 122 (2009): 63-71. Print.

Best, Michael L., and Sylvia G. Maier. “Gender, Culture and ICT Use in Rural South India.” *Gender Technology and Development* 11.2 (2007): 137–155. Print.

Boldyreff, Cornelia, David Nutter and Stephen Rank. *Communication and Conflict Issues in Collaborative* Bargh, John A., and Katelyn Y. A. McKenna. “The Internet and Social Life.” *Annual Review of Psychology* 55 (2004): 573–590. Print.

Baudrillard, Jean. “Simulacra and Simulations.” *Jean Baudrillard Selected Writings*. Ed. Mark Poster. Stanford: Stanford UP, 1998. 166–184. Print.

Agarwal, Bina. "Gender, Environment and Poverty Interlinks: Regional Variations and Temporal Shifts in Rural India: 1971-1991." *World Development* 25.1 (1997): 23-52. Print.

Ali, Zarqa S. "Impact of Internet on Relationships: Perception of Male and Female Students of Pakistan." *International Journal of Humanities and Social Sciences* 1.21 (2011): n. pag. Web.

Anderson, Meredith, and Wesley Shrum. "Circumvention and Social Change: ICTs and the Discourse of Empowerment." *Women's Studies in Communication* 30.2 (2007): 229–253. Print.

Arun, Shoba, and Thankom Arun. "ICTs, Gender and Development: Women in Software Production in Kerala." *Journal of International Development* 14.1 (2002): 39–50. Print.

Bargh, John A., and Katelyn Y. A. McKenna. "The Internet and Social Life." *Annual Review of Psychology* 55 (2004): 573–590. Print.

Chen, Lei-Da, and Justin Tan. "Technology Adaptation in E-commerce: Key Determinants of Virtual Stores Acceptance." *European Management Journal* 22.1 (2004): 74–86. Print.

Chinchilla-Rodríguez, Zaida et al. *New Approach to the Visualization of International Scientific Collaboration*.Imago: U of Granada P, 2009. Print.

Castells, Manuel, and Gustavo Cardoso, eds. *The Network Society: From Knowledge to Policy*. Washington: Center for Transatlantic Relations, 2005. Print.

Campion, Patricia, and Wesley Shrum. "Gender and Science in Development: Women Scientists in Ghana, Kenya and India." *Science, Technology and Human Values* 29 (2004): 459–485. Print.

# IMPACT OF ICT TOOLS ON CUSTOMER SATISFACTION OF THE LIBRARY AND INFORMATION SERVICES AT ENGINEERING COLLEGES OF TAMIL NADU

**C P Paul Rajayia**
cppaulraj@gmail.com
Department of Library and Information Science
Don Bosco College, Guezou Nagar, Yelagiri Hills, Vellore Dt., Tamil Nadu - 635853.

## Abstract

The growth of educational institutions today is awesome. The number of higher educational institutions in Tamil Nadu is increasing every year. The rates of growth of the learners are increasing every day. Hence every higher educational institution has constructed a well-established library system for its learners. Though the libraries have a very large volume of books, journals and magazines in racks, the number of customers of those resources, frequencies of customers and learning effectiveness are very poor. But after the installation of ICT tools such as online tutorials, digital magazines, e-journals, e-books, and internet facilities have attracted customers of the library significantly in knowledge acquisition. This paper witnesses this statement by a survey conducted at various engineering colleges of Tamil Nadu with collected data and reports experimented with many respondents of the library. It reveals the positive impact of the ICT tools used in the library system among the customers.

**Keywords:** ICT tools, Library Usages, Effectiveness of Learners, Digital Library

## 1. Introduction

In this fastest growing world, the acquisition of knowledge among human beings increases more and more. He / She leaps into different disciplines of arts and science of today. It is also the need for the humans today. Hence, the knowledge sources are important and they held most significant positions in the growth of science in the world. The well-known source is being existing till now is nothing but the library science and information services. Today the knowledge is acquired by many different ways, for examples, through print media, audio media, visual media and both. More than that today the internet (ICT) is a biggest medium in imparting knowledge, thought, information to the people in easy and effective way. Even though the internet is considered as big media, but the most of the institutions believe that the library resources are convenient some time for the better learning. A library can have books, magazines and journals from alpha to omega, the encyclopedia of a concept in both arts and science. Though a library has all important and precious resources in it, but the accessibility and reachability of the resources to the people is becoming quiet poor due to rapid growth in the internet medium. Hence the problem of reduction in the visitation and utilization of library resources of the customers have become low. They are not ready to sit and read large volume of books and magazines with their bending bones and heads. So, there is a need for change in the knowledge acquisition resources in the library, which will increase the number of customers to the library and increase the effectiveness of the learning thereafter. Hence the introduction of Information and Communication Technology (ICT) in Library and Information

Science will definitely increase the number of customers to the library of an institution and also increases the knowledge acquisition of a customer in a lesser time.

## 2. Background

The increased use of electronic gadgets among the people for communication reflected in paradigm shift in many areas of organization in the world. Many studies have been done across the world in experimenting and analyzing the impacts of ICT tools in academic libraries of various geographical areas in the world. The services of TV channels and FM radio stations are being devoted to only in imparting scientific subjects knowledge to its audience of IGNOU students. This is revealed by a doctoral study of Mathew Susan, Kerala [2]. And also it reveals and provides necessary evidence for the successful implementation of ICT tools in academic libraries and its successful use among the visitors of library effectively. The study by Colin Harrison, Chris Comber and et al points out that the impact of ICT technologies in pupil learning of United Kingdom. The study further [1] shows that there is a highest usage (31%) of ICT tools in gaining the knowledge for science subjects over arts. The benefits of ICT in library and information science is in four main areas (4Es) such as economy, ease, extension (or expansion) and efficiency. This is explored in the study of Buddhi Prakash Chauhan [3]. Hence various studies explore the usage and benefits of implementation and use of ICT tools in libraries of academic institutions in its own geographical areas of institutions. But this paper shows the experiment done in the southern part of India which is more specifically the institutions in the geographical areas of Tamil Nadu. It discusses more about result of the study and the successful implementation of ICT technologies in the engineering colleges of Tamil Nadu which made significant difference in effective learning of library visitors.

## 3. Methodology

This study adapts the methodology of survey of questionnaire which will be collected from various samples chosen. The questionnaire focuses on areas of usage of hard materials for study, ICT enabled digital libraries, and ICT enabled catalogue system and its user experiences. The sampling is done in random collecting responds for the questions from various categories. Hence, it adapts random sampling techniques to collect data for the result. Then the survey responses will be consolidated and tabulated against category and ratings of different areas. To find the distance among the answers of respondents' mean deviation will be performed.

## 4. Experiment

The samples have been agreed upon 50 candidates from each of the chosen institutions to collect required data. Therefore, 10 engineering colleges have been chosen as data collection resources in Tamil Nadu geographical areas and the respondents were identified in the

institutions such that who are regular to the libraries. The questionnaire was prepared focused on areas covering that usage of printed resources and electronic resources. Further it collects data for detailed report that how many are using the various e-resources such as eBooks, internet, audio-video and learning management tools for their regular studies. While experiment the survey the balance among male and female were eyed which do not differ much. The recoded responses have been tabulated and it was studied as shown below.

**ICT Tools usage in Academic Libraries (2014)**

| # | College Name | Consolidated Responses | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TR | MR | FR | PR | ER | EB | IN | VD | AD | LT |
| 1 | Sri Nandhanam College and Technology, Tirupattur | 50 | 24 | 26 | 15 | 40 | 15 | 21 | 9 | 2 | 10 |
| 2 | Podhigai College of Engineering and Technology, Tirupattur | 50 | 14 | 36 | 14 | 37 | 23 | 40 | 10 | 5 | 13 |
| 3 | Bharathidasan Engineering College, Tirupattur | 50 | 32 | 18 | 10 | 43 | 23 | 42 | 7 | 2 | 5 |
| 4 | Priyadarshini Engineering College, Vaniyambadi | 50 | 28 | 22 | 24 | 41 | 20 | 38 | 10 | 3 | 2 |
| 5 | Kingston Engineering College, Katpadi | 50 | 38 | 12 | 21 | 35 | 21 | 44 | 12 | 8 | 14 |
| 6 | DMI Engineering College,Chennai | 50 | 21 | 29 | 36 | 35 | 26 | 39 | 13 | 10 | 22 |
| 7 | Tagore Engineering College, Vandalur | 50 | 25 | 25 | 33 | 41 | 20 | 47 | 12 | 8 | 18 |
| 8 | Kamban Engineering College, T.V.Malai | 50 | 37 | 13 | 16 | 47 | 12 | 37 | 11 | 15 | 10 |
| 9 | P.B. Engineering College, Sriperumbudur | 50 | 27 | 23 | 15 | 22 | 23 | 35 | 18 | 18 | 25 |
| 10 | AVC Engineering College, Nagapattinam | 50 | 35 | 15 | 22 | 27 | 33 | 40 | 23 | 10 | 30 |
| | **Total** | **500** | **281** | **219** | **206** | **368** | **216** | **383** | **125** | **81** | **149** |
| | **Mean** | **50** | **28.1** | **21.9** | **20.6** | **36.8** | **21.6** | **38.3** | **12.5** | **8.1** | **14.9** |

**TR:** Total Respondents, **MR:** Male Respondents, **FR:** Female Respondents, **PR:** Printed Resources, **ER:** eResources, **EB:** eBooks, **IN:** Internet, **VD:** Video, **AD:** Audio, **LT:** Learning Tools

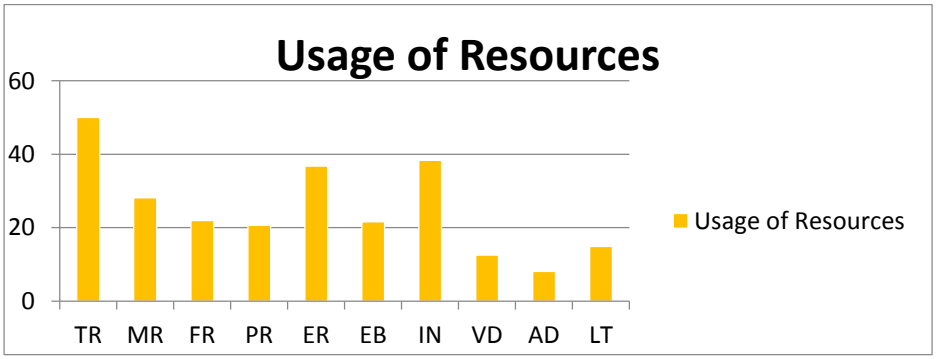
**Table 1: Customer Response on usage of Library Resources**

The above table shows the responses of various respondents of various engineering colleges in Tamil Nadu. It shows that clear picture of shift in the paradigm that the number of visitors using electronic resources increased over printer resources. Today we receive many e-journals e-books, and e-contents at lowest cost and also with lesser effort. And more it increases the

readability of the customers (learners) more conveniently. The mean and mean deviation have been applied on this above table for result analyze.

## 5. Result and Discussion

When interpret the above table, it shows that the use of printed resources in the libraries is 21 members out of 50 customers where as it is 37 out of 50 for electronic resources. Hence, the use of electronic resources has been increased rapidly over the printed resources. It explores that the customers of academic libraries today relay more on electronic resources rather than printed resources because of many reasons such as convenient for reading by easy navigation, effective video tutorials for easy learning, animated scientific concepts for effective learning, virtual lab at lowest cost, resources can be available on electronic gadgets such as mobile phone, and etc. Hence, the interpreted data has been charted down as graphical report as below.




**Legends: TR:** Total Respondents, **MR:** Male Respondents, **FR:** Female Respondents, **PR:** Printed Resources, **ER:** eResources, **EB:** eBooks, **IN:** Internet, **VD:** Video, **AD:** Audio, **LT:** Learning Tools

**Figure 1: Usage of Library Resources**

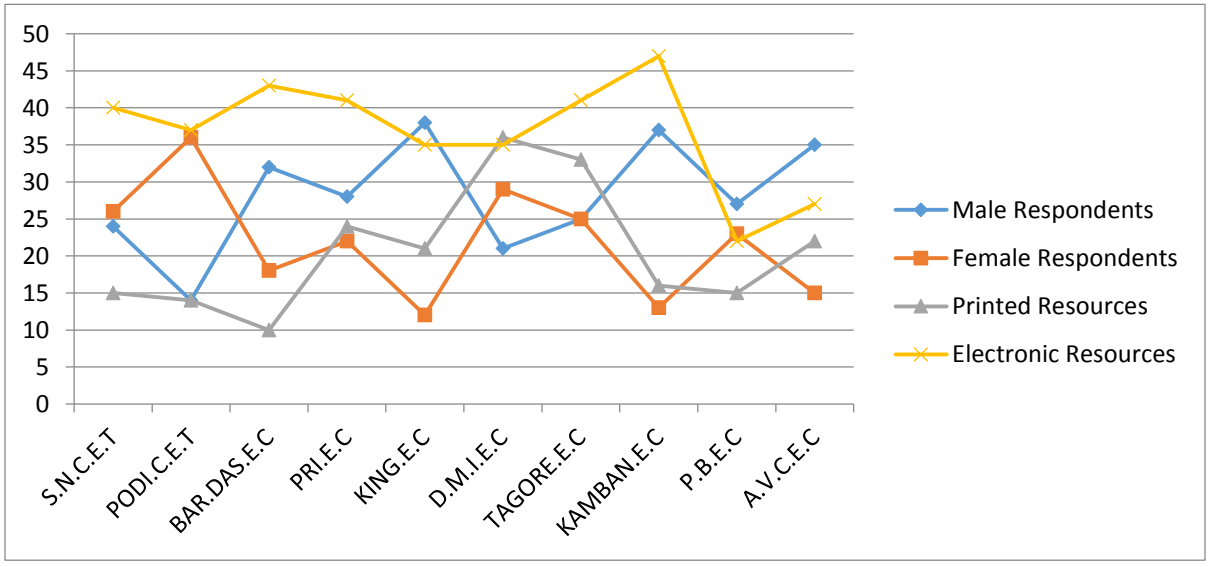



**Figure 2: Usage of Electronic, Printed Resources on Male and Female Respondents**

The above chart displays that the use of printed and electronic resources along with male and female respondents. Among those respondents the use of electronic resources are used higher than printed resources. Hence, the electronic resource which is the implementation of ICT technologies attracts the customer higher than the legacy library model which is nothing but printed materials. The clear picture about the above said truth is depicted below in the chart with various colleges in the Tamil Nadu.

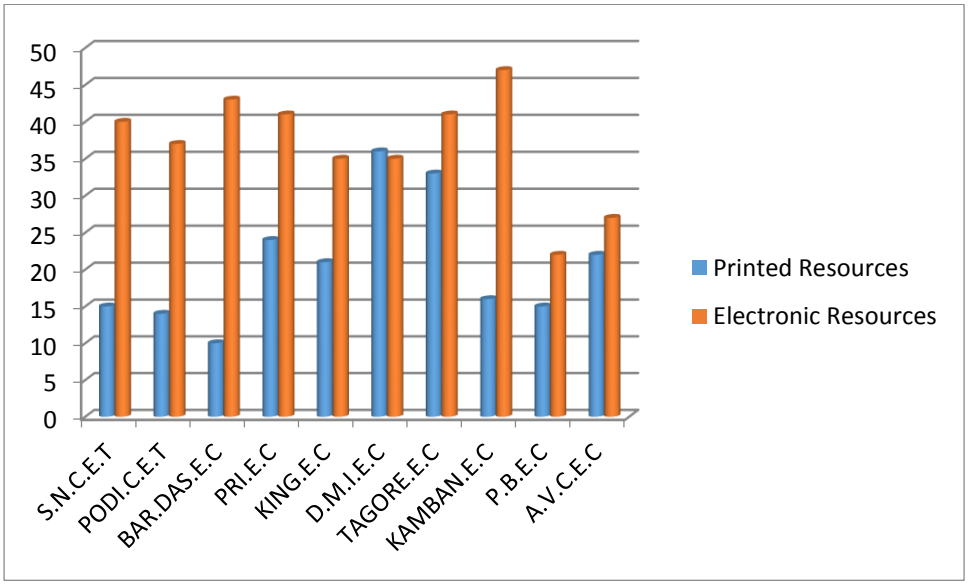



**Figure 3: Usage of Electronic Resources over Printed Resources**

The coherence or similarity of the fact said by the customers is analyzed by performing mean deviation on those data of printed versus electronic resources. The mean deviation among the responses of printed resources is 8.46 where it is 7.52 on electronic resources. The mean deviation table is given below for various resources used in the library below.

| Resources | PR | ER | EB | IN | VD | AD | LT |
|---|---|---|---|---|---|---|---|
| Mean Deviation | 8.46 | 7.52 | 5.74 | 6.99 | 4.70 | 5.40 | 8.86 |

**Table 2: Mean Deviation Analyze**

## 6. Conclusions and Recommendations

The above said tables and charts portraits that there is a significant difference between the usage of printed resources and electronic resources among the customers of library visit every day. The implementation of ICT technologies in the academic libraries entices the customer (users) more than the past days. The increase use of electronic gadgets, internet facilities have changed the trend in the knowledge acquisitions over the days since the rapid growth in the

Information and Communication Technologies (ICT). Today each person has 2 mobiles in hand for the use. Everyone uses smart phone for the regular uses which is considered now as basic requirement. Hence, there is a high possibility of using electronic gadgets for all the uses enumerating emails, internet facilities, online tools and etc. Therefore, the use of printed resources has been brought down to low in libraries. People don't need the feel of reading hard resources for their knowledge acquisition. Hence, the ICT tools attracted more and facilitate more to acquire knowledge at lowest cost, at more convenient, and for effective learning. So the ICT technology implementation impacts positively among the customers of academic libraries in the engineering colleges of Tami Nadu.

Hence, this study recommends that the effective installation of ICT technologies in the academic libraries of any institution will entice more students to use more resources for their learning. Especially, having Learning Management System (LMS), Content Management System (CMS), Digital Libraries (Collection of eBooks), Audio-Visual Lab, Internet facilities will make the learning more joyful and increase the number and learnability of the customers in the academic libraries.

## 7. REFERENCES

[1] Colin Harrison, Chris Comber, and et al (2001), The Impact of Information and Communication Technologies on Pupil Learning and Attainment, United Kingdom, 2001.
[2] Susan Mathew K. (2011), Impact of Information Communication Technology (ICT) on Professional Development and Educational Needs of Library Professionals in the Universities of Kerala, 2011.
[3] Buddhi Prakash Chauhan (2004), ICT Enabled Library and Information Services, Winter School on ICT Enabled Library & Information Services, Dec 27-31, TIET Patiala.
[4] Balakrishnan, N. (1996). Impact of information Technology on Library Science. In N. M. Malwad (Ed.), Digital Libraries: Dynamic Storehouse of Digitized Information (pp. 115-118). NewDelhi: New Age International Ltd.
[5] David, T. L. (2001). ICT for Library and Information Professionals: A Training Package for Developing Countries (ICTLIP). Retrieved June 26, 2009, from eLibraryDownloadPage: http://www2.unescobkk.org/elib/ publications/ictlip/index.htm
[6] Varalakshmi, R. S. (2007). Need for National Consensus on Library and Information Science Education in India. DESIDOC Bulletin of Information Technology, 27 (2), 13-20.
[7] Ahmad, N., & Fatima, N. (2009). Usage of ICT products and services for research in social sciences at Aligarh Muslim University. DESIDOC journal of Library and Information Technology, 29(2):.25-30.
[8] Ebijuwa, A.A. (2005). Infromation and Communication Technology in university libraries: The Nigeria experience. Journal of Library and Information Science, 7(1&2) :23-30.

# MIGRATION FROM LEGACY LIBRARY AUTOMATION SYSTEM TO KOHA: AN EXPERIENCE.

**Vimal Kumar V.**
Technical Assistant
Mahatma Gandhi University Library
Kottayam-686 560
www.vimalkumar.info

## Abstract:

Open Source library management systems have very recently made foot print in automation software market. Koha software is popular among Indian library community due to the availability of comprehensive functional modules and active community. Migration process from legacy library automation system to Open Source candidate need systematic planning and teamwork. Koha has attained maturity in functions and features and ready to use in any type of libraries. This paper tells the story of migration process from SOUL automation software to Koha in Mahatma Gandhi University.

## Introduction

Library automation softwares are integral part of any library system. Proprietary softwares were governing library automation market. Libraries have to shell out a good amount of budget allocation for purchasing and maintenance of proprietary automation softwares. Local vendors are playing dominant role in library automation market in India. Libraries are not bothered about missing standards and protocols with proprietary systems developers. Library standards and protocols are very essential for data exchange and make connection with other information systems. Very few commercial vendors are providing software with advanced features and services. Libraries in developing countries are not in a position to buy comprehensive proprietary automation softwares. Normally it costs more than their annual library budget in the case of a mid sized library in terms of collection size. Investment in a proprietary library automation system is a never ending process. Payment is necessary to ensure the ongoing software support. At the same time, libraries have no control over the software and data(Vimal Kumar V. & Jasimudeen, 2012).

Koha implementation in reputed libraries in India have got enough publicity among library professionals. News regarding Koha implementation in Delhi Public Library, Mysore University, British Libraries and Connemara Public Library etc have appeared in popular online discussion forums like LIS Forum and came to the attention of library professionals. Popularity of Koha in South India is comparatively higher than other states in India. The Government of Kerala, has in principle made a decision to make Koha as its official software for computerization of

Government administered libraries("Government of Kerala decides to use Koha.," 2008). Most of the university libraries in Kerala have adopted Koha.

Migration from an existing library software to another one is a painful process. It require time, resources and skill availability. Mahatma Gandhi University library is bestowed with tech savvy

library professionals and have received support from university authority. Library could migrated from legacy automation system to Koha with the help of staff with experience in cutting edge cost effective technologies.

## Background

Mahatma Gandhi University was established in 1983 in Kottayam. The university has 8 satellite campuses, 245 affiliated colleges and 76 off campus centers("Fact Sheet," 2014).

The university library system consists a central library, 22 department libraries and 4 study centre libraries. Mahatma Gandhi University has collection of over 55000 books, 267 journals, 1900 Ph.D theses, 9072 online journals and 656 CD-ROMs. University library serves over 1000 patrons including students, research scholars, faculty members, non teaching staff and public. The library also maintain an online digital archive for Ph.D theses and the initiative have received acclamations from national and state agencies.

The SOUL version 1 library automation software was implemented in 2000. The SOUL softwared is the product of INFLIBNET, Ahmedabad. Development activities of SOUL was very slow and version 2 of the software released in January 2009("SOUL 2.0," 2011). SOUL software belong to 3 rd generation library automation system. SOUL lacks new generation user oriented features like message notifications, web 2.0, z39.50 etc. SOUL software in Mahatma Gandhi University central library had stopped work in many occasions and started to show vulnerabilities. Attempt to upgrade SOUL version 1 to 2 did not succeeded. In this context, library authority started to think about implementation of an Open Source integrated library management system.

## Why Koha

Even though more than ten open source library management systems are available, very few of them are popular in library community. Koha outwit other Open Source library management system in terms of community support and growing number of users. Koha project started as a

non-profit initiative and it strictly follows the principles of Open Source philosophy. Koha licensed under GNU General Public License, the most popular copyleft license. It resulted in growing number of Koha installations worldwide. Following are the main features of Koha("About Koha," 2015)

Full-featured ILS,
Koha is distributed under the Free Software,
General Public License (GPL) version,
No Vendor Lock-in,
Library Standards Compliant (MARC 21, UNIMARC, z39.50, SRU/SW, SIP2, SIP/NCIP),
Multilingual and it support Indian languages,
Frequent updates.

Technical feasibility is an important factor which makes Koha more popular among supporting companies and libraries. Koha makes use of Open Source components like MySQL database, Apache web server, Perl programming language and Linux operating system. It means, there is no need to invest additional amount for preparing technical platform for Koha installation. Proprietary library management systems need supporting commercial applications to run the system. In this situation, libraries have to spend more amount for buying database application, operating system and anti virus programmes.

## Implementation strategy

Implementation of Open Source softwares offers lot of opportunities and at the same time many challenges. Library authority found that SOUL software is not capable to handle the requirements of the library in the context of increasing number of library collection and enhanced services to user community. A committee of library staff constituted to switching over from SOUL to Koha on 10 March 2013. The committee consist of staff with expertise and experience in library automation and Open Source applications. Deputy Librarian in charge of ICT Applications and Services was available to supervise the progress of Koha implementation.

The team completed data migration from SOUL (ver. 1) software on June 2013. Bibliographic, user and transaction data could successfully moved to Koha from SOUL. Acquisition, Circulation, Technical (Cataloguing), Periodical and Maintenance sections have started to use concerned modules. All the modules of the software are functional after one month of trial period.

The committee decided to opt in house staff expertise for installation, configuration, customisation and data migration. Koha installed in an IBM server, which housed in the library building. The server computer has the capacity to install multiple Koha instances for other department and study centre libraries. Koha staff interface service is available inside the campus network and library

staff from any section can access the functional modules. Online catalogue has made available in Internet and library users can access from anywhere.

Library staff had received one week hands on training. A team of Koha experts are now available in the library to provide continuing support and training to staff. The team has received only the support of Koha community for the migration process and implementation of the software. Migration team have extensively used Koha email discussion forum for the quick and enormous support during our migration process.

## Migration process

Data migration from legacy automation software to new one is always a painful process. Very few proprietary library automation softwares give the provision to export bibliographic details in MARC format. Proprietary library management software companies do not give access to database and it makes the work more hectic(Vimal Kumar V. & Jasimudeen, 2012). Libraries can follow two ways to migrate data from legacy library automation software. The first method is that export data of book and user from database tables with or without the permission of

software company. Second method is that extract data from list of books and users generated from report module. Conversion from bibliographic details to MARC format is possible with the help of third party tools.

SOUL allow users to export bibliographic data to CCF format. Koha support MARC21 and UNIMARC. Bibliographic details in CCF format could converted to MARC21 with the help of MARCEdit software (http://marcedit.reeset.net). User details exported to csv (Comma Separated Values) format from MS SQL tables. Koha has the provision to import user details from csv files. Transaction (issue and return of books) details could exported from MS SQL tables and imported into Koha using offline circulation client. Data exported from SOUL subjected for several times cross checking by library professionals to get error free bibliographic details. Bibliographic details in csv file mapped with MARC21 tags. Koha used local tags for Item information (e.g. Accession number, price, Collection etc.) of documents. Data migration process require more patience and care, then only get error free bibliographic data.

## Lessons learnt

A good home work is necessary to attempt the implementation of Open Source softwares. Interaction with users of Open Source software in your professional network is very helpful to get

an exact review about the software. Koha is not stable and ready to adopt in any type of libraries without any customisation.

Create a checklist to assess the strength and weakness of your library before the implementation of Koha. Hardware requirements (computer, barcode reader, printer etc), experts availability, training, data migration, etc. should be include in the checklist. Total cost ownership would be higher if you want to buy new hardware and need commercial for installation, data migration and customisation(Engard, 2011).

Koha community support is free and lot of helpful resources available in the form of detailed documentation, discussion forum, blogs, live DVDs and video tutorials. Library professionals with enthusiasm can learn basics of Open Source technology and manage Koha in house. The skills required are basic Linux administration and social capital to collaborate with software community. Libraries with good and weak financial position can opt community support.

## Future plans

Koha first implemented in the central library of Mahatma Gandhi University. Department libraries in the campus have started to use Koha as separate instances. Development of a union catalogue coordinating central and departmental libraries is the second phase of Koha implementation.

Koha is build on open platform and can integrate with other Open Source tools like content management systems and discovery tools. Content management systems are useful for building library portal. Koha can easily integrate with Drupal and Wordpress Open Source content

management systems. VuFind is an Open Source library search engine which helps to search and browse all library resources from a single interface(Vallanova University, 2015). Mahatma Gandhi University library has started the effort to replace traditional html based website to Drupal based library portal. In near future academic community in Mahatma Gandhi University can search library catalog records, digital library items, e-journals and databases through VuFind discovery service.

## Conclusion

Koha software has a growing community of developers and users. Activities in the software community is live and it result in frequent software releases and bug fixing. Koha now became mature in features and function and ready to use for any type of libraries.

Software migration process can be successful and error free with systematic research, planning and teamwork. Migration process in Mahatma Gandhi University took 4 months. Staff could familiarise the Koha system with the help of effective training in short span of time. Software

migration team could export and import bibliographic, user data almost error free. No software is perfect and in the case of Open Source software we can sort out and fix problems with the help of community support.

## References

ut Koha. (2015). Retrieved January 9, 2015, from http://koha-community.org/about/

Engard, N. C. (2011). Implementation Checklist. Retrieved January 9, 2015, from http://manual.koha-community.org/3.6/en/implementation.html

Fact Sheet. (2014). Retrieved January 9, 2015, from http://www.mguniversity.edu/index.php?option=com_content&view=article&id=234&Itemid=49

Government of Kerala decides to use Koha. (2008, August 19). Retrieved January 9, 2015, from http://librarytechnology.org/diglib-fulldisplay.pl?SID=20150109461730 95&RC=13493&code=pr&Row=3

SOUL 2.0. (2011). Retrieved January 4, 2015, from http://www.inflibnet.ac.in/soul/

Vallanova University. (2015). VuFind - Search. Discover. Share. Retrieved January 9, 2015, from http://vufind-org.github.io/vufind/

Vimal Kumar V., & Jasimudeen, S. (2012). Adoption and user perceptions of Koha library management system in India. *Annals of Library and Information Studies*, *59*(4), 223–230.

---

# Legacy of Knowledge for the Future: A User Approach to Digitization in ORI&ML, Thiruvananthapuram

Rajalekshmi.R, Research Scholar, Dept of Library & Information Science, Palayam, Thiruvananthapuram.

Dr.A. Gopikuttan, Associate Professor, Dept of Library & Information Science, Palayam, Thiruvananthapuram.

## Abstract

Oriental Research Institute &Manuscript Library (ORI & ML) of University of Kerala is the one and only manuscript library and largest manuscript repository in Kerala. This article studies the digitization initiatives done by the library for the preservation of manuscripts. The purpose of the study is to emphasis the importance of digital preservation of manuscripts. The objectives of the study are to find out various factors lead to the digitization and the attitude of users towards the digitization of manuscripts. A survey was conducted by distributing questionnaires among the users of manuscripts in Oriental Research Institute &Manuscript Library (ORI & ML), Thiruvananthapuram. This study is an attempt to analyze the digitization of manuscripts from the point of view of users.

Keywords- Digitization, Manuscripts

## 1. Introduction

Unprecedented development of information technology paved the way to revolutionary changes in creation, management and accession of information. The use of technology became a core part in the preservation and dissemination activities of libraries and information centers around the world. The digital technology opened up new possibilities to provide improved access to large quantity of information resources to users. Institutions and libraries taken up digitization initiatives with an aim of preserve and diffuse the precious and unique sources of information. As part of this, in the last few years, there have been started various national and international digitization projects to preserve the traditional heritage materials, especially manuscripts. In Kerala also various efforts have been conducted by different institutes and manuscript collection centers to locate, conserve and digitize manuscripts and to preserve the contents of it with the use of technological devices. The main objectives of cultural heritage institutions are to protect their collection in the best possible way with an aim to enable the present and future generations to benefit and enjoy their collection.

## 2. Review of literature

Choukhande (2005)[1] studies the preservation and digitization of rare collections of Dr. Punjabrao Deshmukh Smruti Sanghralaya, Amaravati. The objectives of the study were to preserve, digitize and disseminate the information content of manuscripts in a digitized or electronic form to the end user. The study also explains there are some problems due to copy right law while digitizing manuscripts. Londhe (2011)[2] studies the digitization process adopted in Jayakar Library, University of Pune. This paper explains various steps of digitization process and the process of creation of metadata fields for easy retrieval of manuscripts. Study evaluates the software used for digitization and technical know-how required for it. The paper finds out that the creation of metadata of manuscript was difficult and time consuming. The process of digitization was also difficult due to the fragility and discolouration of manuscript. Saikia (2011)[3] investigates the preservation of manuscript collections of Krishna Kanta Handique (KKH) library in a digital environment. This study explains various digitization tools and digital library softwares useful for digitization. A model on digital archiving of manuscripts was developed in KKH library with the help of open source software, DSpace. The aim of the study was to reduce the handling of manuscript, to facilitate new forms of access and enhance the use of manuscripts by digitizing the collection. Singh (2012)[4] studies the role of cultural heritage systems in preserving heritage resources. This paper discusses the initiatives taken by the Government of India in digital preservation of manuscripts and other heritage resources by formulating policies and strategies at national level. Study emphasizes the digital preservation initiatives of Indira Gandhi National Centre for Arts (IGNCA) and National Mission for Manuscripts (NMM). Pandher (2012)[5] discusses the user's perception about the usage of manuscripts and their level of satisfaction with the collection. It points out that digitization helps to safeguard the content of manuscripts. In a study Abdulkareem (2012)[6] focuses on the digital preservation and conservation strategies necessary for preserving the Arabic manuscripts in Nigeria. It explains various challenges of

digital preservation and proposes ways to overcome these challenges for an effective conservation of knowledge and information.

## 3. Digitization of manuscript

The International Encyclopedia of Information science defined digitization as, "the process of converting analogue information to digital format."[7] Digitization is the process of creation of the digital representation of a manuscript which is called the digital image of the manuscript. Digital reproductions of these originals can be stored in new and long lasting electronic medium. The original can be kept in a protected environment which prevents frequent handling and further deterioration of it to a large extent. The main aim of digitization is to support the preservation of manuscripts and to enhance the accessibility to its contents[8].Search and research in a conventional manuscript library is a tough and time consuming effort due to various restrictions and fragile condition of manuscripts. Regular access of these documents may lead to permanent damage. Digitization is the best available solution for this. Through digitization, manuscripts can be reproduce and store in a digital environment and users can search and retrieve the information content quickly according to their interest without any interaction with the original[9]. The image of the manuscript can be read on a computer screen or printed out on paper and can be easily accessed and shared via communication networks.

## 4. Manuscript collections in ORI & ML

Oriental Research Institute and Manuscript Library (ORI & ML) is an academic department of the University of Kerala which is officially established in the year 1982 and situated at Kariavattom campus, Thiruvananthapuram. Collection of manuscripts, its preservation and publication are the main functions of this library. The library has a voluminous collection of around 65000 manuscripts and most of them are on palm leaves. Manuscripts in the medium of paper, agarutvak (the bark of Amyris Agallocha), birch bark (bhurja patra), copper plates etc are also there in the collection. The manuscripts of this library cover almost all the traditional subjects like philosophy, astronomy, astrology, medicine, literature, ancient sciences, art and architecture and so on. The collection includes in variety of scripts like grantha,devanagari, malayalam,vattezhuthu, kolezhuthu, tamil, telugu etc[10]. The collection of manuscripts includes almost all Indian languages and majority of them are in Sanskrit. The scripts used in most of the Sanskrit manuscripts are grantha, devanagari and malayalam[11]. There are also manuscripts in other Indian languages like malayalam, tamil, kannada, telugu etc and a few are in foreign languages like Burmese and Indonesian. Several manuscripts are very rare, valuable as some of them does not have any copy at all and some are aged back to 600 years[12]. The National Mission for Manuscript recognized 46 manuscripts from different institutions all over India as 'Manuscript treasures of India'. The work '*Aryamanjusrimulakalpa,*' a prestigious work preserved in this library has been selected as one of the manuscript treasures of India. There are also some rare works which do not have found elsewhere. *Citraramayana, Ukaram, Uhaganam, Chandasa khanda of Prakriyasarvasam and Daivagamam Bhasa* are some of them[13]. Many such precious treasures are available in this library.

## 5. Digitization process in ORI & ML

Digitization of manuscripts in this institute, which was started in 2003, is done by the C-DIT, an undertaking of the govt of Kerala and the process is still going on. Digital archiving software named *Paithrukam* is used for the digitization. The programme is conducted with the financial assistance of University of Kerala and govt of Kerala. Over 1,80,000 folios were already digitized by C-DIT. Scanners are used to capture the images of manuscripts and those images are stored in DVD and hard disk as image files, i.e, JPEG files. Data such as title of the bundle, language, subject and a brief description of the contents, leaf number and date of the manuscript are fed in to the storage system along with the image to help the user to retrieve the information about a manuscript easily.

## 6. Objectives of the study

The major objectives of the study are given below

1. To find out different categories of users of manuscripts
2. To find out the frequency and purpose of visit in manuscript library
3. To study the problems faced by users while using manuscripts
4. To know the awareness and opinion of users about digitization of manuscripts.

## 7. Methodology

Questionnaire was used as a tool for data collection to collect information from the user group. Other than general libraries, number of users in manuscript libraries is very less. This study was based upon questionnaire distributed to users of manuscript library within a period of three months. Data was collected from 36 users from different categories. The responses of users were analyzed using tables and charts.

## 8. Analysis of the study

### 8.1. Age wise distribution of users

Manuscript collection of ORI & ML is used mainly by the Post Graduate students, research scholars and teachers from different departments of university of Kerala and from some other universities. Table shows that the users in the age group of 26-35 (38.89%) and 36-45(38.89%) are mostly using the library. Users below the age of 25 are only 5.56%.

**Table No. 8.1. Age wise distribution of users**

| Age | Frequency | Percentage |
|---|---|---|
| Below25 | 2 | 5.56% |
| 26-35 | 14 | 38.89% |
| 36-45 | 14 | 38.89% |
| 46-55 | 6 | 16.67% |
| **Total** | 36 | 100% |

**8.2. Frequency of visiting the library**

**Table No. 8.2.Frequency of visiting the library**

| Sl.No | Frequency of visit | No. of users |
|---|---|---|
| 1 | Frequently | 4 (11.11%) |
| 2 | Occasionally | 10 (27.78%) |
| 3 | Rarely | 8 (22.22%) |
| 4 | As and when needed | 14 (38.89%) |
| | **Total** | 36 (100%) |

Different from general libraries, manuscript library consist only manuscripts and by the same reason visitors are not very frequent. Table No.8.2.shows that out of total 36 users, 14(38.89%) visit the library as and when they needed. Frequent users are less, only 4(11.11%). 10(27.78%) are occasionally and 8(22.22%) are rarely visit the library.

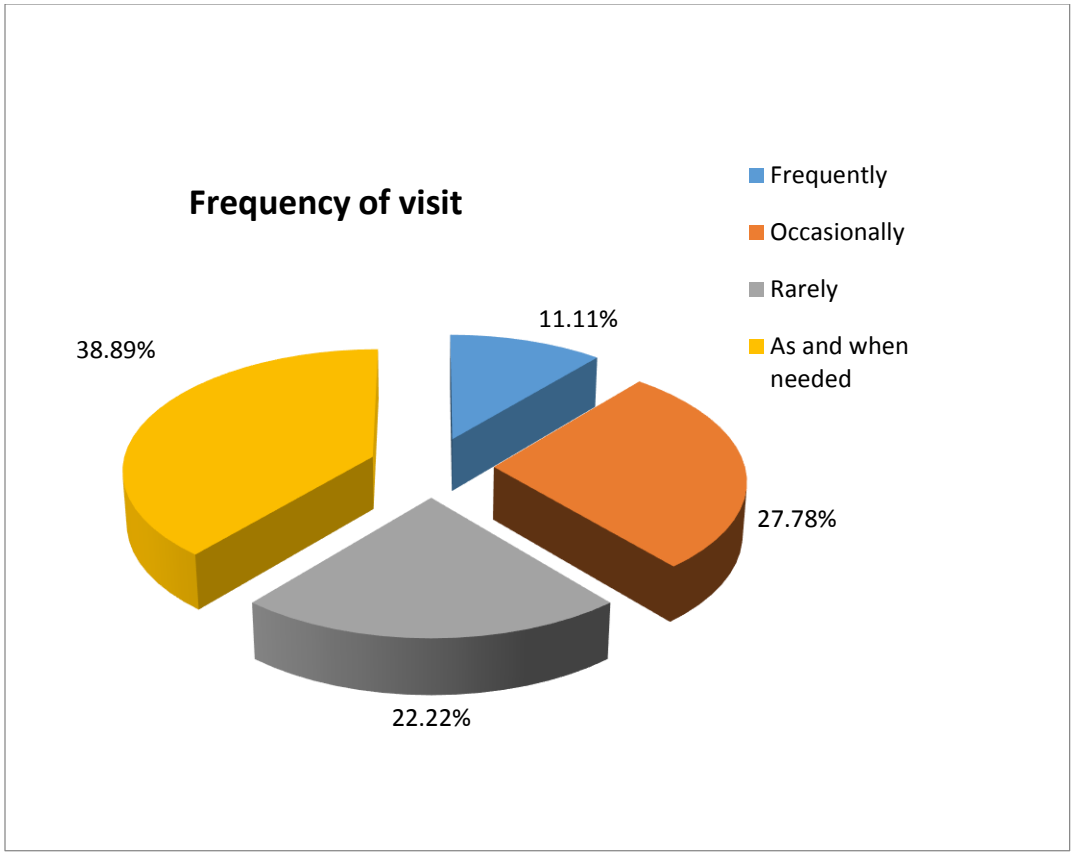



**Fig.No.8.2.showing Frequency of visiting the library**

### 8.3. Category of users

**Table No.8.3.Category of users**

| Sl.No. | User group | No.of users | Percentage |
|---|---|---|---|
| 1. | Students | 6 | 16.67% |
| 2. | Research scholars | 10 | 27.77% |
| 3. | Teachers | 12 | 33.33% |
| 4. | General public | 6 | 16.67% |
| 5. | Others | 2 | 5.55% |
| | Total | 36 | 100% |

Table No.8.3.shows that teachers (33.33%) and research scholars (27.77%) are the main users of the library and they visit the library in relation to their teaching and study respectively.

### 8.4. Purpose of using manuscript

**Table No.8.4.Purpose of using manuscript**

| Purpose | Students | Researchers | Teachers | General public | Others | Total |
|---|---|---|---|---|---|---|
| Education | 4 | - | - | - | - | 4(11.11%) |
| Research | - | 6 | - | - | - | 6(16.67%) |
| Teaching | - | - | 6 | - | - | 6(16.67%) |
| Publication | - | - | 4 | - | - | 4(11.11%) |
| Reference | 2 | 4 | 2 | 6 | 2 | 16(44.44%) |

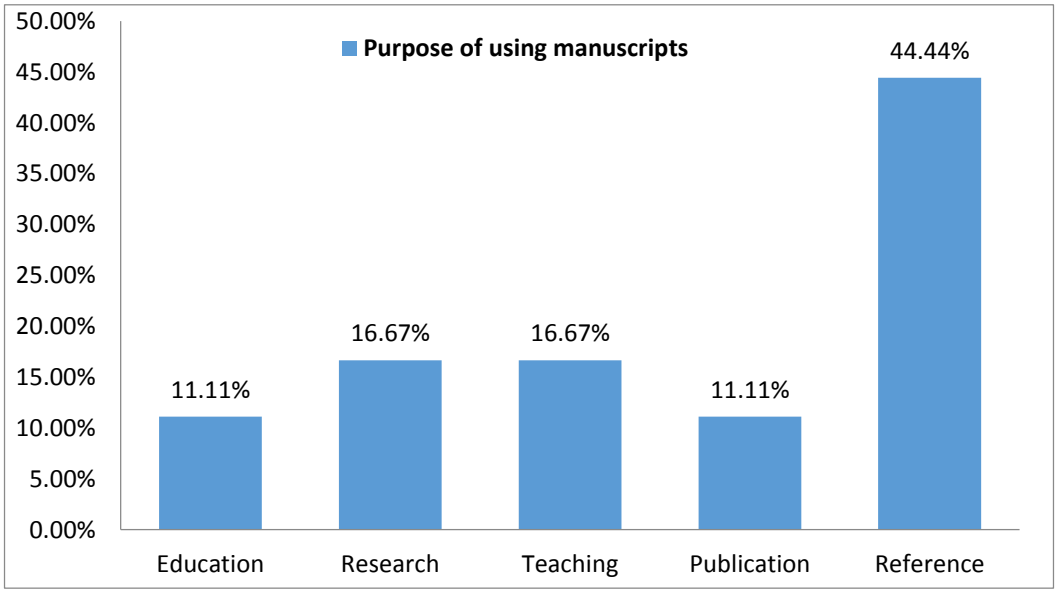



**Fig. No.8.4.showing purpose of using manuscript**

Manuscripts are used by various categories of users for different purposes. The fig.8.4 shows that 44.44% of users visit the library to refer the manuscript. 16.67% uses the library in relation to their research and another 16.67% uses the library for teaching purpose.

**8.5. Users' opinion about problems while using manuscripts**

**Table No.8.5.Users' opinion about problems while using manuscripts**

| Problems | Disagree | Neutral | Agree | Total |
|---|---|---|---|---|
| Lack of proficiency in script | 2 (5.56%) | 2 (5.56%) | 32 (88.89%) | 36 (100%) |
| No translation or transliteration services provided by the library | 8 (22.22%) | 4 (11.11%) | 24 (66.67%) | 36 (100%) |
| Not getting adequate help from the staff | 12 (33.33%) | 14 (38.89%) | 10 (27.78%) | 36 (100%) |
| No index to locate manuscripts | 20 (55.56%) | 6 (16.67%) | 10 (27.78%) | 36 (100%) |
| It is difficult to handle and read due to bad condition | 6 (16.67%) | 14 (38.89%) | 16 (44.44%) | 36 (100%) |
| Letters on manuscripts are not clear | 10 (27.78%) | 4 (11.11%) | 22 (61.11%) | 36 (100%) |

Table No. 8.5.shows that out of 36 users, 32 (88.89%) are in opinion that lack of proficiency as a problem while using the manuscripts. 24 (66.67%) are in opinion that library does not provide any translation or transliteration services. 8 (22.22%) disagree and 4 (11.11%) expressed neutral opinion. 10(27.78%) are in opinion that there is no index to locate manuscripts while 20(55.56%) disagree with it. 22 (61.11%) are in opinion that letters on manuscripts are not clear while 27.78% disagree with it.

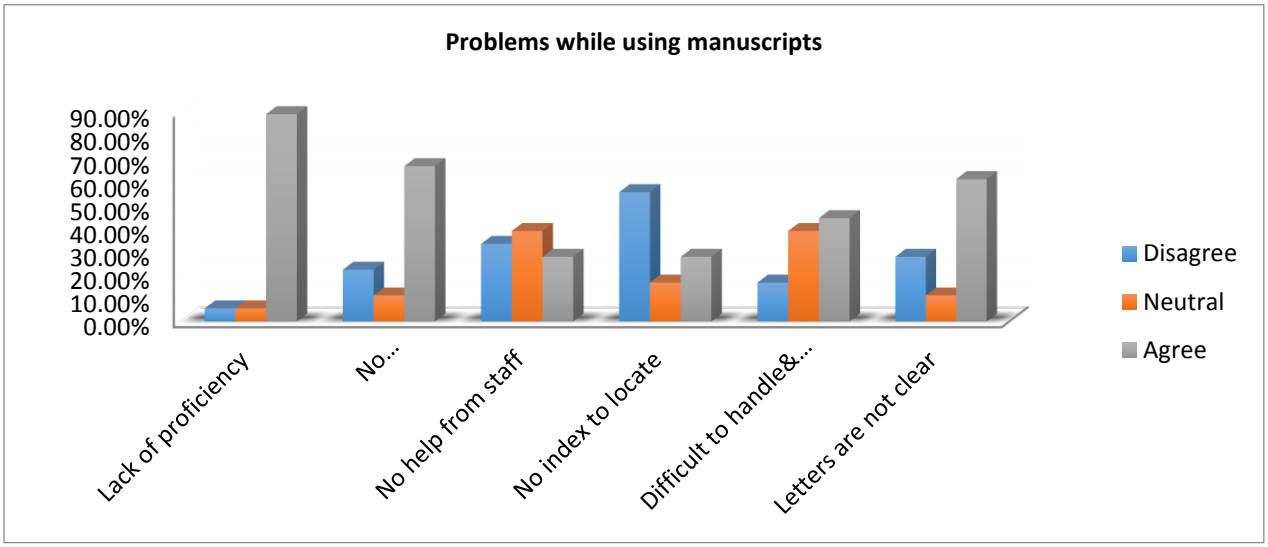



**Fig. No.8.5.Users' opinion about problems while using manuscripts**

**8.6. Users' attitude towards digitization**

**Table No.8.6.Users' attitude towards digitization**

| Sl.No | Attitude | Disagree | Neutral | Agree | Total |
|---|---|---|---|---|---|
| 1 | I am in opinion that digitization is a good method for manuscript preservation | 0 (0%) | 2 (5.56%) | 34 (94.44%) | 36 (100%) |
| 2 | I believe that digitization facilitates quick access to manuscripts | 6 (16.67%) | 10 (27.78%) | 20 (55.56%) | 36 (100%) |
| 3 | Use of manuscript can enhance through digitization | 6 (16.67%) | 14 (38.89%) | 16 (44.44%) | 36 (100%) |
| 4 | Original manuscript can protect with digitization | 0 (0%) | 0 (0%) | 36 (100%) | 36 (100%) |
| 5 | Digitization improves the clarity of manuscript image | 2 (5.56%) | 6 (16.67%) | 28 (77.78%) | 36 (100%) |

Out of total 36 users, 34(94.44%) are in opinion that digitization is a good method for preservation while 2 (5.56%) expresses neutral opinion and nobody disagree with this. 20(55.56%) are in opinion that digitization facilitates quick access to manuscripts. Only 6(16.67%) disagreed with it. All the users (100%) were agreed with the statement that digitization can protect the original manuscripts. Out of total 36 users 77.78% agreed with the statement that digitization will improve the clarity of manuscript image. Only 2(5.56%) disagreed and 6(16.67%) showed neutral opinion.

## 9. Findings and conclusion

The study reveals that manuscripts are vital and valuable sources of information and the need to protect it for present and future generation. Different categories of users, especially research scholars and teachers, are still using this knowledge content for their study and teaching. The study indicates the necessity of digitization to utilize the rare and invaluable resources. It reveals various problems faced by users while using manuscripts such as difficulty in handling and reading of it due to its fragile condition. Users opined that they have not got any translation or transliteration services from the library as most of the users are not proficient in many of the scripts. Users unanimously opined that digitization is the best available method of preservation which facilitates quick access to manuscripts, enhance the use of it and protect original to a great extent.

## References


1. Choukhande, Vaishali G. and Dange, Jitendra. (2005). Preservation and digitization of rare collection of Dr.Panjabrao Deshmukh Smruti Sangrahalaya, Amravati. *3rd International CALIBER* held at Cochin, Feb.2-4, 2005. 428-431.
2. Londhe, Nagesh; Desale, Sanjay K. and Patil, Suresh K. (2011). Development of a digital library of manuscripts: a case study at the University of Pune, India. *Program: electronic library and information systems.* 45(2).135-148. Available from http://www.emeraldinsight.com/0033-0337.htm (13January 2012).
3. Saikia,Rekha Rani and Kalita,Binita.(2011). Prospects of digitizing manuscript collections in KKH library: a model. In *8th International Caliber-2011* held at Goa University, Goa March 2-4, 2011. Ahmadabad: Inflibnet. Available from http://ir.inflibnet.ac.in/bitstream/handle/1944/1627/32.pdf?sequence=1
4. Singh, Anil. (2012). Digital preservation of cultural heritage resources and manuscripts: an Indian government initiative. *IFLA Journal*, 38(4), 289-296.
5. Pandher, Balbir Kaur. (2012). User's perception and their feedback about digitization of manuscripts and their use in Panjabi University, Patiala & Panjab University, Chandigarh and VVRI, Hoshiarpur. *International Journal of Information Dissemination and Technology*, 2(2), 117-123.
6. Abdulkareem,M.Y, Isah, Abdulmumin & Issa, Abdulwahab Olanrewaju. (2012).Challenges of Digital Preservation of Manuscripts to the Nigerian Education and Information Systems. Library&Archival security,25(2), 119-131. Available from http://dx.doi.org/10.1080/01960075.2011.570199
7. Feather, John and Sturgess, Paul. (Eds).(1997). *The international encyclopedia of information and library studies*. London: Routledge.
8. Dharade, Sangeeta. (2012). Digitization of manuscript and its accessibility central library, Banaras Hindu University: An overview. *Research Scapes: an International Multi-disciplinary Journal*, 1(3). Available from www.rgcresearchjournal.org (14.10.2014)
9. Das, Anupkumar; Sen, B.K and Dutta, Chaitali. (2005). Digitization of scholarly materials in India for distance and open learners. *ICDE International Conference* held at NewDelhi, Nov.19-23, and 2005.1-11. tamilnation.co/digital/Anup_Kumar_Das_ICDE_Conference_05.pdf (10.10.2014)
10. www.keralauniversity.ac.in/componet/content/article/97-manuscriptslibrary.html (10.11.2014)
11. Visalakshy,P. Sanskrit manuscripts in Kerala: manuscriptological and palaeographic features. *Journal of manuscript studies*, 38,124-138.
12. Shaji, P.L. (2005). Cataloguing of manuscripts, *Journal of manuscript studies*,38,49-56
13. Shaji, P.L. (2008). Peculiar manuscripts in the ORI & MSS.Library, University of Kerala. In P.Visalakshy (Ed.), S*ome aspects on manuscriptology.* (pp.93-102).Trivandrum: Oriental Research Institute and Manuscript Library.

# A "CLOUDY" GATEWAY OF THE FUTURE: LIBRARIES AND THE NEW SPACE

**Ajit Prabhakaran**[1] and **Kalyani KS**[2]

[1]Technical Officer, Indian Institute of Integrative Medicine, (CSIR-IIIM), Jammu (India),ajit_lis@yahoo.co.in
[2] Librarian and Information Asst., Anna Centenary Library, Chennai (India), kalyaks@gmail.com

## Abstract

*Libraries have gone a drastic change since its inception from chain libraries to open access and to online access. Social networking and open sources are also playing a vital role in the development of library services. Cloud computing represents one of the most important technology trends of our time. Nowadays, every day we make use of computing and information resources through a web browser powered by some distant and diffuse infrastructure. The Cloud computing continues to gather momentum and stands positioned to most radically transforming the shape of library technology. Cloud computing technology came up as a boon for libraries and is offering various opportunities for libraries to connect their services with clouds. The paper presents an overview of cloud computing and its possible applications that can be clubbed with library services on the web based environment. This study may be helpful in identifying and generating cloud based services for libraries.*

**Keyword(s):** *cloud computing; cloud implementing; information storage; computer software*

## Introduction

Still we can say that the age of cloud computing hasn't quite arrived in completely. There are still too many areas without wifi or even cellular data access. Even in well-connected areas of the metro cities, there will always be outages or circumstances where Internet access is problematic. When completely dependent on cloud-based services, interruptions in connectivity may lead to lost productivity. The number of ways, we access information is making our personal computing infrastructure very complex. While our information technology access is fragmenting, our need to access the information at any point or place is growing. This creates tension between how we are going to manage information and its availability in our day-to-day life. Of all the technology trends various authors have been writing for the last few years, cloud computing continues to gain the most inertia and stands positioned to radically transforming the shape of library technology. We are at one of those major turning points where technology makes a curve into a new vision of the mainstream. As per the user demands libraries are moving and adopting technology to place better services in the libraries, this issue offers an array of views and opinions from many prominent voices in the library technology community. Libraries being running front to adopt the latest technologies in the libraries to provide a better service with new technological tools and thus have found cloud-based technologies as a hope for their every purpose. Cloud-based technologies will avoid the use of multiple hosting servers and equipment and constantly dealing with hardware failure, software installs, up gradations and compatibility

issues. Cloud computing can enable simplified processes; achieve economy in terms of time and money. A cloud-based computing technology allows flow of data, software and computing mechanism and facilitates the fluent access from a shared, remote server. It is hugely beneficial to the institutions, libraries, and learners.

## Literature Review on Cloud Computing in Libraries

NIST definitions for the cloud computing have been cited in so many articles (2009) which states that, *"cloud computing is a model for enabling , convenient, on demand network access to a shared pool of configurable computing resources that can rapidly provisioned and released with minimal management efforts or service provider interaction".* According to (Behrend et al., 2011), *"the term cloud computing describes the software applications or other resources that exist online and are available to multiple users via the Internet, rather than being installed on a particular user's local computer". "Cloud computing has created opportunities for IT outsourcing vendors as a great deal of services associated with cloud computing such as cloud services implementation, integration, management, & support are necessary for cloud deployment"* (Dhar, 2012). Many studies were organized by various authors in different occasions on cloud computing and library services. Khan (2011) posit in his that research work on the cloud computing and its applications to libraries and how the libraries can be benefitted using cloud based environments. Pandya (2012) investigated upon the implication issues of cloud computing in libraries on the basis of strengths, weaknesses, opportunities, and threats associated with cloud computing and libraries. Goldner (2010) expressed his views with respect to cloud computing and how it is differing from the other computing. Srivastava (2011) in this article presented the vision of cloud computing and mentioned about various propriety cloud services available on the Infrastructure as-a-Service (IaaS) and found that cloud computing is changing drastically towards hardware and software for on-demand capacity fulfillment and development of web applications to make business decisions. Murley (2009) provided an overview sketch of cloud computing and listed the resources and services which may attach with cloud computing technology particularly in his law libraries and also said that cloud computing is not new for law libraries. Sasikala(2011) argued the concept of cloud computing from diverse technologists, services and models available, standards, cloud usage in government, enterprises and higher education, along with opportunities, challenges and implications are based on the past, present and future situation of the IT environments.

Goyal (2012) defined the benefits and comparisons of cloud computing services on the parameters of data security; back-up; pricing and maximum usage. Jordan (2011) expressed that cloud computing technology are integrating with libraries services and on-line services are developing on the web in order to present the library services when and where required the users by example of Online Computer Library Center (OCLC) services. Wang (2011) checked the trends of cloud computing on the basis of vast information systems available in a particular literature and also pointed out the importance of cloud computing and its implications for trainers and academics. Besides these the critics of cloud computing were observed on the major cloud-computing platforms are open enough to trust (Truitt, 2009) and suggested that new government regulations and policies are required to ensure sustainability and gather trust (Nelson, 2009) and in addition to

these issues there was another concern exist that how to back-up and achieve information located in the cloud and how to manage service in the decentralized environment. Cloud –hosting organizations have taken steps to address some of these concerns, as though Amazon and CSIR has added features to their core Elastic Computing Cloud (EC2) service, including private connectivity between cloud-servers and an organisation's network (Virtual Private Cloud).

Regardless of the concerns of the authors and the literature reviews on cloud computing indicates that cloud-computing is still a growing field in various disciples of research applications. Libraries and especially academic organisations have largely followed suit, having already migrated key services such as Open URL providers and federated and pre-indexed search engines (Fox, 2009). Libraries who are taking up this approach are doing it with some risk however PaaS and IaaS solutions tend to offer less support for these types of applications.

## What is Cloud Computing?

Cloud computing is not a new technology – it is a new service delivery model. In 1960s', large scale mainframe computer resources used to be shared by different user groups. The mainframe hardware infrastructure was costly. Multiple user were able to access the mainframe via "dumb terminals" – stations whose sole function was to facilitate access to the mainframes.

According to an article in webopedia tweeted by *Vangie Beal*, *"Cloud computing is a type of computing that relies on sharing computing resources rather than having local servers or personal devices to handle applications".* In cloud computing, the word cloud (also phrased as "the cloud") is used as a substitute for "*the Internet*," so we can say that phrase *cloud computing* means "a type of Internet-based computing," where all the functional services — such as servers, storage and applications —are delivered to an organization's computers and devices through the Internet.

Cloud computing came into existence when you think about what IT is always needed to make our task simpler. Cloud computing includes any subscription-based or pay-per-use service that stay in real time over the Internet to extends IT's existing capabilities. Cloud computing is just at the initial stage in the developing countries, with a collected crew of providers for delivering a slew of cloud-based services

Cloud computing is a transformative paradigm in information technology and may well be deemed as harbinger of the next stage in the internet revolution. Cloud computing promises to provide everything- from computing power to computing infrastructure, to be delivered as a service wherever and whenever required. Cloud computing should not be equated with internet, although Internet connectivity is one of the essential requirements. It is a subscription-based service where one can obtain networked storage space and computer resources.

With the boon of information technology, more and more services became dependent on fast computing power of computers. From accounting to railway reservations, everything became dependent on computers. At the same time more and more people started using computers. As more and more data stated generating at a faster-than-ever rate, processing large volumes of data

became a challenge. More and more computation power and processing of large volume of data became a challenge. With ever increasing demand of fast computation and a variety of services, servers were virtualized into shared hosting environments, Virtual private Servers and Virtual dedicated servers. High Performance Computing (HPC) and High Throughput Computing (HTC) became a reality. Data centers' having a large number of servers to store and process extremely large volume of data was conceptualised.

Cloud computing is not only capable of handling the above situations effectively but also it promises to deliver better-than-ever services in terms of Quality of Service (QoS) and adaptive service delivery mechanism based on customer feedback. In this cloud computing environment, the hardware and software resources are shared and hence effective utilization and increased efficiency is ensured. The web-based email accounts like *gmail; yahoo; rediffmail*, or any other email service providers take care of housing all of the hardware and software necessary to support our personal email accounts. When we want to access our email, we open the web browsers later opening the website of the service provider and log in. Our emails and all attached documents are not housed in our physical computer though we access it through a service provider.

## Understanding the Cloud

There has been a suggestion to define the concept using the name "cloud" as an acronym, standing for computing that is: "Common, Location-independent, Online, and Utility that is available on-Demand". As can be seen in Table 1, the cloud can take on various forms, including: SaaS (Software as a Service), PaaS (Platform as a Service), and IaaS (Infrastructure as a Service)

Table 1. *Variants of Cloud Computing*

| Level | Label | Description |
|---|---|---|
| User Level | SaaS<br>"Software as a Service" | Companies host applications in the cloud that many users access through Internet connections. The service being sold or offered is a complete end-user application |
| Developer Level | PaaS<br>"Platform as a Service" | Developers can design, build, and test applications that run on the cloud provider's infrastructure and then deliver those applications to end-users from the provider's servers |
| IT Level | IaaS<br>"Infrastructure as a Service" | System administrators obtain general processing, storage, database management and other resources and applications through the network and pay only for gets used. |

Source: Adapted from Rayport and Heyward.

## How is Cloud Computing Different?

The PC era was characterized by combining the proprietary operating systems and programs. With cloud computing, hardware and software's installed can run in a local environment which can be now performed on the network, in the internet cloud. Libraries have been using some cloud computing services for over a decade. Few such examples of cloud computing which is used in libraries are the online databases and union catalogs. However, a look outside libraries is warranted to better understand the value proposition of cloud computing.

## Is Cloud computing fit for Organisations?

Turning to cloud computing and libraries, are their real problems that can be solved? The answer is yes. Many of today's libraries feel constrained by limited budgets, and are stretched to deliver information services for a diverse range of stakeholders. This can leave little time for an organisation to capitalise on the full benefits of the library's technology.

A brief list of potential areas of improvement could include:

1. Now mostly the computer systems are based on pre-web technologies.
2. Systems webbed over the internet are harder and more costly to integrate.
3. Libraries store and maintain much of the data in gigabytes to terabytes.
4. Cost of storing and retrieving from cloud is minimized .
5. The hosting service providers should be reliable and helps to provide backups when it is needed by libraries.
6. Security, performance and control options should be the highlighted and expert teams of IT crew are alerted as early as possible for the restoration whenever in urgency.
7. As the concept of green libraries are on the move thus combining systems into a cloud environment will reduces the carbon footprints, making libraries greener.

## Utility Model of Computing

Computer scientist John McCarthy said, *"Computing may someday be organized as a public utility, just as the telephone system is a public utility"*, like electricity or pipe gas. Cloud computing can be organized and stored and may be produced as per on demands which can be accessed round-the-clock. Moreover, cloud services also are provided by a handful of cloud suppliers that customers are purchasing their requirements from. Cloud computing can be characterized as a utility model. For the utility model there is always a basis charge on what and how much you use is measured and there a certain measure for what you used which can be billed as per your use. As the same way your post-paid mobile bill does. The more you use, the more you pay. In an infrastructure-as-a-service model, the provider tracks the resources consumed, on the basis of the quantity of virtual servers; the number of processor cycles, database transactions, information stored in bytes and web pages requested; and the incoming or outgoing network activity.

Let's look at the arguments both for and against Cloud being seen or treated as a utility.

## In favor:

1. Utilities are made available to us at our doorsteps through a distribution network. Cloud Computing too works on the same principles. Moreover, both can have a centralized infrastructure and provide resource provisioning through statistical multiplexing.
2. Both are general-purpose technologies, a platform on which different tools, or applications, can be built.
3. Both are characterized by economies of scale, making mass production and distribution attractive, eventually leading to cost savings.
4. Both could work on a brokerage model, like in the case of cable TV, where a company can buy resources from a variety of providers and resell it to the buyers.
5. Both are vulnerable to natural disasters, like floods, volcanic eruptions, hurricanes etc, however, unlike utilities, cloud has strong disaster recovery systems in place.

## Not in favor

1. Utilities like water, electricity, gas don't have much to differentiate themselves from each other, and hence rely more on availability, service, pricing etc. However, in case of cloud computing, there is no one-size-fit-all kind of service. Need for Cloud services vary depending upon the requirement of the organization. Due to security reasons, some opt for a Private Cloud, other smaller companies choose a Public Cloud, while larger enterprises prefer to use a Hybrid Cloud model. However, the hosting needs of each company would be different from the other.

2. As already mentioned above, utilities are metered, mostly at the user's end. Based on the usage pattern and consumption, one can anticipate the charges that will be incurred at the end of the month. In the case of Cloud, although subscription models are available, absence of a standardized pricing model makes it difficult to predict final costs.

3. Finally, for utilities, there exists a regulatory body which is not the case with Cloud Computing. Rules of the game here are decided by the service providers, which are customized as per the requirements of the customers.

## How to Implement Cloud Computing

As the name suggested "cloud" computing, all the data are stored in the cloud. Thus by storing the programs and information on remote servers, libraries can reduce their overall costs and manpower. Implementation activities for a cloud solution are similar to that of an outsourced solution..

The step procedure for implementing "cloud" in libraries is listed below:

i. Build a business model
ii. Assess the risks
iii. Capture requirements
iv. Prepare an exit strategy

v. Determine contractual terms
vi. Approach the market
vii. Select a provider
viii. Plan for implementation and on-going operation

i. **Building a Business Model:**

The business model will help the libraries to determine resources requirements and performance; lifecycle cost estimation and required risk treatment measures. Libraries should consider how they would respond to business continuity and disaster recover scenarios, such as cloud service disruption or cancellation. These scenarios can later be developed into requirements and plans.

**ii. Assess the risks:**

Libraries should use the business model to undertake an initial threat and riskassessment (TRA). The PSPF states that agencies must apply a principles and risk-based approach to all areas of protective security activity across their organisation including service provider selection

**iii.** ***Capture requirements:***

The business model and risk assessment provide a basis for determining requirements. For each requirement, libraries committee should note which are mandatory and which are desirable. It may be useful for agencies to use a standard practice description, such as the IT Infrastructure Library (ITIL), to ensure coverage of requirements which relate to the management of services. The libraries should look into the following policies while considering cloud computing in libraries.

(a) *Functionality:* Functional requirements will differ according to the type of cloud service mode.
- ❖ IaaS, requirements will relate to the provision of processing unit, memory, storage and operating systems.
- ❖ For PaaS, requirements should specify both the development and operating environment.
- ❖ For SaaS, requirements will be similar to those of a non-cloud solution.

(b) ***Standards:*** While cloud-based services are not a new technology, existing technology standards, programming interface standards and data formats may need to be amended and new standards implemented where necessary.

(c) ***Manageability:*** Agencies should note that the *ICT Customisation and Bespoke Development Policy* applies to cloud-based services, particularly SaaS and PaaS where customisation may reduce the financial benefit.

(d) ***Security:*** Security is a compulsory obligation as outlined in the PSPF[Protective Security Policy Framework] and the ISM [Information Security Manual]. Agencies must determine the level of security required by undertaking a risk assessment to determine the business impact for each information set that is being considered for transition to a cloud solution.

(e). ***Compliance:*** Agencies should keep in mind their legislative and regulatory obligations to keep data confidential or guarantee it's not lost or destroyed

**Iv . Prepare an exit strategy:**

An exit strategy is critical for a cloud solution as it documents the libraries may plan to migrate records securely to another solution, non-cloud or cloud, while maintaining business continuity

***v.* Determine contractual terms:**

Prior to approaching the market agencies, libraries should determine the contractual terms they will require, even when they anticipate a standardised 'click wrap' agreement to be the only option.

**vi. Approach the Market:**

Libraries should determine the most appropriate model — for example, cloud computing, managed services, outsourcing, in-house delivery or hybrids of these — for the business problem being addressed.

**vii. Select a provider:**

Like any procurement, selecting a CSP involves verifying that the business needs and security requirements are fully addressed in the contractual arrangements and that the outcome is based on the value for money principle

**viii. Plan for implementation and on-going operations:**

Agencies will require an internal project to manage those activities which will need to be done in-house. Such activities typically include:

- preparatory work to make application and infrastructure ready for integration with the cloud solution;
- perform risk and security assessments;
- updating business continuity plans;

## Conclusion

We know that library is not only a knowledge ocean; its ultimate aim is to provide satisfactory services for all the people. So in the new era, library should improve itself constantly by adopting many latest IT technologies. And in this paper, we attempted to improve current user service. This study provides cloud computing concepts and implications of cloud based applications in libraries in order to enhance their services in a more efficient manner. No doubt, libraries are moving towards cloud computing technology in present time and taking advantages of cloud based services especially in building digital libraries, social networking and information communication with manifold flexibilities but some issues related to security, privacy, trustworthiness and legal issues were still not fully resolved. Therefore it is time for libraries think seriously before clubbing libraries services with cloud based technologies and provide reliable and rapid services to their users. Another role of LIS professionals in this virtual era is to make cloud based services as a reliable medium to disseminate library services to their target users with ease of use and trustworthiness.

# Reference


1. Beal, V. (n.d.). *Cloud Computing (the cloud).* Retrieved September 25, 2014, from Wepopedia: http://www.webopedia.com/TERM/C/cloud_computing.html
2. Behrend, T., Wiebe, E., London, J., & Johnson, E. (2011). Cloud Computing adoption & usage in community colleges. *Behaviour & Information Technology , 30* (2), 231-240.
3. Chan, T. (2009, March 16). Full interview: AT&T's Joe Weinman. (G. T. Live, Interviewer) http://www.greentelecomlive.com/2009/03/16/full-int.
4. Choukimath, P. A., Agadi, K., & Koganuramath, M. M. (21-23 March,2013). Cloud-based Services: Prospects for the University Libraries. *9th International CALIBER - 2013, INFLIBNET Centre* (pp. 1-7). Gandhinagar, Gujarat: INFLIBNET Centre.
5. Dhar, S. (2012). From outsourcing to cloud computing: evolution of IT services. *Management research review , 35* (8), 664-675.
6. Fox, R. (2009). Libraries in the Cloud. *OCLC Systems and Services , 25* (3), 156-161.
7. Goldner, M. (2010). Wind of change: Libraries and cloud computing. *BIBLIOTHEK Forschung und Praxis , 34* (3), 270-275.
8. Goldner, M. (2010). *Winds of Change: Libraries and Cloud Computing.* Ohio: Online Computer Library Center.
9. Goyal, S. (2012). A comparative study of cloud computing service providers. *International Journal of Advanced Research in Computer Science and Software Engineering , 2* (2), 1-5.
10. Jordon, J. (2011). Climbing out of the box and into the cloud building web-scale for Libraries. *Journal of Library administration , 51* (1), 3-17.
11. Khan, S. &. (2011). Cloud computing an emerging technology: Changing ways of libraries collaboration. *International Research: Journal of Library and Information Science , 1* (2).
12. Mell, P., & Grance, T. (2009). *The NIST defintion of Cloud Computing*. Retrieved October 22, 2014, from National Institute of Standards and Technology, Information Technology Laboratory: http://csrc.nist.gov/groups/SNS/Cloud-computing/
13. Murley, D. (2009). Law libraries in the cloud. *Law Library Journal , 101* (2), 249-254.
14. Nelson, M. (2009). The Cloud, The Crowd and the Public Policy. *Issues in Science and Technology , 25* (4), 71-76.
15. Pandya, M. (2012). Cloud computing for libraries: A SWOT analysis. *8th Convention PLANNER-2012. Sikkim University*, (pp. 387-394). Gangtok.
16. Parfitt, T. (n.d.). *Cloud computing for libraries – is it the right fit for your organisation?* Retrieved October 23, 2014, from Softlink: http://www.softlinkint.com/cloud-computing-libraries/
17. Patwardhan, S. (2014, March 14). *Is Cloud Computing Similar to a Utility Model?* Retrieved October 24, 2014, from KPIT Blog: http://www.kpit.com/blog/Imagine/is-cloud-computing-similar-to-a-utility-model
18. Rayport, J., & Heyward, A. (2009, March 20). *he next computer paradigm, a Marketspace point of view point.* Retrieved October 23, 2014, from White paper: Envisioning the cloud: http://www.marketspaceadvisory.com/cloud/Envisionin-the-Cloud.pdf
19. Sasikala, P. (2011). Cloud computing: Present status and future implications. *International Journal Cloud Computing , 1* (1), 23-36.
20. Srivastav, K., & Kumar, A. (2011). A new approach of cloud: Computing infrastructure on demand. *TRIM , 7* (2), 145-153.
21. Truitt, M. (2009). Editorial: Computing in the "Cloud". *Information Technology and Libraries , 28* (3), 107-108.
22. Wang, W., Rasid, A., & Chung, H. (2011). Toward the trend of cloud computing. *Journal of Electronic Commerce Research , 12* (4), 238-241.

# A STUDY ON THE RELATIONSHIP BETWEEN INFORMATION COMMUNICATION AND INFORMATION TECHNOLOGIES (ICTs)

**R. Saravana Subbu Selvan**
Research Scholar
Bharathiyar University

**Dr.S.K. Prakash**
Assistant Professor-in-Economics
DRBCCC Hindu College

**Dr.K. Sridhar**
Librairan
DRBCCC Hindu College

**Abstract**

Today Information Communication is at its peak and it is also rubbing its shoulder with sophisticated Information Technologies. There are several dimensions of its utility and relationships. This paper critically analysis various Information Communication and Technologies available during the information era and also tries to focus on the correlation between Information Communication and Information Technologies in order to analyse the outcome of its relationship.

**Keywords:** Information Communication and Information Technologies, ICT, Information era, Utility,

## Introduction

Today the world is sluggishly emerging from one of the deep and severe economic crises in decades, and business leaders, policymakers and the civil society are looking into fresh and new opportunities that can consolidate growth, generate new jobs, and create business opportunities. In this context it is obvious that information and communication technologies (ICTs) continue to rank high on the list as one of the prime and key sources of new opportunities to strengthen innovation and foster economic and social prosperity for all the type of economies. This research paper studies the complementarities between Information Communication and Information Technology and identifies several areas of its utilities. The Information and communications technology is frequently used as an extended synonym for information technology, but is a more specific term that stresses the role of unified communications and the integration of telecommunications, computers as well as necessary enterprise software, middleware, storage, and audio-visual.

## Review of Literature:

### Education:

Meaning of "Educational Technology" Words are of little interest in themselves but they do indicate changes in thinking. Once the climate of opinion is right, one may arrive at the word "Educational Technology" by different routes. One route starts from audio-visual aids! At first sight, it would appear that teaching machines could go under this heading; but those who work with teaching machines emphasise the importance of programmes rather than machinery. Hence the heading has to become audio-visual aids and programmed instruction, an odd pairing since some forms of programmed instructions use only the printed page. The new term "educational technology" suggests itself and it may be used to refer to a little beyond the use of equipments and techniques that are associated with equipments. On the other route, starting from programmed instruction, a wider conception of educational technology tends to be reached. It is difficult to keep

programmed instruction within narrow bounds. Programmed instruction begins to look as though it is a part of something larger and this is educational or instructional technology. Programmed instruction emphasises that the aims of teaching should be analysed, the methods of accomplishing them made explicit and the effects assessed as precisely as possible. These basic ideas are applicable to the systems of instruction that do not necessarily include the use of teaching machines.

The term "technology", as Ofiesh (1964) observes, implies the application of science to art. When we apply the science of learning and communication to teaching, we evolve a technology, i.e., the technology of instruction. In modern education, we can witness the impact of two forces; one, of physical sciences and electronics and the other, of behavioural sciences.

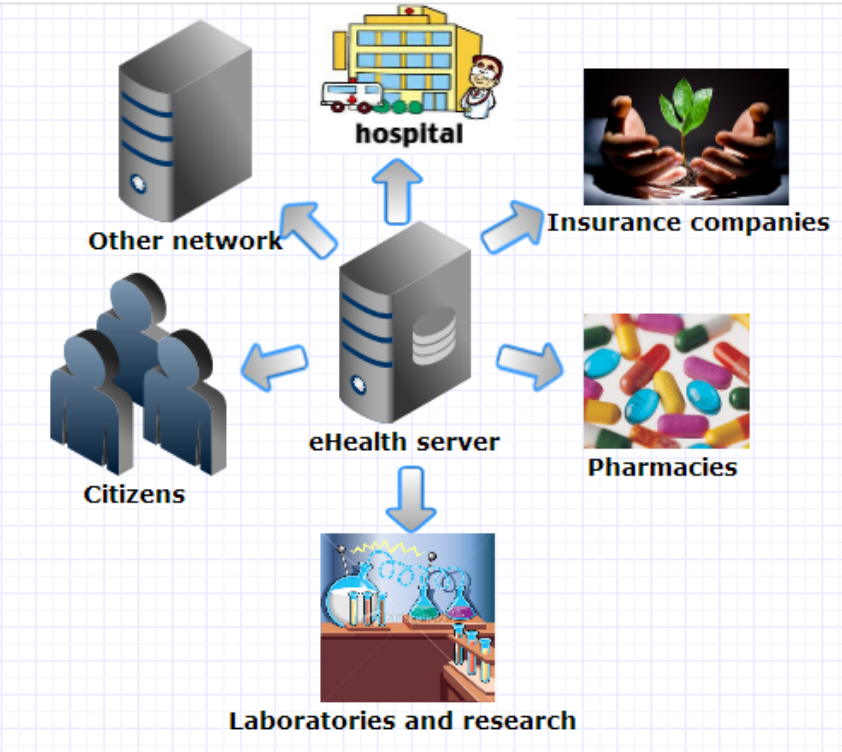
We may study the development of educational technology in three different groups of events as follows: I. 14th Century. Instruction was restricted to mouth at the initial stage and then to manuscript. It is not that the teachers of this period failed to notice the importance of individual differences or motivation. But they put more emphasis on manuscript. In the 15th century the art of printing was developed. Books were printed. However, they were mostly on topics of religion and grammar. In the 16th century, Peter Ramus introduced text-books in higher education. II. 17th Century. In the second group, we peep into the 17th century and here we see John Comenius introducing text-books for children. He produced an illustrated book in 1657—"Orbus Pictures." He wrote about a hundred text-books. But the circulation was very much limited. J. Rosseau, H. Spencer, Froebel, Pesstallozi etc. helped in changing the concept of in-~ struction and pupils. The child was put into the centre. Next came J. Dewey. He tried to introduce the scientific method in education. E. Thorndike conducted experiments and put forward the learning theories. Then came John Adam's concrete-abstract continuum, i.e, define the object—show a model—diagram and then come to the verbal description. III. 20th Century, in this century, we ,had other sciences like sound recording, photography etc. being developed and these added to the process of learning and teaching. Even electronic transmission was advancing. And all these aided the development of educational technology.

In this third group, we enter into the period of First and Second World Wars. During the First World War, the testing movement started. Binet was the forefather of this movement. During the Second World War, we could see the application of behavioural sciences to teaching and learning. In between, by 1925 Sidney L. experimented with programmed instruction. During 1938 and 1940, the concept of visual aids helped the process of learning. It thus paved the way for audio-visual education. In 1954 we got Edgar Dale's "Cone of Experience." Also during the same period, Weiner studied human engineering and also worked on the science of cybernetics. By 1950, the world had also got Instructional Theories by Bruno, Glasser etc. In 1953, Gordan Pask applied the 42 principles of cybernetics to education. In 1970, different developments took place and the concept of Educational Technology took its shape more neatly. Pioneering work in CAI (Computerised Applied Instruction) was carried out by Pask. Development of communication, system-approach, social psychology (inter-group relationship), human factor approach to behavioural science,all these contributed to the development of educational technology. So also

the audio-visual movements contributed to the development of education technology. By this it is clear how the things in the field of education changed their original shapes and formed into an altogether new one. But the question that now arose was: "Is audio-visual education different from the principles of educational technology?" process of instruction. Both these forces have contributed to the evolution and growth of educational technology.

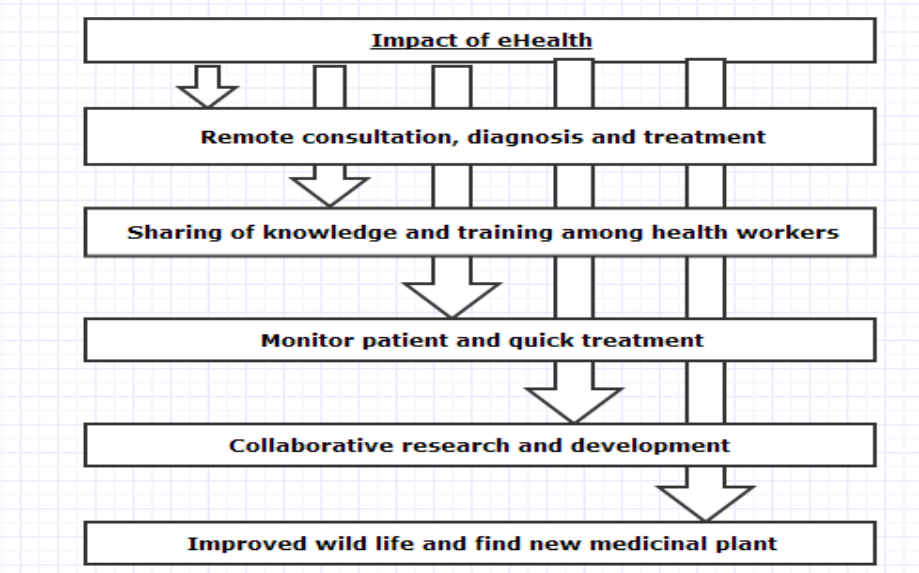
## Health

The very first application of ICT in health care was the hospital information systems (HIS) in the United States of America. One of the projects is Medinet project at General Electric followed by work at Massachusetts General Hospital (MGH) in Boston [3]. Simultaneously the work on HIS was done at LDS Hospital, Salt Lake City, Utah by Warner and at Kaiser Permanente in Oakland, California by Collen and by Wiederhold at Stanford University. The first HIS' was centralized system that used large computers (mainframes) in 60's which later evolved to modular systems in 70's and finally, after computer networks were developed, to distributed systems in 80's. Italy was the cradle of telemedicine as the medical assistance from the International Radio Medical Centre to the crews of sea going ships started here during 1935. ICT brought spectacular achievements to medical diagnostics. Two well known imaging techniques – computer tomography (CT) and magnetic resonance imaging (MRI) are based on computer reconstruction of images from management data [3]. The inventors of both techniques won Nobel prizes (Cormack, Hounsfield – 1979 (CT), Lauterbur, Mansfield -2003 (MRI).



Pictorial Representation of ICT in Healthcare System

Dispersal of E-Health Information Impacts on Major Health Threats




**History**: The very first application of ICT in health care was the hospital information systems (HIS) in the United States of America. One of the projects is Medinet project at General Electric followed by work at Massachusetts General Hospital (MGH) in Boston [3]. Simultaneously the work on HIS was done at LDS Hospital, Salt Lake City, Utah by Warner and at Kaiser Permanente in Oakland, California by Collen and by Wiederhold at Stanford University. The first HIS' was centralized system that used large computers (mainframes) in 60's which later evolved to modular systems in 70's and finally, after computer networks were developed, to distributed systems in 80's. Italy was the cradle of telemedicine as the medical assistance from the International Radio Medical Centre to the crews of sea going ships started here during 1935. ICT brought spectacular achievements to medical diagnostics. Two well known imaging techniques – computer tomography (CT) and magnetic resonance imaging (MRI) are based on computer reconstruction of images from management data [3]. The inventors of both techniques won Nobel prizes (Cormack, Hounsfield – 1979 (CT), Lauterbur, Mansfield -2003 (MRI).

## Statement of the Problem

There are very few studies found on the complementarities of Information communication and Information Technology hence this study is undertaken.

## Objectives of the Study

1. To study complementarities of Information Technology and Communication Technology via review of literature;

2. To identify the use of ICTs in the Growth and Development of the Economy with special focus on Education and Health To suggest ways to better utilise the ICTs;
3. To look into the role of New Information and Communication Technologies;
4. To understand the effect of the new media culture on youth and
5. To inquire into the role of ICTs as new forms of socialization

## Materials and Methods

The materials used for this study were secondary data collected from various publications of journals, books and reports.

## Meaning of Information Technology (IT):

Information Technology consists of two words Information and Technology. If you know the two words you can understand the word information technology together. The term ―Information refers to ―any communication or representation of knowledge such as facts, data or opinions in any medium or for, including textual, numerical, graphic Cartographic, narrative or audiovisual forms. ―Technology is the practical form of scientific knowledge or the science of application of knowledge to practical. ―Information Technology is any equipment or interconnected system or sub system of equipments that is used in the acquisition, storage manipulation, management transmission or reception of data or information

## Definition of Information Technology:

Information Technology is a scientific, technological and engineering discipline and management technique used in handing the information, it‘s application and association with social, economical and cultural matters. - UNSECO ―Information technology is a systemic study of artefacts that can be used to give form to facts in order to provide meaning for decision making, and artefacts that can be used for organization, processing, communication and application of information - Darnton and Giacoletto.

## Concept of Communication Technology

Communication Technology is also comprised of two words like ―Communication & Technology. We have already discussed that technology is the science of the application of knowledge to practical purposes. You also know that information means any communication or representation of knowledge in any form. Now we will know what communication is? ―Communication is an integral part of human existence. It is communication that decides the very identity of human beings Modern society is turning into an information society and communication is the exchange of information. It is the process & transferring information form a Sender to a receiver with the use of a medium in which the communication information is understood by both sender and receiver.

Communication Technology implies the knowledge, skills and understanding needed to exchange information verbally or non-verbally. It is processing of information in terms of

accessing information, decoding information and sending it via a medium and changer to the receivers. Medium or channel can be written or oral or gesture form of information through speech, action or any electronic machine. ―Communication Technology is the electronic systems used for communication between individuals or groups. It facilitates communication between individuals or groups who are not physically present at the same location. Systems such as telephone, telex, Fax, radio, T.V. and Video are included, as well as more recent computer based technologies, including electronic data interchange and e-mail. In short, communication technology is the activity of designing and constructing and maintaining communication system.

## The Role of New Information and Communication Technology

New ICT can be used in many different ways; some options are more relevant for and popular among youth than are others. ICT-based interaction between young people is common. Communication between friends and strangers may occur using real names or pseudonyms (virtual personalities or net identities), or anonymously. ICT are also used to obtain information and assistance in subject areas ranging from music and sports to medical and psychological issues. Young people often use ICT for identity development; some, for example, establish, maintain or join fan clubs on the Internet. The constantly expanding field of online gaming is an important aspect of young people's use of ICT.

Wider comparisons of young people's use of ICT are hindered by the fact that no relevant global statistics, let alone in-depth inquiries, are available. Compared with research on television and video viewing, statistics and studies on ICT use among children and teenagers are relatively scarce, even in countries with high levels of information technology development and use. In information-rich societies, the use of ICT by children and young people is largely uniform and appears to develop in very similar stages, with little cross-national variation.40 In the following paragraphs, comparisons involving Finland, Japan and the United States are presented. Scandinavian countries have been among the earliest owners and users of information and communication technologies and may therefore function as trendsetters for ICT development in the rest of the world. Children in information societies are surrounded by more information and communication technology than any previous generation. In the developed countries, practically every child lives in a home equipped with the basic tools of the information age, including the radio, television, telephone and, to an only slightly lesser degree, the stereo and video cassette recorder. The cell phone and the computer are central appliances of the media culture and will in time converge with digital television. In affluent countries such as Finland and Japan, the devices are used daily by increasingly younger children. In 1997, for instance, fewer than 5 per cent of Finnish 7- to 10-year-olds owned a personal mobile telephone; by 2001, the rate of ownership for the same age group had risen to 30 per cent. In 1999, 15 per cent of Finnish 15-year-olds owned a mobile phone, but by 2001 the figure had climbed to 66 per cent. In both age groups, girls are somewhat more likely than boys to own a handset. The mobile phone has gradually become part of the everyday lives of people in developed countries. It is seen as a useful object that makes life

a little easier, one that soon becomes inconspicuous and that people quickly start to take for granted. Computers are equally pervasive. In 1998, more than 80 per cent of Finnish 8- to 10-year-olds had computers in their homes, and half were reportedly using them. In 2001, 26 per cent percent of children in the same age group had computers in their rooms, and nearly all teenagers aged 13 to 19 years used computers at least occasionally; the devices were used most frequently to access the Internet, followed by gaming, writing, listening to music and drawing.

Internet use among young people in developed countries is continually increasing. The most elaborate and extensive surveys on the ICT behaviour of youth are conducted by commercial entities. According to one such survey, Internet use among 12- to 19-year-olds in the United States primarily involves e-mailing and instant messaging between friends. The next most common uses are online gaming, downloading digital music and retrieving educational resources. Young people also use the Internet to engage in online chatting and to follow sports and world events.

In a survey conducted in Finland, 8- to 10-year-olds reported using ICT primarily to access the Internet and play computer games, but also for information searches and drawing.42 One of the most striking features of children's involvement in computer activities is the surprisingly low level of school-related use. Without too much exaggeration, it can be argued that ICT and the media culture represent a world of entertainment for children and youth.
Current trends suggest that as the number of broadband and wireless connections increases and usage costs drop, and as new mobile terminal devices are produced for the market, young people's use of the Internet for all of the purposes mentioned above will rise. Internet use costs are subject to market forces; more users and more service providers (increased competition) mean lower consumer prices.

Children and youth in the developed world have taken to the wonders of the media culture like fish to water. They are able to incorporate the use of ICT into their media-filled lives with relative ease and flexibility, alongside and often in association with more traditional activities. The mere existence of ICT makes the lives of today's children and youth differ in important ways from the lives of earlier generations. The media culture and its products teach children different attitudes as well as a vast range of informal skills and information. However, children's everyday learning is often compromised and complicated by the stereotypical attitudes and cultural fantasies of a less than-ideal adult world (examples include Internet child and teenage pornography sites).

One could argue that children and youth in ICT-rich countries are currently experiencing the second stage of the media culture, characterized by two types of phenomena. First, ICT are used multimodal, which is to say that the different technologies interconnect in many ways in the lives of children and young people. Second, the technologies are becoming an increasingly important part of the everyday lives of children and young people, which has implications for the ways in which they use their time and interact with people close to them. Some have expressed

their concern that reducing human contact to calls and messages transmitted through the mobile phone may foster a sense of insecurity in children and young people. Research undertaken recently by the present author and H. Lehtimäki indicates that one-third of 8- to 10-year-olds perceive their parents as too busy.43 With older children, reach ability through the cellular network creates a situation characterized by constant (tele)presence and accessibility; mobile communication creates what one might call an extended umbilical cord between youth and their parents.

Research also shows that the home is often the place where children and parents negotiate the meaning of the media culture. In addition to everyday family matters, these negotiations often concern the limits of media use. In family interviews, the limitations are rarely described as problematic, but are instead seen as useful and necessary ways to determine the proper meaning of ICT. In other words, the negotiations are used to construct the idea of the information society in practice. In her case study of Japan, Yasuko Minoura sheds light on another social consequence of mobile communication: "The mobile phone has blurred the distinction between 'at home' and 'not at home', and parents seem to be under the comforting illusion that their children, who are still connected via the mobile, are always 'at home'."44 Minoura believes that this development threatens to render the relationships between parents and children entirely placeless and to demolish the familial social bonds that are continually constructed in the joys and sorrows, quarrels and happy moments experienced in face-to-face interaction.

## The effects of the news media culture on youth

In developed countries, children and young people tend to become involved in various leisure pastimes. In many cases, this has generated active groups of children and teenagers who are versatile in their use of the new ICT but also engage in sports and culture-related activities. What has also emerged, however, is a group of passive young people whose everyday lives are filled with television viewing, which, incidentally, is now considered one of the central factors in diminishing social capital and solidarity between people.45 Extending this idea further, the claim has been made that, in developed countries, public spaces are disappearing and life in general is undergoing a process of privatization, 46 leading to the erosion of social cohesion and trust. An examination of the power relations at work in commercial media opens up another global dimension of ICT use by children and teenagers. The content of the media culture targeted at children and young people is decided by a small number of global ICT and entertainment companies that dominate the culture industry. Although the issue is kept relatively quiet, the ICT market is revolving increasingly around children and young people. There are three main reasons for this: young people and children have more uncontrolled access to these media; they are exposed to ICT and are absorbing and acting upon new information at an ever-earlier stage in their development; and youth are becoming an increasingly important group of consumers who have

their own money and can influence their parents' purchasing decisions. The main producers of television shows for children and young people distribute their programmes worldwide, consequently, the world of children and teenagers is filling up with programmes produced for commercial gain by a handful of companies, and programmes produced locally with the support of public funding are becoming increasingly rare. The result has been an accelerating stereotyping and simplification of the global culture. This type of development can hardly be seen desirable if, instead of uniformity, the objective is to enhance plurality within children's and young people's media culture.

The centralization of television programming targeted at children and young people represents a good example of how the existence of information and communication technologies by themselves means nothing, and how the technological possibilities contained in them are not necessarily developed or put to use unless money can be made from them. The media culture of children and young people appears to constitute a microcosm of the more general homogenization of values occurring in the global media culture. Access to increased opportunity for interactivity through digital technology does not seem to be altering the technology-related wishes or use patterns of children and young people; from the beginning, games have been the true "killer" applications, first on television and computer screens and later in game consoles.

In examining young people and ICT, it is impossible to overlook the fact that the youth of today inhabit multiple worlds simultaneously. On the one hand, they are forced to struggle with a range of vastly different livelihood and adjustment issues. While some young people live in extremely poor conditions, others contemplate their identities in their bedrooms, chatting away at their personal computers. While some strive to escape the authority of parents, others look for someone to offer security and consolation.

On the other hand, the youth of today are faced with a global media culture that represents a unifying force, a type of cultural pedagogy that teaches them how to consume and act "and what to think, feel, believe, fear, and desire". 47 Many young people around the world are dreaming about living the glamorous life of a pop star or a top athlete. The global media culture, saturated with popular culture, is bumping against the world's adolescents like a pressure wave. The compulsion towards unification effected by the media culture varies from one society to another and depends on a young person's media competence and his or her power to resist outside influences.

Culture permeated by ICT creates a setting in which the traditional modes of socialization are altered and, at least to an extent, replaced with new ones. In today's world of mediated popular culture, ICT constitute a socialization force potentially more powerful than the home or school. In previous sections of this chapter, the evolution and significance of ICT have been examined from quantitative and general perspectives. However, it is important to understand that, above all, the

emergence and development of ICT constitute a cultural phenomenon. As Jennifer Light states, "Technology is not a neutral tool with universal effects, but rather a medium with consequences that are significantly shaped by the historical, social, and cultural context of its use." 48 This means that ICT should always be examined contextually or socio-historically—in this instance, as part of the changes that have occurred in the living environment of young people.

Margaret Mead's three-way division of culture based on post figurative, configurative and pre figurative socialization patterns provides an interesting opportunity for this kind of examination.49 It is worth noting here that analyses of cultural forms offer typifications and a general picture of the phenomenon, hiding from view the specific activities and practical everyday details of the culture. In addition, it must be made clear that the three cultural forms explored below do not represent a clear temporal continuum but can exist and prevail simultaneously in different parts of the world, as is the case at present.

In a post figurative culture, socialization occurs as knowledge and traditions are passed down from the older to the younger generation. In a configurative culture, people also learn from peers and organize a versatile formal education. In a pre-figurative culture, the direction of socialization changes so that the younger generation may instruct the older generation on how to function in a new cultural situation. The sheer speed of cultural change is an important reason for this reversal. In a new cultural setting, old skills, knowledge and attitudes lose their meaning. Naturally, the transformation is never complete; even in a society thoroughly permeated by ICT, post figurative and configurative cultures continue to live on through traditions nurtured by people.

Given the present cultural position of young people, however, the notion of a pre figurative form of culture acquires new importance, for its central idea corresponds with what in this chapter has been termed the global media culture.

The assumption that in a pre-figurative media culture socialization would occur exclusively in one direction, from the immaturity of childhood to the maturity of adulthood is is clearly problematic. The problem derives from the essence of culture itself. In post figurative and configurative contexts, it is possible for culture to be transmitted exclusively from the older generation to the younger. In a media culture, the situation is altered, as cultural transmission can move in both directions. The acceleration of cultural change serves as the basis for two-way socialization, making it possible for adults not only to teach but to learn from children and young people, and for children to teach each other and their parents and to learn from one another. Popular stories and narratives become part of the experiences of childhood and youth, while at the same time children and youth become part of the narratives of popular culture. This type of cultural change is one reason why the cultural practices and meanings generated by children and young people need to be listened to, read, explored and studied with particular sensitivity. As part of the living environment of children and teenagers, ICT create public spaces in which new connections

are formed between knowledge, skills and pleasure. 50 School can be seen as an institution that both upholds and reforms tradition. School is a sanctuary of closed knowledge, protecting its educational autonomy with every means available. The closed code of school can be contrasted with, for example, the open code of the Internet. For the media-savvy teacher, ICT constitute a never ending source of information and pedagogical challenges, as they provide an opportunity to establish virtual classrooms uniting school classes in different parts the world. In a progressive school ICT might serve a fundamental pedagogic purpose: to generate discussion across all barriers. The purpose should not be to persuade those who think, act and look differently to conform, but to look for opportunities for a common understanding and a better future together.

As documented in the previous sections, young people use ICT to participate in and complete various learning tasks, whether formal or informal. It is interesting to consider the unprecedented range of opportunities for learning ICT use offers young people. The literacy requirements of the media culture extend from the ability to read text to the capacity to operate and understand the meanings delivered by various devices such as compact disc and other music players, the computer, ,the mobile phone and video equipment – skills that often precede the acquisition of traditional literacy. It is possible to conceive of online chat rooms as a pedagogical forum that facilitates learning in a wide range of areas including skilled word use, interaction unattached to gender, and demarcations crucial for identity work. Sending text messages through the mobile phone produces its own media lore and in its way functions to reform the language, and the gaming culture enhances sensory and aesthetic perceptions and produces cognitive skills that have so far been studied very little but have already been identified as a means of access to the digital future. In addition, increasingly affordable computers and powerful and versatile software are enabling young people to produce their own music in self-made studios. A range of subcultures is springing up around the globe and appears to be spontaneously generating a new generation of communication.

According to Paul Willis, confidence in one's own skills and the motivation for the creative learning that occurs in the media culture arise from creative consumption and the copying of pleasure-generating cultural products.51 Learning based on the consumption of culture should be perceived as normal, and no distinction should be made between production and consumption in this context. Cultural practices are the practices of learning and learning – even in school settings – is filled with meanings linked to the media culture. According to Wills, humanity is one the verge of a new electronic folk age.

## Discussion and Conclusion

ICT can improve the health care practices in developing countries and provide expertise advice instantly on need. This technique is a bit costly by to implement but after implementation it reduces the cost of healthcare. For any technology, to be worldwide acceptable and adoptable following criteria must be considered:

1) Technology should be simple, easy to use, affordable and sustainable.
2) Implement new technologies on existing technologies.
3) Involve private sectors in the design by demonstrating benefit helps in cost sharing and enhancing the use of technique.
4) Implement revolutionary changes on existing techniques.
5) Strong need of sharing of knowledge and resources amongst the researchers and healthcare providers
6) Continue to research and bring new projects, according to the need and cost bearing ability of consumers.

## References :


1. Kulsum Umme ―Information communication Technology in Education‖ 2008, H. P. Bhargave Book Honse, Agra
2. Rao Usha ―Educational Technology‖ 2005, Himalaya Publishing House Delhi.
3. w.w.w. Geogle.com Mac millan publishing company.
4. K. Robins and K. Webster, Times of Technoculture (New York and London, Routledge, 1999).
5. U. Beck, "The cosmopolitan society and its enemies", Theory, Culture & Society, vol. 19, No. 1-2 (2002), p. 17.
6. See M. Hand and B. Sandywell, "E-topia as cosmopolis or citadel: on the democratizing and de-democratizing logics of the Internet, or, toward a critique of the new technological fetishism"
7. Society, vol. 19, No. 1-2 (2002), pp. 197-225.This term is used to refer to the informational mode of development.
8. M. Castells, the Internet Galaxy: Reflections on the Internet, Business, and Society (Oxford, Oxford University Press, 2001).


---

# Changing Role of Librarians' in Public Libraries: An overview


**Ajitha kumari V P* and Dr. A.T. Francis****

*Research Scholar: Dept. of Library and Information Science, KarpagamUniversity, Coimbatore, e-mail: kumariajitha@gmail.com
**Research Guide: Librarian& Head Kerala Agricultural University, Trissur; E-mail: francisaloor@yahoo.com


## Abstract


Computers and other advanced technology in information processing, storage and communication technologies have revolutionized the role of the libraries, Librarians and information centres all over the world. As a result of the libraries are now facing many public libraries have reported to the challenge of the electronic revolution and taken the opportunity to develop in new and exciting ways. In the digital era, public libraries are getting transformed as the open

gate to knowledge so as to exploit the digital resources to the fullest extent. They are championing e-literacy to the masses.

**Keywords:** Librarian, Skills, IT

## Introduction

The old concept of library is "storehouse of recorded documents". It has been replaced by the modern concept. Now it is known as "Information Centre". Information communication Technologies (ICT) has made tremendous impact on library and Information Services during the recent past, with the result that libraries have to perform roles drastically different from the traditional ones. To cope up with the new developments, library and information professionals have to be well acquired with the contemporary developments in the field so as to face the new challenges in the knowledge society. Also they have to acquire new skills and competencies.

## Changing Role of Library and Librarian

In the Modern World, Librarian must be experts in dealing with both physical and digital information; in changing environment it will be very difficult for the librarians to decide what should be organized? How to give citation? How to organize the collection? etc. Thus librarian has to change himself and acquire more skills and additional roles.

The role of the library professionals is adapting to changing technologies, information environment and users expectations. Library professionals are increasingly responsible not only to provide old library information services but also to distribute online information services according to the actual user needs. Librarians need to keep up with their user's expectations to survive and service them. Librarians need to become information knowledge navigators who distill data into usable information. In the 21$^{st}$ century, everyone is going through many occupational changes to face the future challenges. Information and Communication Technology has transformed the role of not only libraries but also library professional in the changing environment in which they now work. Library professional are functioning under great pressure to become more efficient to deliver more effective services to the users.

In a Public library, librarian should manage various categories of users, like students, professionals, researchers etc, librarian helps people in finding information and using it effectively for personal and professional purposes. Librarian must have knowledge of wide variety of information sources. Librarian also compile list of books, periodicals, articles and audio visual materials on particular subjects, analyze collections, and recommended materials. They collect and organize books, pamphlets, manuscripts, and materials in specific field such as rare books. Public Library has become a multi-purpose agency with multiple roles such as Community information, Support for education, Lifelong learning, Recreation and leisure, Culture and research.

## New Challenges for Library and Information Service Professionals

In a fast changing, expanding diverse global digital information environment, libraries are facing a variety of complex challenges from multiple sectors of the knowledge society in the 21st century. The major challenges are

- Information Explosion
- Information and Communication Technology (ICT) revolution
- Explosive growth and usage of web resources
- Shrinking library budgets
- Escalating price of documents
- Heightened level of users expectations for instant results
- Rise of competitors of (Commercial information service providers)
- Inadequate physical facilities in terms of space, furniture and equipment
- Inability to provide efficient and effective services with manual methods

IT offers tremendous opportunities to provide solutions to some of these major challenges now libraries are facing. IT has great potential for verities of applications in libraries as it contributes to improved quality, increased productivity, more efficient operations, and better resource sharing and effective services to users.

The following are some of important items of new technologies on which LIS professional need to seriously think about improving their competencies for their effective utilization to deliver need based high quality information services to the user community.

- ICT Trends
- Metadata Standards
- Web Technology
- Search Technology
- Digital Information Resources
- Subject Gateways
- Information Portals and vortals
- E-learning (online learning)
- Online information services
- Digital rights management

## Required Skills for Librarian in the Age of Knowledge

1. **Understanding customer need – Skills**

   If customers are to gain maximum benefit from a service, they must know how to use it. So, properly planned user education is a must for an academic library. Support systems should reflect customer's priorities. It is important to find our which services can be

automated without losing the personal touch. Getting feedback from the user is important to ascertain the quality of service. Regular users of library can be given a questionnaire to get feedback from them for improving service. The circulation desk staffs are from line staff that play a critical role is an academic library because they represent the library, first deal with inquiries crises, manage the reader interface. Public services staff must be carefully – appointed and be given periodic training to keep up-to-date.

2. **Marketing Skills**

Libraries and information centres have begun to realize that marketing of information products and services is an integral part of administration, especially as a means for improving user satisfaction and promoting the use of services by current and potential users. Three main factors, namely the information explosion the technology revolution and escalating library costs are responsible for encouraging the library profession to develop a marketing approach in its operations and services.

3. **Communication Skills (Written, Oral, interpersonal, Human/Public relations and user and user orientation)**

Communication has a great importance in providing better services to users. He information to the user he must communicate clearly and respectfully with customers and colleagues. Always demonstrates active listening skills with customers and colleagues in his workplace. Communication is not only must be effective with users only but must have ability to negotiate effectively with publishers, customers, management and vendors.

4. **Presentation Skills**

Planning the presentation involves much of the work that you're going to do before you actually deliver the presentation. Once you've done your planning, you need to consider what visual aids you're going to be using. Librarian should speak confidently, keep the head interest, and really engage with them. Finally its important that you have the confidence to interact with your head and deal with any questions that your head might throw at you.

5. **Leadership role and Managerial skills( Supervisory, Counselling, Planning, Decision making, Financial Technology Management skills)**

One primary role of librarians is to provide leadership and expertise in the design, development, and ethical management of knowledge based information systems in order to meet the information needs and obligations of the patrons .In managerial skills we include technical skills, human skills & Conceptual skills. Technical skills involve process or technique knowledge and proficiency in a certain specialized field. These skills are more important for Librarian also because library professional also dealing with a huge number of staff doing the organizations work. The technical skills involve the Librarian's understanding of the nature of job that people under him have to perform. Human skills involve the ability to interact effectively with people. Librarian interacts and cooperates with employees & staff also. Because Librarian deal directly with people, this skill is crucial. Librarian with good human skills is conceptualization about abstract and complex situations levels. Conceptual skills refer to the ability of a Librarian to take a broad and

farsighted view of the organization and its future, his ability to think in abstract, his ability to analyse the forces working in a situation, his creative and innovative ability and his ability to assess the environment and the changes taking place in it.

6. **Information Curation**

Since the primary role of any type of library is information curation, it will evolve as volume and variety of information expands. Librarians are becoming increasingly vital in the process of evaluating and editing what is the most valuable, as well as categorizing and classifying it for easy retrieval and use. Librarian must be familiar and knowledgeable about the following .

- In-Depth, High value research
- Digital preservation,
- Mobile Environment
- Collaboration, Coaching and facilitation

7. **Technology skills**
   a. Ability to troubleshoot new technologies
   b. Ability to easily learn new technologies
   c. Basic knowledge of personal computer
   d. Internet knowledge
   e. Software knowledge
   f. Hardware knowledge
   g. Networking knowledge
   h. Other computer concepts
8. **Other Skills**
   a. Traditional skills such as Acquisition, Organization, dissemination of information
   b. Knowledge /Information Management Skills
   c. Information Literacy Skills
   d. Project Management Skills
   e. Proactive information professional role
   f. Time Management Skills
   g. Decision Making Skills
   h. Controlling Skills

## Conclusion:

In knowledge based society, Librarian's role is to organize, control and manage. Traditional methods and thinking cannot meet the needs of library users in a knowledge based society. Librarians need new skills in deal with the knowledge based environment. These include knowledge management, information and computer skills, scientific and practical skills and ability to support educational programmes of different organizations. The application of IT opened wide vistas in library and information services, but provided variety of services such as email and online services, video conferencing, CD-ROM based services, multimedia information services etc. It is

sure that the existing technology based services will be continuously upgraded to provide increased efficiency and effectiveness.

As the public libraries are considered as Peoples' Universities, effective functioning of the public libraries are the back bone of any society to provide lifelong and continuing education to its people. Community information services on any aspect of life like health, education, entertainment, agriculture, industry etc. are also heavily depend on public library services. So, proper development and maintenance of the public library system in modern lines is a basic need of the society.

## References:


1. Dr. A.T Francis and Dr Susan Mathew K (2014): (V.Vineetha Davis)Teaching role of Librarian's in the internet Era.pp195-203; *Library and Web tools for E- learning and Teaching*
2. AFrancis, A.T. (1998). Integrated Agricultural and Rural Information System (IARIS): An evaluation of the existing information system in Kerala (India). In: Towards the new Information Society of Tomorrow ed by Malwad et al. Pp. 153-159, New Delhi, *International Federation for Information and Documentation.*
3. Moorthy, A.L. and Karisiddappa, C.R.(2001) in information infrastructure and use of electronic media in Indian libraries. In Role of university and college libraries in the changing information scenario, Ed by AL Moorthy and M. Sankara Reddy. *Papers presented in the first south Indian conference,*
4. Haneefa, Mohamed (2007). Application of information and communication technologies in special libraries of Kerala (India*). Library review, 56: 603-620.*
5. Emojorho, Daniel (2011). ICT and collection management in Public Libraries: A survey of south-south zone Nigeria. *Library Philosophy and Practice.1-6.*
6. Saravasthy P., Nambiar G R and Giddaiah D(2012). Changing role of the librarians in the Virtual/ Digital era. *SRELS Journal of Information Management*.V.49 (5)2012, P.495-500.
7. Dr. T. Mohana kumar; Skill development of professional librarians towards IT applications in the college libraries in Kerala. *Kelpro Bulletin V.16(2) 2012 P.34-47.*


---

# SKILLS IN EXPLORING MANUPATRA DATABASE.


Muraleedharan Pillai T V

Librarian

Govt. Law College Ernakulam


## Introduction

Law librarianship, especially the librarianship in judicial institutions is different from librarianship in any other discipline The reason for law libraries being different from other types of libraries is that they serve a profession which is literally unable to exercise its work without the use of books.

While Librarians in other organizations may convince their users to give them some time for catering to their information requirements, a court librarian has to furnish the desired information at once because the case is being argued in the Court and desired information is needed in the course of the argument. So a law librarian has to provide the information instantly without any excuse. Because of this reason, a law librarian has to be a very alert professional and must develop his or her own tools and expertise to provide the desired information instantly. Lawyers use fact retrieval for mainly three purposes .Precedent is very important in the case of law literature and hence legal practitioners have to depend on law reports for identifying the opinions having similar issues with the cases in hand.

## Electronic legal databases

Electronic resource available in the discipline of law can be classified into two categories as paid or subscription based and open access or free resources. The major paid or subscription based e – resources available are:

Hein online
West Law
Manupatra
Grand jurix
SCC Online
SCC web edition
AIR InfoTech
LexisNexis India
Legal Pundits
Chawla law finder
KLT Info tech
C D J law journal and so on
Manupatra

Manupatra is the pioneers in online legal research in India and one of the largest Internet legal database providers in India. **Manupatra** has been derived from Sanskrit word Manusmriti. The text of Manusmriti, known as **the** Laws of Manu. Manupatra provides corporate, legal, taxation and business policy content in online, CD ROM and print formats across all subjects of law. Started of as being an India centric database, today Manupatra covers case laws from US, UK, Sri Lanka, Bangladesh and Pakistan. Manupatra started its operations in 2000 with the objective of creating a single point information repository covering archives and current data on all legislative, procedural and regulatory content of India. In 2001, Manupatra launched its online legal database, its flagship product. In 2004, CD ROM based database was introduced to assist professionals with no access to the Internet to access comprehensive legal information. Manupatra also hosts an exhaustive repository of central and state statutes, notification circulars of the Government of India and other legislative, regulatory and procedural material. With primary documents and proprietary analytic content such as treaties, digests and editorial enhancements, the company has created the most comprehensive electronic legal resource available both on the internet and CD ROM. Manupatra covers all relevant case laws from 1814 until the present date including the Supreme Court and all high courts of India.

Manupatra products are used in a wide variety of end markets with users across academic, corporate, government, professionals (lawyers, CA, CS etc.), banks, consulting companies, media

houses, litigants, research organizations, NGOs and other disciplines. Manupatra is currently engaged in all forms of publications which include online legal Database, CD ROMs, Books, Journals and Mobile Apps. The online legal Database provides judgments across all subjects of law of Supreme Court, all Indian High Courts, Orders of the tribunals, bills, central and state acts, notification and circulars, ordinances, committee reports and more. Manupatra provides a combination of integrated legal research tools, comprehensive collection of primary and secondary material and design features that maximize the power, efficiency and accuracy of the legal research process, to help users get relevant and faster results. Using the sophisticated technology, Manupatra has "Googlized" legal research. At the heart of the technology is the search engine. It offers simple and intuitive search with options of single box search, field search and search using Boolean logic. Users can search globally, without having to select the database where they have to search. Alternately for specific searches, an option to identify and mark the database is available. Filters help users to navigate to the most relevant results. Hyperlinks connect users to documents that they otherwise might miss.

## Navigation

Manupatra database provides Tabs that makes navigation through the site seamless. Combined search, browse and intuitive filters help you narrow your results fast and show related documents. Search box allows you to run a search without having to select a specific source. This improves your ease of use.

## Search Interface and Results

### Legal Search

The case laws in Manupatra are divided into two fields. Each field contains specific information (e.g., appellant/respondent name, judge's name, equivalent citation, subject, judge name, citation, acts, rules, order etc). Legal search allows you to search on a specific field or a combination of fields.

Miscellaneous Searches
Case Laws by Selecting Bench
Judgments under Act/ Statute (Digest)
Case law search by case number
Search Commentary

## Manu Search

This interface gives you the single search box experience and assists you to search for key words, phrases, multiple phrases and more. You can perform Boolean search using Manu Search. Simply type in your query and the search engine uses back end algorithms to give results based on relevancy. The results can be sorted on Decision Date; Title; Court Name and Relevance

**Search in Results:** Refine your search by searching only in results.

**Proximity Search:** Near each other search is proximity search. This searches for the query terms within 20 words of each other. The occurrence may be ordered or unordered.

**Did you mean:** In case of wrong spellings in your keywords and manupatra will try and suggest you the best matching word and the suggestion will be presented as a link with corrected spellings

**Check the Synonyms box** under the search query box to include results for synonyms relating to your search query.

**Search in Search Results**

Search bar to refine your search now appears on top of your document to enable you to refine your search while reading a document. You don't need to go back to Results page to search in search results

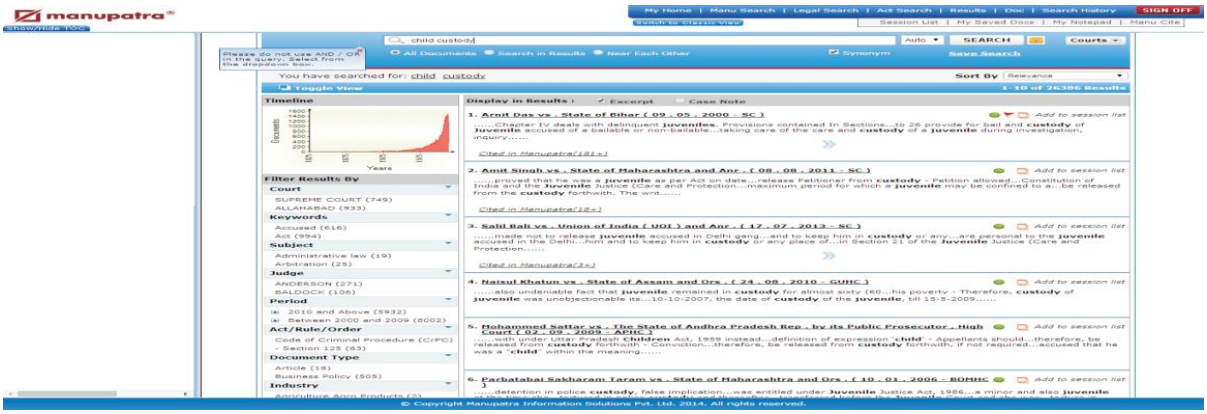
**Court Selection**

**Court Selection** in Manu Search: You can now choose to search in only Indian Courts or International Courts by making a selection from the dropdown by default (court filter is unchecked) the site will show results from both Indian and International Courts.

**Citation Search**

Manupatra has a powerful and exhaustive Citation search. While specifying all components of the citation, gets you unique result, inputting partial information of a citation also gets you results, which helps you identify the relevant document. Select from Indian Citation, International Citation Publisher's drop down menu listing about 250+ print publications. Select International citation to search for cases from US, UK, Srilanka, Bangladesh and Pakistan

## Search Results




·**Filters** Filters on manupatra give you the ability to quickly focus on the documents that are most important to you. Using filters, you can narrow a search result list by jurisdiction, keywords, judges name, acts referred etc. When you run a search query, the results are automatically clustered under various heads such as Court, Document type, Subject Judge, Ministry, Period etc. making navigation easy for the user.

You can Sort and re-sort results on Relevance, decision date, title of case and court name.·

**Add to Session List** allows saving documents for the current session to view, print or emailing directly from the session list·

**Display results** provide you with options to choose to view your result with Excerpts and Case Note·

**Timeline Graph** gives a pictorial depiction of the results, giving a quick preview of how the search results are spread across various years.·

**Toggle view** provides for viewing hit list and document in same pane, thus making browsing easier and faster.

**View document in new window** allows ease in browsing by allowing you to open documents indifferent windows.·

**Save Search** allows you to save your searches for future reference. You can give the search result a name by which you may recognize the search at a future date.

**You can MANAGE** the saved searches by selecting the search you want to run from the list You can delete or rename the selected search·

**Search in results** allows unlimited nesting option. You may narrow down the results by searching only in the results. Check the search in results button,input your query in the search box and click on refine·

**Authority Check** provides for an interactive timeline which identifies later-citing cases. It makes it easy to pick out the best cases from a large collection of results by displaying cases in an intuitive graphical format. Vertical Axis displays list of Courts and the Horizontal Axis displays year range in which case has been further cited.

·By rolling and holding mouse over a bubble, one can view extract of the case and no. of times it has been cited in future. Citation Summary shows how many times case has been cited, in total and separately in Supreme Court and High Courts respectively

**Manu Instant**

This gives a bird's eye view of editorial enhancements in the judgments. The user can view fields like Case Note, cases referred with appropriate context of reference, equivalent citations, citing reference etc

**Query Definition**

Displays the definition of the query words / phrases. Take the mouse over the search word appearingas"You havesearched for:" A popup will appear with the dictionary meaning.

## Features

**Manu Cite**

A gear like icon Settings is shown beside every manu id mentioned/linked in a document, which when clicked displays the number of times the judgment has been cited in other judgments. The treatment of the subject case in other cases is also depicted. Manu Cite when clicked from the top

bar displays a sorted view of all the manu ids mentioned in the selected judgment along with their cited count and treatment in other cases.

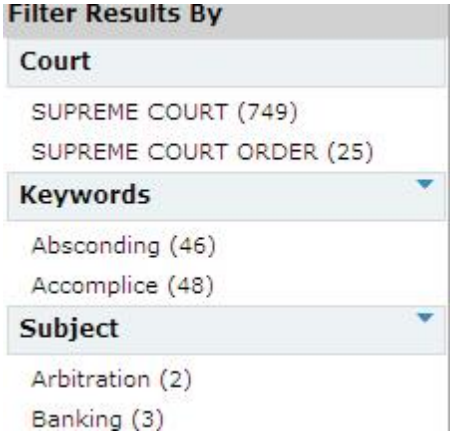
**Citing Reference Graph**

**Feature:** This feature will assist the User in knowing as to in what perspective cases mentioned in a particular judgment were treated or considered by the Court delivering judgment

**Print Replica**

Print Replica is the scanned image of the judgment as appearing in the journal with page numbers. Manupatra provides Print Replica of Judgments from over 28 Print Journals. We currently have a growing repository of 1.2 lacs judgments with print replica online. Take a print out of the print replica of the judgment and submit to the courts

## Filters




When you run a search query, the results are automatically clustered under the below heads making navigation easy for the user. Using filters, you can narrow a search result listby:·Jurisdiction/Court wise Key words Subject classification Judges name Period· Acts Referred Document Type [judgment, act, notification etc.]·Industry type· Ministry·Department,E-book·Publisher

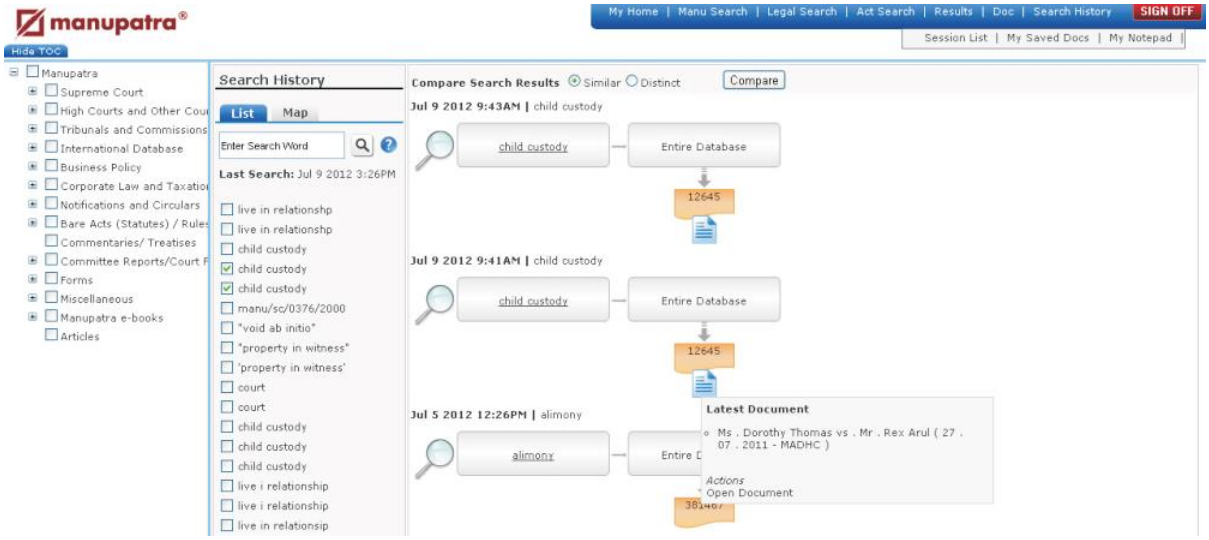
## Floating Navigation

**• Print • Save • E-mail • Go back to results • Find within Document • Go to top • Go to bottom icons**

Appear on right bottom of the page on mouse roll over. Take your cursor to the right bottom of the page for these icons to appear. No need to scroll to top of the page.

## Map

This feature assists the user to easily understand his last searches done in graphical format




**Bar chart**

Chronological listing of Bare Acts / Statutes shown on a Bar Chart. Click on the number appearing on the Bar to view Acts appearing in that year. While researching on Manupatra, the user has the option to search for information on words/phrases appearing in the documents from the web.

**Capture**

While researching on Manupatra, the user has the option to search for information on words/phrases appearing in the documents from the web.

**Manupatra word connect**

Users can seamlessly access content and resources from Manupatra ,the open web and word files on the desktop .

**Manupatra outlook connect.** Users can now seamlessly access content and resources from Manupatra and the open Web from their MS Outlook while reading or composing email.

**Store document on cloud**

Now upload any document from Manupatra to your cloud account (e.g. Drop box /Google Drive) at the click of a button

**Sticky note**

Users can now mark comments, add a note as well as highlight any portion of text while reading the judgement, as per their personal requirement, for future reference.

**My notepad**

User cans create/invite/share the note against a document. The invitation can only be sent to Manupatra's active clients.

## Alerts:

**Desktop Alert**

Manupatra Desktop Alert service is a complimentary service from Manupatra designed to help you stay connected with snapshots of legal events on all working days. It is an internet application that resides on your desktop and is managed by the server component of their platform.

**Manu Clip**

This service allows you to monitor updates on Notifications and Judgments without actually searching for them. Your results are conveniently delivered to your personalized 'manu clip' page which is unique to your sign in.

**Manupatra Search Alert**

On www.manupatra.com you can save your search and use self explanatory nomenclature to name the saved search. Now you can also set an ALERT to get results for your search query from the new documents which are added on site every day. *Eg. if you did a search for "gender justice" as a phrase and saved it under the name 'gender justice', you can now set an alert wherein, every time a new document is uploaded with "gender justice " as a phrase you will get an email alert with brief details of the document.* Download the Smart Phone Application and point your phone camera at the graphic for more details

## Conclusion

In the digital age, documents pertaining to law, available in electronic form, are critical to legal research. Electronic retrieval of legal material facilities the process of legal objective research. Law libraries have a difficult task to satisfy their stake holders in terms of legal research with online legal information systems both open access and paid.

## Reference

1. www.manupatra.com
2. www.manupatrainternational.in
3. Bharadwaj, R .K and Madhusoodhanan M.(2013) "Open access legal information sources and their use by students of National law university" Annals of Library and information studies, 60,314-319
4. Bharadwaj, R.K. (2008) "Legal Information System in Digital Age." Journal of Library and information Science, 33, 93-100

# Open Access: Role of Library Professionals in the digital Environment

Antoo K D
College Librarian
Prjyoti Niketan College, Pudukkad P O., Dt.Thrissur, Kerala-680 301.
antookd@rediffmail.com

## Abstract

Advancements in information and communication technologies coupled with the advent of internet resulted in large scale electronic publishing all over the world. Institutions even with sound financial infrastructure were not in a position to purchase all the publications which are relevant to the scholarly people for study and research. Emergence of open access facilitated more wider possibility for information dissemination and access to scholarly literature and scientific outputs. Large number of institutions began to develop their own institutional repositories and open access journals to publish their scientific research outputs through open access mode. Librarians and libraries have played and still continue to play a major role in developing such systems and support those mechanisms as information intermediaries. This paper discusses about the open access concept in general, its strategies, major initiatives and role of library professionals in the networked society.

**Key words:** Open access, OA strategies, OA repositories, OA journals and role of library professionals.

## 1 Introduction

Scholarly publishing officially began in 1665 when the first issue of Philosophical Transactions from the Royal Society of London was printed. The concept of peer review was established by this journal. That model of publishing scholarly literature continued till first open access journal "New Horizons in Adult Education and Human Resource Development" published in the year 1987. With the advent of World Wide Web and emergence of new technologies in the field of communication further accelerated the production of literature in various subjects. Lot of factors led to the emergence of open access such as developments in information and communication technologies, production of large number of reading materials, budget constraints of higher educational institutions, price spiral etc. As a solution to these problems faced by the institutions scholarly community collectively decided to start publishing the research outputs openly by which anybody sitting anywhere in the world could access freely the literature published through the network provided that there is a computer system and an internet connection for accessing the resources at the other end. Thus institutions of higher learning stated publishing their scientific research results either in open access journals or self-archiving in institutional/disciplinary repositories. This increased the usage, citation impact and visibility of their research. A study revealed that 10-15% of the published literature is through open access mode and also it is expected that 50% of the total literature will be published through open access within the next ten years. Number of educational institutions started their own institutional

repositories in which scientists can self-archive their research outputs which can be freely accessed by anyone in the world.

## 2 Definition and concept

The concept of open and closed access is familiar to us in a traditional library set up. All documents are kept under lock and key and access to them was not allowed under closed access system. But in an open access system users were allowed to browse the books in the library and free to take for issue. In the digital era closed access may mean paid/toll access to digital resources whereas open access means free access of digital information.

In 2002, the Budapest Open Access Initiative (BOAI) defined open access as the "world-wide electronic distribution of the peer reviewed journal literature, completely free and unrestricted access to it by all scientists, scholars, teachers, students and other curious minds".

In 2003, Bethesda Statement on open access publishing defines an open access publication is one meets the following two conditions:

> The author(s) and copyright holder(s) grant(s) to all users a free, irrevocable, worldwide, perpetual right of access to, and a license to copy, use, distribute, transmit and display the work publically and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship, as well as the right to make small numbers of printed copies for their personal use.
>
> A complete version of the work and all supplementary materials, including a copy of the permission as stated above, in a suitable standard electronic format is deposited immediately upon initial publications in at least one online repository that is supported by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving.

Peter Suber has given a comprehensive definition on open access: "Open access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions. What makes it possible is the internet and the consent of the author for copyright holder."

## 3 Reason for open access

The continuous increase in the price of journal subscription as been curbing the buying power of the libraries significantly. Consequently, academic libraries have been forced to cancel subscriptions or shift the budget from other areas of their budgets in order to purchase a smaller number of high priced journals. In most libraries-science, technology and medicine journals are consuming and ever increasing share of library budgets. It has been estimated that the world production of scholarly outputs has doubled since the mid-1980s, increasing the pressure on libraries to acquire more. In response to the rapidly rising prices of academic journals, research libraries have turned to site licensing as a means to increase their buying.

Most of the research carried out in universities and high educational institutions are funded by government or other agencies using tax paid by the citizens. For subscribing the publications, citizens are compelled to pay subscription charges again. On equity ground it is injustice to pay for the second time for the same thing. Therefore tax payers have the real right to enjoy the benefits of such results funded by the public money.

In the traditional model of scholarly journal publishing, the author has typically signed over all, or almost all, copyright to the publisher. In an open access model , the author generally keeps the copyright and only grants the publisher the right to publish the article, in that journal; all other rights retained. Hence, in some ways, an author has more control in and OA situation than in the traditional environment, for example to reuse their own work to distribute to their students.

## 4 Open Access strategies

There are two approaches to open access namely, golden and green routes. The golden route refers to publication of scholarly articles in open access journals. OA journals perform peer review and then make the approved contents freely available to the community over the web. Peer review is defined as obtaining advice on individual manuscripts from reviewers expert in the field who are not part of the journal's editorial staff. Open access journals are scholarly journals that are available to the reader without financial or other barrier other than access to the internet itself. Some are subsidized, and some require payment on behalf of the author. Their expenses consist of peer review, manuscript preparation and server space. Subsidized journals are financed by an academic institution or a government information center; those requiring payment are typically financed by money made available to researchers for the purpose from a public or private funding agency, as part of a research grant.

The green road/route refers to self-archiving of digital documents in openly accessible institutional or subject based repositories. Self-achieved texts include preprints, post prints, research reports, conference proceedings, monographs etc. Self-archiving can be defined as the deposit of a digital document in a public, free access repository, for example an e-print archive. An e-print archive is a collection of digital peer reviewed research documents such as book chapters, articles, conference papers and data sets. The term e-prints include both preprints and post-prints. Preprint is the draft before refereeing and publication. The refereed, accepted, final draft is called a post print.

OA repositories or OA archives do not perform peer review, but simply make their contents freely available to the world. They may contain un refereed preprints, refereed post prints, or both. Archives may belong to institutions such as universities and laboratories, or disciplines, such as physics, economics and other subjects. Authors may archive their preprints without anyone else's permission, and a majority of journals permit authors to archive their post prints. When archives comply with the metadata harvesting protocol of OAI, then they are interoperable and users can find their contents without knowing which archives exist where they are located or what they

contain. There are number of open source software such as Dspace, Fedora, E-prints for building and maintaining digital repositories.

## 5 Open Access Registries

Registry of Open Access Repositories (ROAR): http://roar.eprints.org/ At present 3915 repositories are registered in total in the registry which deal with different subjects. There are 98 institutional repositories registered in open DOAR from India in which there is only one repository in Library and Information Science. We can browse the repositories by country, year, repository type, institution Association and repository software.

Directory of Open Access Repositories (Open DOAR): http://www.opendoar.org/ Open DOAR is an authoritative directory of academic open access repositories. It lets us to search for repositories or search repository contents. Open DOAR has also been identified as a key resource open access community and identified as the leader in repository directories in a study by John Hopkins University.

Directory of Open Access Journals (DOAJ): http://www.doaj.org The Directory of Open Access Journals (DOAJ) is a list of peer-reviewed open access journals, vetted by librarians at Lund University. As on December 2014, there are 10,100 journals listed in DOAJ. Out of 10,100 journals 6004 journals are searchable at the article level. These journals are from 136 countries of the world, and published in a number of different languages. All the journals and articles in DOAJ freely available online. The aim of the DOAJ is to increase the visibility and ease of use of open access scientific and scholarly journals, thereby promoting them increased usage and impact. The DOAJ aims to be comprehensive and cover all open access scientific and scholarly journals that use a quality control system to guarantee the content.

## 6 Institutional Repositories

Various Indian Research and Development institutions have initiated open access publishing with the view to improve access to research literature worldwide. This of course had increased the visibility and reach of Indian research literature to the world community.

**ePrints@IISc**.The first Institutional Repository endeavor to be successfully implemented in India is the e-prints repository of research outputs from the Indian Institute of Science, Bangalore. The archive is maintained by National Center for Science Information and it supports self-archiving by IISc's Scientists of research publications and supports metadata for browsing and searching through subject, year, author, e-print type and by the latest edition. It has a collection of 38,350 publications as on 20.12.2014 which are growing. Not all publications are for open access, some of the publication can be accessed by registered users only, and others are linked to publisher's websites. This archive can be accessed by anybody, but submission of documents to this repository is limited to the IISc research community only. ePrints@IISc repository is running on E-Prints open archive software, a freely distributable archive system available from eprints.org.

**etd@IISc** is the digital repository of Theses and Dissertations of Indian Institute of science, Bangalore, India. We can search, browse and access theses and dissertations from this collection. This repository has been developed to capture, disseminate and preserve research theses of Indian Institute of Science. It complements ePrints@IISc, the research publications repository of IISc. This repository has 2336 electronic theses collection at present mainly in the area of Science and Technology.

INFLIBNET is doing marvelous job in strengthening OA movement in India. It is offering platform for Indian Universities to host their journals on their server through open journal system (OJS). Open journal system is a journal management and publishing system that has been developed by the Public Knowledge Project through its federally funded efforts to expand and improve access to research. Currently there are sixteen journals being available of which five as ICSSR journals.

In addition to this INFLIBNET is also offering Shodhganga, the ETD repositories of Indian Universities under open access. The Shodganga@Inflibnet centre provides a platform for research students to deposit Ph.D. theses and make it available to the entire scholarly community in open access. The repository has the ability to capture, index, store, disseminate and preserve ETDs submitted by researchers. At present 27,206 Ph.D. theses from various Universities are uploaded in the repository which can be searched on different access points.

Vidhanidhi National E-thses repository (http://www.vidyanidhi.org.in) is a project of Mysore University which acts as a national repository for e-theses of Universities which do not have resources to manage their own repositories.

IIA repository http://prints.iiap.res.in/
Indian Institute of Management Kozhikode, Dspace@IIMK, Management discipline
Indian Institute of Management Kozhikode, Eprints@IIMK, Research papers and articles.
Indian Institute of Technology, Delhi, Eprint@IITD, http://wprints.iitd.ac.in/dspace, Engineering Sciences.

## 7 Subject/disciplinary Repositories

E-prints in library and Information Science **(E-LIS)** ( http://eprints.rclis.org/)

E-LIS is an international open access archive established in 2003 in the field of Library and Information Science and related disciplines. E-LIS is the largest repository in Library and Information Science (LIS) and is managed and maintained by an international team of library experts working from different countries on a voluntary basis. E-LIS within a decade after its establishment, the collection has reached about 15,000 documents which consists of books, theses, research papers and presentations. E-LIS is the first international e-server in the subject area and is part of the Research (RCLIS) project.

The purpose of the E-LIS archive is to make full-text documents visible, accessible, harvestable, searchable and usable by any potential user with an internet connection. It also aims to support individuals who wish to publish their works available world- wide. Works can be deposited in any language and format; authors can self-archive them which helps to maximize the visibility and accessibility of refereed research, and hence to maximizing its usage by researchers and enhancing its impact on research. The E-LIS archive is presently supported by AIMS (Agricultural Information Management Standards) the web portal managed by the food and Agricultural Organization of the United Nations.

**Digital Library of Information Science and Technology** (DLIST) is a cross institutional, subject based, open access digital archive for information sciences including information systems, museum informatics, records management and other critical information infrastructures. Researchers and academics create content that includes published papers, bibliographies, bibliometric data sets, reports and dissertations.

**Librarian's Digital Library** (LDL) http://drtc.isibang.ac.in This digital library was Developed by documentation Research & Training Centre (DRTC) under Indian Statistical Institute, Bangalore. This is a subject based repository providing access to publications in library and information Science. It is based on DSpace open source software platform which contains full text of articles/papers, conferences, multimedia and theses submitted to DRTC.

**Arxiv**: http://arxiv.org/ over 360000 preprints in Physics, Mathematics, Computer Science, and Quantitative Biology. Arxiv is the oldest and best-known of the open access archives. Physicists have long had a tradition of freely sharing their preprints.

**Repec**: http://repec.org/ Research papers in Economics-over 375000 items are available. RePec is a project managed primarily by a group of volunteers from around the world. Economists have a long tradition of free sharing of their working papers.

**Pub Med Central**: http://www.pubmedcentra;.nih.gov/ The activities are coordinated by the U. S. National Institute of Health, Pub Med Central provides free access to medical literature, and also provides the kind of preservation/ archiving service for the medical literature that has traditionally been provided by the U. S. National Library of Medicine.

**OpenMed@NIC** is another subject specific repository of Indian Medlars Centre (IMC) which caters to the information needs of the Indian Medical community. It is a collection of biomedical literature having features of MESH classification and RSS feeds.

## 8 Open Access Journals

Many publishers in India also adopted open access philosophy in par with other publishers in foreign countries to publish their scholarly journals through open access mode. There are fully open access journals, and hybrid journals with some content open access and other content toll access.

**Medknow Publications**: (http://www.medknow.com/journals.asp) Majority of the Medknow journals provide immediate free access to the full text of articles. Authors can self-archive their published articles. Most of their journals do not charge the author or author's institution for article submission, processing or publication, the costs of publishing are borne by the society or institutional owner of the journal (Platinum open access). 73 journals

Indian Medlars Center, National Information Centre: (http://medind.nic.in/ 40 journals

Indian journals.com: (http://www.indianjournals.com) 24 journals

Indian Academy of Sciences: (www.ias.ac.in/pubs/journals/) 11 journals

Indian National Science Academy: (http://www.insa.ac.in) 4 journals

## 7 Advantages of Open access

1 OAP enables us free access of publications without paying a single rupee.
2 Quick and speedy peer review is made possible through online mechanisms.
3 The period of publishing process is reduced in the case of open access publishing as compared to print publishing.
4 Leads to highest usage and citations
5 OAP makes possible accessibility of the publication immediately after publication through internet all over the world.
6 Liberal licensing mechanisms such as creative commons encourage or GNU free Document License encourage reuse of work with or without modifications crediting the original author.
7 Open access enhances research impact. The easier it is for people to find and read an article, the more likely it is that the article will be cited.
8 Greater societal benefits may result from the fact that OA reduces the digital divide, increases transparency and accountability, levels disparities and facilitates participation and results in better informed citizens.

## 8 Role of librarians

Librarians should develop enhanced search and discovery skills. They need to possess the knowledge in the field of information technology i.e computer networking, information analysis, internet surfing techniques, digital sources and information about various websites. Continuing education programs have to be attended by librarians in the digital age in order to understand the changes taking place in the library and information field. The skills and competencies for information professionals are to be outlined, along with challenges that they have to face in developing sustainable models for open access repositories. Learn about the availability of various types of open access journals, digital repositories and select those sources which are useful to the ones own user community.

Present day librarians have assumed additional roles and responsibilities with the arrival of digital resources. Invisible resources in the databases cannot be identified and accessed by most of the users even the scholars without the help of an intermediary. Therefore librarian acts as an intermediary between the people and information. It is the responsibility of the library professionals to tell the patrons about the DOAJ and open access archives and help the users to find open access resources. The main role of a library professional is to provide information service to the user community. In a networked environment users may not be aware about the new publishing models, sources of digital information, digital repositories, open access journals etc.

Librarians serving in universities and other academic institutions can take initiative to build digital repositories using open source software such as Fedora, Dspace, Eprints etch for the purpose of archiving the publications of faculty members, researchers and students. It easier for Librarians to build collections since we are familiar with meta data creation. We can extend help to start an open access journal by which we could promote visibility of the research output of the institution to a worldwide audience. In academic institutions, many faculty members or research scholars publish articles regularly. They may be requested to provide a soft copy of their articles to the library and this information can be added to institutions collection. This is called born digital. Various types of valuable resources will be available in the institution for content creation. These sources of information can be converted into digital media by scanning the materials.

Arrange periodic training programs to the users of the institution regarding the benefits of the open access resources. People need to have access to computers, the internet, and literacy skills to take advantage of this freely available knowledge. The areas in which training is given would include not only the use of electronic primary journals from many different publishers, but also the use of abstracts and indexes databases, databanks, CD-ROM publications, document delivery services, and electronic short loan facilities for reading–list materials. The training also must include regarding search strategies, search tools, imparting information search skills, awareness of resource constraints and alerting users on the new resources in their subject area.

Educate policy-makers authorities about the benefits of open access and publishing models. Sponsor workshops on open access, archives or journal publishing. Large number of information sources are available through World Wide Web. Only few users are know where they exists and how to make use of these sources of information effectively and efficiently while most of the users are not aware of these information source and their access.

When talking with faculty and students at the reference desk, or in an information literacy session or scholarly communication workshop, it is important to know that they may have reservations about open access based on misconceptions about what open access is, and with little or no knowledge of either the benefits of open access, or the disadvantages to scholarship of the ongoing crisis in scholarly communication. There are faculty members who are skeptical about online journals, and think that only print journals. There are a number of potentially useful strategies in this type of situation, such as pointing to the possibility of publishing in a quality print

journal and self-archiving for open access, discussing the benefits of online journals over print, addressing concerns that the faculty member may realistically have about the online environment, such as preservation and ensuring ongoing access, and pointing to high impact open access journals.

## Conclusion

Open access is a major emerging trend in scholarly communication with significant opportunities for new roles and avenues for librarians to build institutional repositories. They have been strong advocates of open access and educating faculty and researchers. It is essential for the librarians and information professionals to adapt the digital environment by improving their skills and expertise in handling digital information. The librarian should be trained in new innovative ideas and techniques for the implementation of new methodologies for accessing electronic resources. With the creation digital resources the importance of material resources and the library has been comparatively decreased but the role library professional to play to provide information resources from the web has been increased tremendously. British Library and Sage Publishing house jointly published a report on "moving towards an open access future: the role of academic libraries" in which library professionals from different countries indicated that the concept of individual library is changing from the library to the Librarian: the information professional will be the library of future.

## References


1. Bethesda Statement on Open Access Publishing (2003). Retrieved October 30, 2014. http://legacy.earlham.edu/~peters/fos/bethesda.htm
2. Babu, Satish (2011). Open Access Publishing: A Compelling imperative for Scholarly Publishing. Retrieved: October 30,2014 from http://www.icfoss.in.oap.pdf
3. Bist, Rajender Singh and Mohanty, V Patnaik. Open Access Movement and Open Access Initiatives in India. Retrieved: October 9, 2014 from http://www.ir.inflibnet.ac.in/bitstream/1944/1227/1/236-246.pdf
4. Budapest Open Access Initiative (2002). Open Society Institute. Retrieved October30, 2014 from http://www.soros.org/openaccess/read.shtml
5. Chakravarthy, Rupak. (2013). Open Access Strategies: New Paradigms for Scholarly Communication. In Chandrakanta Swain, Sunil Kumar Satpathy and Bijayalaxmi Rautaray (Eds.), Strategic Issues in Library Management. pp.223-236P. New Delhi: Avon.
6. Harris, Sian (2012). Moving towards an open access future: the role of academic libraries. Retrieved: October 9, 2014 from www.uk.sagepublication.com/repositories/binaries/pdf
7. Morrison, Heather. Open Access for Librarians in Developing Countries. Retrieved: November 17, 2014 from http://eprints.rclis.org/7757/1OAdeveloping.pdf
8. Nagaraj, Vaidya. Open Access Journal Publishing in India: A study with OJS software. Retrieved: December 20, 2014 from http:// www.Inflibnet.ac.in/caliber2009/caliberPDF/60.pdf
9. Open Access Journal System. INFLIBNET. Retrieved October 30, 2014 from http://www.inflibnet.ac.in/ojs

10. Raman Nair, R (2010). Open Access Initiatives and E-LIS Archive in Library and Information Science. Retrieved: December 19,2014 from http://eprints.rclis.org/13301/1/2010sewa.pdf
11. Robbio, Antonilla De and Imma Subirats Coll (2014). E-LIS: Unique model for subject specific open access repository. Informatics Studies, 1(1), 8-29.
12. Shodhganga.Indan ETD repository @ INFLIBNET: Home. Retrieved October 30, 2014 from http://shodhganga.inflibnet.ac.in
13. Suber, Peter (2004). A Very Brief introduction to Open Access. Retrieved: November 17, 2014 from http://www.earlham.edu/~peters/fos/overview.

# Strategies and Role of Library Professional for Providing Open Access Resources:

## A study with respect to schools under BRC Thrithala, Palakkad Dist.

SUREKHA K.R.*& REKHA .A. MENON**

*Librarian, DIET, Palakkad, Anakkara

** Librarian.,Karuna College of Pharmacy, Thirumittacode.

## Abstract

What role does the school librarian (professional librarian, teacher or volunteer)undertake in the school? Is there a link to good teaching practice and achievement?To what extent do the different backgrounds of the staff responsible for managing the school library and its resources limit or increase its effectiveness as a learning resource?There is a link between the role of the school librarian and good teaching ractice and achievement. There is evidence that school librarians who take a professional and proactive pproach to their role within the school can cite evidence of their impact on teaching and learning. There has to be a continuing research into staff development of primary teaching staff which will give a clearer ndication of whether library provision can be effectively delivered without on-site librarian input.

## Introduction

School is something all of us have to go through, it is the formal education we need to receive in order to be able to have a place in society. Although there still can be found a lot of faults in the way education is implemented, there are a lot more benefits, and what each and every one of us does with that education is much more important. So what does education start with? To answer that, we have to answer another question: what is elementary school?

Elementary school is the first stage of education, which means it is an essential step in children's education. Here is where they form some of their first values, and where they are introduced to basic knowledge that they'll use for the rest of their lives. Because most children learn to read and

write at this stage, it is very important for every school to have an elementary school library. This is do that the children can be encouraged from an early age to read and study, and to realize that knowledge is more valuable than anything else. The habit of reading, and the pleasure of reading a good book should be discovered early on, and this is how they become part of who we are.

At such an early stage, there are little differences between children, and even when they notice some differences, children don't place as much emphasis on them as we adults do; on the contrary, they seek the similarities, and become friends based on them. In that regard, there will be little differences between a rich child and a poor child, at least where behavior or intelligence are concerned. And if the children learn good values at this age, they will grow up without needing to discriminate. The **elementary school library** can be a good environment for that; it makes children rich in knowledge and education, and it can create a healthy competition.

The reason why the elementary school library is a subject to be debated is that not all schools have them; although all schools have libraries, not all of them are prepared to meet the needs of very young children. So even if they would want to read, there would be nothing to attract them, nothing at their level of interest and education. Without this incentive, lots of children never get the reading bug, and later on when they are forced to read books, don't enjoy them. Another reason why an elementary school library is important is because it can erase social differences; a child with well-to-do parents can get them to buy books for his/her age, but a child whose parents don't have the material means won't be able to satisfy these needs.

Thus, even if the two children go to the same school, the first will get a much better education because they had better access to books and information. The **elementary school library** will make those differences disappear because it will give both children access to the same information and the same books. In poorer communities, the library can be a very important hub, because children can come and do their homework with the books they find there. Moreover, today the library can also offer access to computers and internet, and even though they are sometimes abused, they can also be an important source of learning.

The conclusion is that all schools should have comprehensive and complete libraries; it is true not all of them can afford it, but the school system should place an emphasis on it and utilize some of its budget to improving the situation.

## School Libraries

Libraries have been identified as one of the key elements for open access to information, which is crucial to educational development. Public and institutional collections and services may be intended for use by people who choose not to — or cannot afford to — purchase an extensive collection themselves, who need material no individual can reasonably be expected to have, or

who require professional assistance with their research. In addition to providing materials, libraries also provide the services of librarians who are experts at finding and organizing information and at interpreting information needs

School libraries serve elementary schools, middle schools, junior high schools, and high schools. The main function of a school library is to support various educational programs and to develop students' skills in locating and using information. Teachers use school libraries to access information needed to develop and support their classroom instruction. Students use the materials in school libraries to perform their class work. School libraries usually maintain collections in a variety of media. In addition to books, magazines, and newspapers, school libraries may contain photographs, films, sound and video recordings, computers, CD-ROMs, games, and maps. Some school libraries contain*realia,* or real artifacts such as various types of stones for the study of geology. An increasing number of school libraries have computer labs with computer workstations, software, and Internet connections. Because school libraries often emphasize the variety of media in their collections, they are sometimes referred to as *library media centers.*Most school libraries further enhance their collections by becoming members of school library networks; this allows them to share resources with libraries in other schools.

## Librarian/Information Professional's Role in Education

- They are partners in educating individuals, developing curricula, and integrating resources into teaching and learning
- They teach the skills individuals need to become effective users of ideas and information
- They seek, select, evaluate, and utilize electronic resources and tools and instruct individuals and educators in how to use them
- They select resources to meet the learning needs of all individuals
- They assure that technology, teaching, and learning are integrated seamlessly
- They select resources that support learning standards
- They select resources that enhance leveled collections
- They provide imaginative materials that promote learning motivation
- They provide for free voluntary reading, individual reading selection and reading guidance
- Manage information by providing intellectual and physical access to information in print, media, and online resources, either local or web based
- Collaborate with educators to meet the intellectual needs of individuals
- Collaborate with lecturers, teachers, educators regularly to provide resources and activities for course, unit, and lesson integration
- Assist educators and individuals to search out their information needs, critically evaluate the materials they locate, and use technological means to synthesize their findings into new knowledge
- Organize, manage, and maintain a collection of valuable resources

- Maintain a supportive and nurturing environment in the library and network environment to increase individual satisfaction and achievement

**BRC**

**Academic support & supervision**

The responsibility of BRC-C/NPRC-C is not to pay visits in schools to find faults but in fact, they have to go to schools for providing academic support to the teachers. Therefore during training workshop, efforts were done to make them realize that they are not inspectors but guide and friend to teachers. They do not have to conduct academic inspection of schools but conduct academic supervision visits to schools. They were made to understand that for effective academic supervision it is necessary that they stay in a school for a full day and participate in school activities. They must also organize different educational activities like organizing Bal Sabhas; holding classes, organizing competition; **maintenance of school library**, science kit, laboratory, etc.

*The block resource Centre (BRC) at* schools were made to understand that for effective academic supervision it is necessary that the *block level and Naya panchayat Resource Centre (NPRC) at cluster level provide regular academic support, conduct teachers training, follow up workshops, meetings and opportunities for peer learning as well as sharing of good practices.*

*Under Basic Education Project, DIETs have been entrusted with the responsibility of improving the quality of education and speeding up the educational activities at district level. The Block Resource Centre at block level & Nyaya Panchayat Resource Centre at NPRC level have also been set up with the sole aim of providing academic support & guidance to teachers & schools and to significant role in the management of wide variety of quality improvement interventions at school level. Under the Project, NPRCs are nothing but school clusters as envisaged by Kothari Commission.*

**School improvement is considered an integral part of the work of the BRC and CRCs.**

## Relevance of the Paper.

The relevance of this paper lies in the understanding that though the BRC's have a thought for the library service in schools, the facilities provided are very poor. To bring to light these under rated facilities, we conducted a survey of 15 schools under the Thrithala BRC.

## The Schools identified for this survey were:

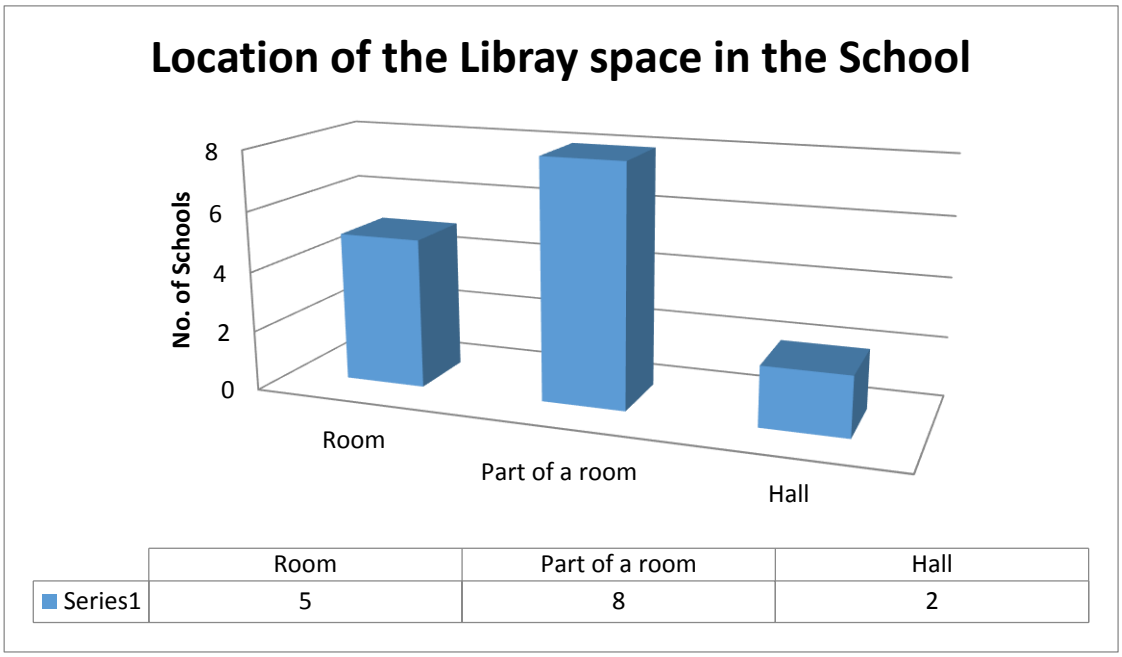
| | |
|---|---|
| 1 | DIET Lab Anakkara |
| 2 | GVHSS Vattenad |

| | |
|---|---|
| 3 | AUPS Malamakkavu |
| 4 | AMUPS Alur |

| | |
|---|---|
| 5 | GHSS Challissery |
| 6 | AUPS Irumbalassery |
| 7 | GUPS Kudallur |
| 8 | AUPS Njangattiri |
| 9 | GHSS Mezhathur |
| 10 | MCMUPS Trithala |

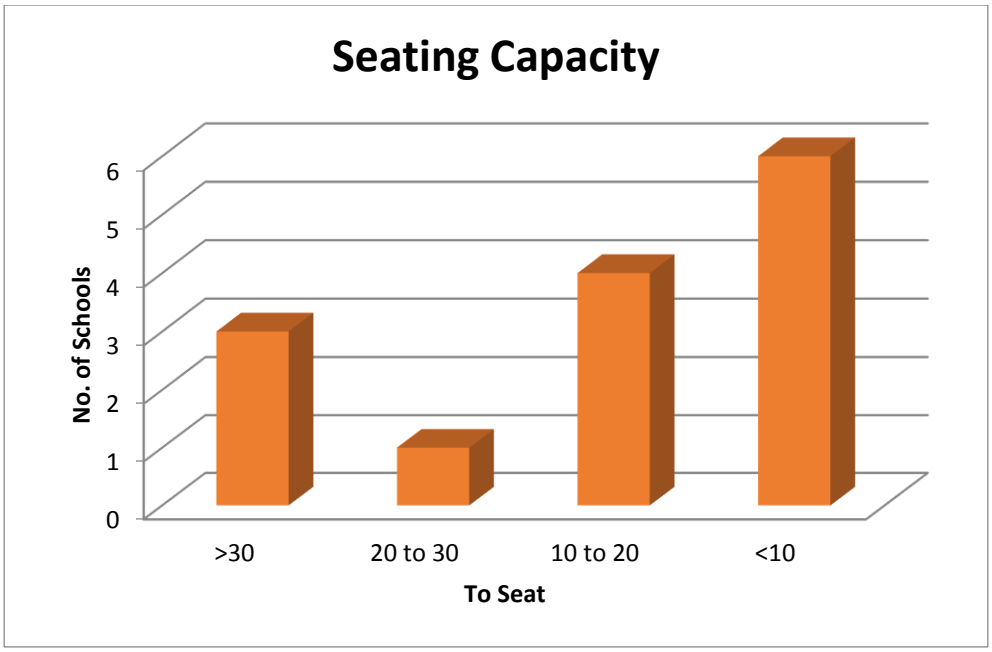
| | |
|---|---|
| 11 | AUPS Chazhiyattiri |
| 12 | GUPS Kothachira |
| 13 | GHSS Kumararanellur |
| 14 | Dr. K.B.Menon memorial |
| 15 | HSS Peringode |

The survey was conducted through the questionnaire method and the following were the inference:




## Location of the library in the school:

- Library in a part of a Room : 8 schools
- Room facility : 5 schools
- Hall facility : 2 schools




## Seating Capacity of the Library:

- Hall

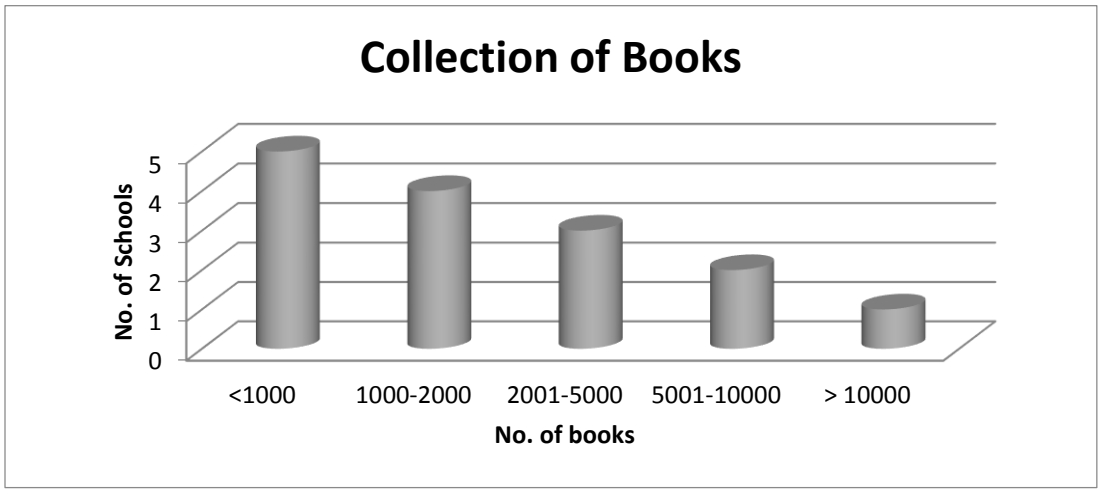
The Two Schools with hall facility could seat more than 30 users.

- Part of a room:

Three Schools functioning its library in a part of a Room could seat between 20-30-users.
Three could seat only less than 10 and **One of the schools (**GUPS Kudallur **) had no facility to seat at all.**

- Room

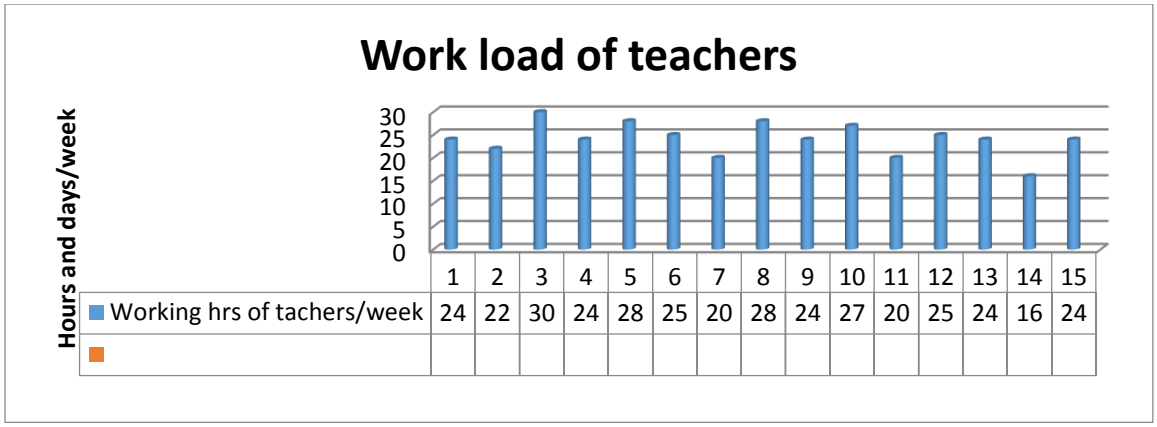
One School (GHSS Kumararanellur) with the room facility could seat 20-30 users, while another (HSS Peringode) had the capacity to seat more than 30. The rest of the two schools in the same category had the capacity for less than 10 users.



## Collection of books:

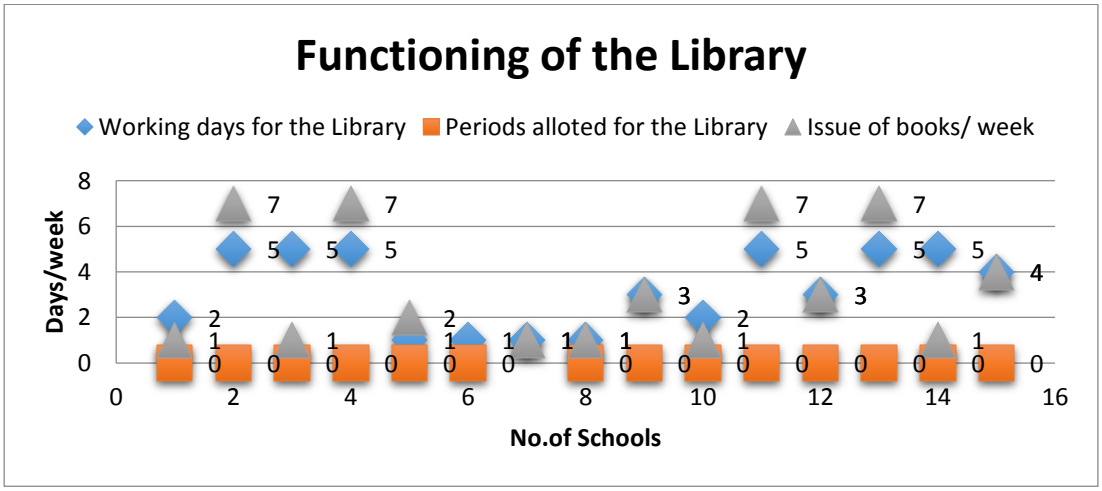
The collection of books varied accordingly.

- 5 Schools had a collection of less than 1000 books.
- 4 schools had a collection between 1000-2000 books.
- 3 had between 2001-5000 collections
- 2 had between 5001-10000.
- 1 school (Dr. K.B.Menon memorial School, Thrithala ) has the highest collection amongst these schools with books more than 10000.(an approximate of 11,987).
- The periodicals (newspapers and others)collection in these schools varied from 1-50.




## Librarians in the Schools:

The librarians in these schools were subject teachers of who were handling different subjects. Some of them handled only one subject while others had two or more than two subjects to handle. As such their working hours per week varied from 16-30 hrs. (excluding the responsibilities of that of a librarian).



## Functioning of the Library:

Working days of the libraries in these schools were different and varied from one day to five days per week.

Issue of books were carried out daily , once or thrice per week.

**Deduction:**

The most ironical data in our survey was that though these libraries had seating capacities, (though minimum), and also the facility of issuing of books, there were no periods allotted to the students for the library in any of these schools so that, the very essence of maintaining a library as per the demands of BRC's , may be met.

**Other shortcomings:**

As this survey report finds that there are no qualified librarians in any of these schools, hence, the basic maintainence of these so called libraries are also very poor. None of the schools had any methods of classification schemes utilized, though the books were arranged according to the subjects.

Cataloguing was reported in 6 schools though the schemes used were neither AACR or CCC.

The Issue system utilized were either register or card and no use of computers in the library was indicated.

## Recommendations

- Consideration needs to be given to ensure that pre-service training and professional
- development training of both teachers and librarians addresses the need for greater
- understanding of their professional contributions to learning in school libraries.

  Ideally all schools should have the funds to support the service of a qualified fulltime librarian to manage well-resourced school libraries. However, as the situation stands, priority should be given to identifying appropriate models for:
  - training for teachers in library management, resource integration within the curriculum and selection of reading material;
  - training in curricular issues and resource integration for librarians working in Schools
- Library Services, Public Libraries and volunteers working in school libraries;
  - ensuring that all primary schools have the support of a Schools Library Service;
  - Establishing close relations between Schools Library Services and education departments.
- Since this is an age of automation of libraries, a library has to be managed by librarians. But as the present situation stands, measures should be taken so as to ensure that each

and every library has a librarian who can successfully bring out the true importance of libraries.

## Conclusion:

Librarians can make a difference. Why they seemed to make a difference. Several qualities stood out: Librarians made an effort
to know the children, developed a personal relationship that went beyond the child, to the family and the kin. Librarians did not just point to materials, but taught children how to use them, not in a formal way, but by showing, and demonstrating the activity themselves. They would do, "over the shoulder" teaching, taking the time necessary so that the child could succeed. These people are enablers, pushing children to reach beyond their current abilities.

In conclusion, libraries are vital for children's achievement and developing informational needs. Children need libraries in their classrooms, schools, and communities. But all children will not use the materials to their fullest extent without supportive adults and librarians who can develop an informational society that provides access to all lives forever.

**REFERENCES:**


1. Krishan Kumar. 2000. Library Manual: Vikas publishing House PVT Ltd: New Delhi.
2. Patro, Lingaraj. 2010. Emerging Trends of Primary Education: Sonali publications: New Delhi
3. Ranganathan S.R.l946. Suggestions for the organization of Libraries in India
4. S.R.1989. New Education and School library: Sarada Ranganathan Endowment: Bangalore.
5. Rereived Nov, 10,2014 http://www.teindia.nic.in/files/reports/brc_crc_guidelines-final.pdf
6. Retreived Nov.14, 2014, from
7. Retreived Nov. 16, 2014, from http://www.upefa.com/
8. Retreived Nov.20, 2014, from http://osarome.blogspot.in/2011/12/library-resources-and-their-role-in.html
9. Retreived Nov.26,2014, from http://www.theeducationtrends.com/
10. Retreived Nov 28, 2014, from https://www4.rgu.ac.uk/files/ACF1C8D.pdf

# INFORMATION LITERACY SKILLS: ITS USAGE IN PRESENT SCENARIO

Jini Joy
Vimala College, Thrissur

## Abstract

The purpose of this paper is to present a broader insight to the information literacy concept in present scenario, in order to achieve an information literate society. Information literacy is directly linked with lifelong learning, critical thinking, and learning to learn concepts of education. Individuals are badly handicapped with a lack of need of the essential skills to enter the information literate society. There are many reasons for this inadequacy, and the lack of information literacy skills have been identified as one of them. Information literacy skills are achieved by students, through student centered; resource based teaching learning methods that direct them towards deep learning, thus creating an information literate society. Basically information literacy programmes are action oriented, while helping to solve the real life problems and making the correct decisions. In addition this paper also proposes to discuss impact of Information Literacy in Public Libraries, School Libraries and Academic Libraries. And also discuss the role of librarian in the present centuries.

## Introduction

The phrase *information literacy* first appeared in print in a 1974 report by Paul G. Zurkowski written on behalf of the National Commission on Libraries and Information Science. Zurkowski used the phrase to describe the "techniques and skills" learned by the information literate "for utilizing the wide range of information tools as well as primary sources in molding information solutions to their problems" and drew a relatively firm line between the "literates" and "information illiterates".

A number of efforts have been made to better define the concept and its relationship to other skills and forms of literacy. Other educational goals, including traditional literacy, computer literacy, library skills, and critical thinking skills, are related to information literacy and important foundations for its development, information literacy itself is emerging as a distinct skill set and a necessary key to one's social and economic well-being in an increasingly complex information society.

Information literate individuals improve the society's quality of life in general and academically. Information literacy helps us in our day to day life such as buying a house, choosing a school, making an investment, voting for the election, and many more. Information literacy skills are of prime importance in order to achieve every body's academic goals. Truly information literacy is the foundation of the democratic society.

A society that is capable to access, evaluate, use and communicate information in an effective and efficient manner is called an information literate society. When we educate our children with the necessary information literacy skills, consequently, the society becomes information literate.

## What is Information Literacy?

Information Literacy is the ability

- to identify what information is needed,
- understand how the information is organized, identify the best sources of information for a given need,
- locate those sources,
- evaluate the sources critically, and
- Share that information.

## Why information literacy is important?

Information literacy is important for today's learners, it promotes problem solving approaches and thinking skills – asking questions and seeking answers, finding information, forming opinions, evaluating sources and making decisions fostering successful learners, effective contributors, confident individuals and responsible citizens. It is at the core of the Curriculum for Excellence and Literacy across learning experiences and outcomes

Information literacy is critically important because we are surrounded by a growing ocean of information in all formats. All information is not created equal: some is authoritative, current, reliable, but some is biased, out of date, misleading, and false.

## Information Literacy helps us...

- make these and other important choices in our lives
- understand how much information is available
- communicate effectively
- carefully evaluate information and choose the best.
- live well in our ever-changing and global information environment
- analyze and evaluate information.

## Who Needs Information Literacy?

Information literacy skills are helpful to everybody, especially students, in order to succeed academically and in their future job opportunities. Students learn to find, evaluate and synthesize information thus developing critical thinking skills which hopefully leads to better research. Better research should lead to more success in studies thus increasing the retention rates of students. The skills students develop are transferable to their eventual workplace making more marketable. Teachers and lecturers are greatly in need of information literacy skills, in order to carry out their occupations efficiently and successfully. Basically, everybody in the society is in need of information literacy skills

## Importance of Information Literacy in Public Libraries

The term "information literacy" can be overwhelming for most public librarians. Although the term has been used by the school and academic library world for a number of years, public libraries are just beginning to move into this arena. The ALA Presidential Report makes a special plea to public libraries to help fill the gap between the information-literate and information-illiterate:

"Libraries, which provide a significant public access point to such information and usually at no cost, must play a key role in preparing people for the demands of today's information society. Just as public libraries were once a means of education and a better life for many of the over 20 million immigrants of the late 1800s and early 1900s, they remain today as the potentially strongest and most far-reaching community resource for life-long learners. Public libraries not only provide access to information, but they also remain crucial to providing people with the knowledge necessary to make meaningful use of existing resources."

Most public librarians are that they have already taken on the role of "information literacy educators." Most public librarians do not see themselves in the role of "educators," yet they perform in this role on a daily basis and do it quite well. Most of these exchanges with the public are a one-on-one basis when a "teachable moment" arises with a patron: an adult has just returned to school in a distance education program and needs journal articles for the first paper she has written in twenty years; a young man comes in disgusted with his last car purchase and wants to do some research before buying his next car. These are all information literacy exchanges in which the public librarian has not only helped the person get the information he/she is looking for, but the librarian has also had an opportunity to show the person how he/she can find, evaluate and use this information for themselves the next time a need arises. Public libraries are perfectly situated and capable to handle the ever-changing world of information literacy.

## Importance of Information Literacy in School Libraries

Information Literacy embraces information skills, ICT skills, and library skills along with the problem-solving and cognitive skills, and the attitudes and values, that enable learners to function effectively in the information landscape. Schools can develop a school-wide information literacy programme so that all their students will become increasingly information literate.

Within the information landscape, the school library functions as a reliable foundation upon which to build effective information access, management, and use. As such, it plays an important part in developing information literacy and in school-wide information management. It also retains a central role in supporting literacy and fostering a love of reading; this traditional function of a school library is still as important as ever.

Information literacy is not the sole preserve of the school library. It is fundamental to teaching and learning throughout the school. However, the school library plays a key role in enabling students to develop information literacy.

Today's students need a base where their access to information is well managed and supported. The school library can function as this base, enabling the students to explore the wider information landscape with increasing confidence and skill. Classroom teachers can encourage their students to use the school library for such exploration. The ways in which teachers model information literacy and use the school library as an extension of the classroom are of critical importance.

The school library's role is to improve the students' information literacy achievement by:

- acting as a key resource in the information literacy programme;
- promoting the students' literacy and encouraging them to develop as readers;
- providing staff to support and assist the students and to work collaboratively with the teachers;
- providing a physical learning environment that encourages independent inquiry and discovery;
- selecting information and resources that support all aspects of the curriculum;
- facilitating the students' use of ICT and access to information within and beyond the school;
- providing user-friendly systems and procedures that facilitate the students' access to and use of information resources.

The school library provides information and ideas that are fundamental to functioning successfully in today's society, which is increasingly information and knowledge based. The school library equips students with life-long learning skills and develops the imagination, enabling them to live as responsible citizens.

## Importance of Information Literacy in Academic Libraries

The most moportant role of the academic libraries and librarians is to educate the users or students in academic environment for effective use of information either through print texts or electronic text via internet.Librarians are the initiateors,policy makers and decision makers in the development and making effective use by readers or students by introducing information literacy curriculum.The librarian can develop their information literacy programme.

## The need for information academic library system due to following reason:

- There is an ample evidence that newly admitted students often find librarary is a confusing place as they do not have idea how to make effective use of libraries for their curricular needs as well as for general knowledge.

- In some cases it it observed that even teacher themselves did not make systematic use of library and its service fails to guide properly how to make effective use of library source.
- The entire users are not acquainted with the use of different techniques methods for storage of resources and retrieval of information of the library and application of IT in library operations.
- Further many users are not aware of the different types of resources and services available in the academic libraries.

## Role of Librarians in Information Literacy

Information and communication Technologies have changed the complete scenario in libraries. Now a day, library has become point of resource-based learning the role of librarian is changing radically with skills of education paradigms. The impact of moving from text based learning to resource based learning will involve heavier use of library materials and a demand for more and a varied media resources, including print and non print. The librarian is responsible for locating, acquiring, disseminating and tracking information resources of many types. It might include database searching, interlibrary loans, monitoring internet newsgroups or maintenance of a computerized library information system. Libraries and Librarians play an important role in education of people for effective and efficient information use by teaching them information skills at all levels of education to enable to be informed citizens of the country.

The academic library becomes a teaching library, which is actively involved all aspects of higher education teaching, research and community service. A teaching library is characterized by its commitments to instructing students, faculty and staff to fostering a climate, which encourages lifelong learning to maintaining a collection, which stimulated inquiry to making the library the cultural centre for the campus and community and to engaging in research to improve library services

## What's New in Information Literacy in Public Libraries?

- moving away from "how to use the library" towards teaching the information process
- recognizing a need, meeting it & evaluating the result
- - moving away from general training towards specific user interest
- - moving away from librarian-as-expert towards librarian as teacher
- - moving away from the library as a place that provides specific services towards the library as the place that facilitates lifelong learning

## What's New in Information Literacy in School Libraries?

- - moving away from "how to use the library" towards teaching the information process – recognizing a need, meeting it and evaluating the result
- - moving away from limited and discrete library assignments towards integrated instruction with classroom teachers

- - moving away from basic technology skills towards information problem-solving skills that may or may not involve technology.

## What's New in Information Literacy in Academic Libraries?

- - moving away from the 50-minute instruction session towards class-integrated instruction, quarter-long research classes and self-directed online searching
- - moving away from librarian-as-expert towards librarian as teacher
- - moving away from librarians as the "handmaidens to research" towards librarians as partners with faculty in creating critical thinkers and competent researchers

## Advantages in Shifting to Information Literacy in Public Libraries

- - Key places for information access
- - Librarians know what people want and can tailor learning to high interest areas
- - Fascination with Internet use can be used to encourage a wider focus on both technology training and information literacy
- - Concern with Internet use can be used to help government recognize the key role libraries play in both providing access and teaching critical thinking and evaluation skills

## Advantages in Shifting to Information Literacy in School Libraries

- - Have a long history of instruction
- - Have a captive audience
- - Often enjoy close working relationships with teachers
- - Librarians often have a teaching background
- - Schools may have computer classes that ensure basic technology skills
- - Community concerns about the Internet use can be used to encourage a curriculum-wide focus on evaluation and critical thinking

## Advantages in Shifting to Information Literacy in Academic Libraries

- - Have established instruction programs
- - Often enjoy access to advanced information technology
- - Librarians are often encouraged to research, explore new issues and create new programs
- - Faculty concerns about the Internet use can be used to encourage a curriculum-wide focus on evaluation and critical thinking

## Role of Librarians in 21st Century

Information literacy is a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information." Information literacy is increasingly important in the contemporary environment of rapid technological change and proliferating information resources. Because of the escalating complexity of this environment, individuals are faced with diverse, abundant information choices -- in their academic studies, in the workplace, and in their personal lives. Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning.

- Information Broker for both print and electronic media – Identifies, retrieves, organizes, repackages and provides electronic access to digital information sources
- Change agent, i.e. Technology application leader – collaborates w/ IT Services to design and evaluate systems that would facilitate e-access
- Facilitator – makes access easier, e.g. provides network access, purchases software & e-journal licenses
- Educator – trains clients on Internet use : tools , search engines, online databases and catalogs, electronic journals; use of web-based instruction and online tutorials
- Innovator/Web Site Designer/Builder/Manager - designs the library's web page and searches and evaluates information resources to be linked to the site; creates an awareness of library services on the web; in some instances manages the organizational web site
- Database Manager – Print bibliographies are no longer in use as searching via online databases is faster and more efficient.
- Collaborator – Expanded area of collaboration, not just with fellow librarians but with IT people, the community, etc.
- Policy maker – Develops or participates in the development of an information policy for an organization, ensuring total or selective access to all information resources
- Business Manager – negotiates with publishers and aggregators for the most advantageous license agreements for e-journals and databases
- Image Maker – Adds value to the library to gain management support and project a positive image to the outside world

## Conclusion

The development of Information Literacy competent among the library users and throughout the society, has become a vital requirement to face the challenges of the 21st century.Information literacy programmes need to be implemented mainly by the library staff in schools, universities, public and other libraries in order to achieve library goals and to convert their users to lifelong learners and critical thinkers. Information literacy programmes would be more successful, if the library staff is able to enlist the co-operation of the teaching and

administrative staff too. Information literacy programmes will enable librarians to play a more prominent and meaningful role among their clients.

## References

1. 1121&context=gatherings

2. Biggs, John (1999). Teaching for quality learning at university. Open University Press. Buckingham. UK.
3. Candy, Philip C., Crebert, Gay and O'leary, Jane (1994). Developing Lifelong Learners Through Undergraduate Education, National Board of Employment Education and training, AGPS, Canberra.
4. Lau, Jasus(2006)Guidelines on Information literacy for lifelong learning, IFLA
Nicholls, Gill (2002). Developing teaching and learning in Higher Education London; Routledge Falmer.
5. Ramsden, Paul (1992). Learning to teach in higher education. Routledge. London.
6. Shuell, T.J.(1986) Cognitive conceptions of learning, Review of educational Research, Vol. 56, No. xxx, p.411
7. http://www.curriculumsupport.education.nsw.gov.au/schoollibraries/
8. http://eprints.rclis.org/11956/1/Microsoft_Word_-_Prasanna_2.pdf
http://scholarworks.wmich.edu/cgi/viewcontent.cgi?article

# A Change from Traditional to Automated Library: A Case Study of Vimala College Library, Thrissur

Sr.Jisna Jose
Rajagiri College of Social Science
Cochi

## Abstract

The purpose of this paper is to offer some insights in to changes that are occurring in the expectations of clients in this technological era. It is also discussed the automation processes and activities currently undertaken at the Vimala college library Thrissur. It further highlights the automation strategy adopted,major automation areas and also outlines the various factors needed to be considered by the librarians while formulating automation strategy for their respective

## Introduction

The time rolls…Today's world craves for novelty and aspire changes everywhere at its core. Since the middle of 1990s, the expectations and behavior of library users have also been undergoing a major change. In the knowledge demined society, getting access to desired knowledge and right ideas at the right time is not an easy task. The challenge before the information personals is how to integrate the advances in information technology and professional knowledge and practice of best serve the needs and interest of users. *Ranganathan's five laws of library science stipulate that the documents in the library should be fully exploited by the maximum number of users with the introduction of fast emerging information technologies in all areas of library. That has been a tremendous improvement on the services offered to a library user*. Nowadays most of the college and university libraries are automated by the effect of information explosion and specialization in narrow subjects. A process of great change has been taking place today in libraries due the impact of information technology and application of computers in library work. We hear a lot about library automation and it is nothing but application of machines viz. computers to the routine library housekeeping operations such as acquisition, serial control, cataloguing and circulation.

Vimala College, Thrissur is the First Grade and Residential Women's College affiliated to the Calicut University of Kerala State. It is situated in Vilvattom village, Thrissur Taluk, Thrissur Corporation. Bifurcated in 1967 from St. Mary's College, Thrissur, as a degree college, Vimala now offers Graduate and Post Graduate courses in 14 different streams. Vimala College library is one of the biggest college library under Calicut university with more than 72000 titles and other materials. Vimala college library started functioning in 1967 with a vision to support intellectual growth and critical inquiry, and to promote a continuing love of learning in a congenial space. To reach up to this goal we provide resources and services which enrich the student experience and enhance the teaching, learning and academic activity.

The library is the heart of our college, which collects process and provides a wide variety of services to the users enabling them to fly high to the new horizons. Though the library products and services are generally automated, now too we are engaged to re-orient and redesign our efforts and policies to provide better professional support to meet recent changes and challenges under digital era. Above all library automation has been recognized as an integral and essential activity and fortunately getting considerable support from management. As it is experienced that automated systems procedures are more convenient and conducive to generate and provide satisfactory services to end users.

## The Concept of Library Automation

The word "automation" has been derived from Greek word "automose" means something, which has power of spontaneous motion or self-movement. The term "automation" was first introduced by D.S. Harder in 1936, who was then with General Motor Company in the U.S. He used the term automation to mean automatic handling of parts between progressive production processes.

According to Encyclopedia of Library and Information Sciences "Library Automation is the use of automatic and semiautomatic data processing machines to perform such traditional library activities as acquisitions, cataloguing, and circulation". At present use of computer technology in library keeping operation such as administrative work, acquisition, cataloguing, circulation, serial control, OPAC etc are too generally comes under this. Library automation, stated in single term is the application of computers and utilization of computers based products and services in the performance of different library operations and functions in the provision of various services and production of output products. It may be defined as the application of automatic and semiautomatic data processing machines (computers) to perform traditional library housekeeping activities such as acquisition, circulation, cataloguing and reference and serials control. Today "Library Automation" is by far the most commonly used term to describe the mechanization of library activities using the computer. In the simple language "When we use machineries for collection, processing, storage and retrieval of information and do another works of library with the help of machineries that is called library automation."

## Need of Library Automation

In today's fast paced world large amount of information is being generated every moment. This information which is generated is stored and retrieved in by the users. As George Bernard Shaw remarks "the reasonable man adapts himself to the world always….."

The increase in research activities, and interdisciplinary specializations in different fields, results in an information explosion. As a result of this the updation of the libraries and information centers remains as a herculean task to the library professionals. In the libraries, there are various methods of handling information like providing reference service, cataloguing, etc. Due to the information explosion the traditional systems become inadequate and hence automation is

necessary. The characteristics of a computer such as speed, storage and accuracy permit humans to rely on it in doing certain operations.

In a library the computers are there in all areas depending upon its usage. They range from acquisition control, serial control, and cataloguing and circulation control. They are also used for library manager's evaluation of reports, statistics, etc. For the good administration of the library computers are used in all levels of work. Above all, the unique characteristics of a computer made it the right choice for the library world. Computers right from the beginning, down through the decades are considered to aid man, in doing various operations. Thus the automated libraries make the people creative, productive, and all the more vibrant in this hi-fi world.

.

## Objectives of Library Automation

The main purpose of the library automation is to free the librarians and library staff from their age-old daily chorus and to allow them to contribute more meaningfully and creatively to spread the knowledge and information. The objectives of this are as follows:

a) To maintain bibliographical records of all the materials, in a computerized form.

b) To provide bibliographical details through a single enumerative access point of holdings of a library.

c) To reduce the repetition in the technical processes of housekeeping operations.

d) To provide access to information at a faster rate.

e) To share the resources through library networking.

f) To implement new IT processes to provide high quality information.

g) Establishment of a well storage and retrieval system.

h) Time and human power saving with qualitative services.

i) Development of the new library services

j) Development of human resources.

k) To obtain increased operational efficiencies.

The open access movement of the present ICT era is the need of the hour, which makes the society a knowledgeable one. The users are being empowered by the new vistas of knowledge. In this view, the automation and networking are the highly demanded criterion of the time.

## Automation Strategy

The automated strategy of Vimala college library has been to use the LIBSOFT software, developed by a librarian from the help and advice of a team of experts from library profession with many features like simplicity, multi user, user friendliness, etc. This has been preferred due to the availability of expertise and also for the purpose to face the problem pertaining to software and hardware maintenance efficiently and effectively. LIBSOFT is used by fifty colleges in Kerala. This software can also manage all library routines like book accession, multimedia

accession, classification, cataloguing, circulation, journal accession and online searching (OPAC).

The present software is used to automate circulation control managing all operations including over dues calculations, issue and return of books, renewal and reservation of books, OPAC activities, and stock verification and also having capability to generate various reports for office purpose. Bar coding of the books and user's ID cards has also been integrated with the existing software.

## Automation Areas

Vimala College Library is in the process of re-structuring its work, re-engineering its services and re-modelling its functions to facilitate effective services to its clients. The library follows open access system, which was fully automated with LIBSOFT package since 2003. LIBSOFT has got modules for managing the library accessories (books, periodicals, multimedia etc), information retrieval, reservation, membership and statistics. LIBSOFT offers the facility of swiping for library user statistics. Vimala college library is the first college library under the Calicut University to manage its catalogue and circulation with barcodes. Books are classified according to Dewey Decimal Classification system. The library maintains records and periodical stock verification to ensure the access, use and security of materials

## Acquisition Section

Acquisition is one of the important functions of any library. The goal of the library which is to satisfy the users will depend on the acquisition system of the library i.e. the user of the library will be satisfied only if the library acquires reading materials based on the user's demands. Acquisition also results in effective and efficient collection development of the library and hence acquisition of reading materials is an important job and is also highly labour intensive. Therefore automation in this area is very much required.

LIBSOFT facilitate an advanced module for accessioning books, journals and multimedia. Once enter the metadata of documents and other materials which are used for multiple functions in the library. The automated system also facilitates checking of duplication. LIBSOFT also provides some classification options according to Dewey Decimal classification. All other functions of library such as cataloguing, classification, bar-coding, circulation, etc. are done by this database. It reduces the time for repeated works in the library and save the time of library staff with efficient service.

## OPAC

The library catalogue is considered as a mirror of the library because it reflects the collection of the library i.e. whether the library possesses good, bad or satisfactory collection. It is considered to be the base for most of the library activities such as acquisition, reference, inter library loan etc. In acquisition activity, the catalogue is referred to avoid duplication of reading materials. So, if automation of the catalogue is done, then it will be very much beneficial to the users and the staff wherein they can get the desired information with no time. Similarly if the

catalogue is made available in a network environment through LAN, then users can have simultaneous access to the same database. So also the library staff will appreciate the automated system since it will eliminate their job of printing the cards, filing the cards, keeping the catalogue up-to-date, etc. The automated catalogue also conserves space as compared to the large catalogue cabinet, which occupies a lot of space in the library.

OPAC (Online Public Access Catalogue) is one of the existing aspects of library automation. OPAC is a catalogue, which is available for searching online. Such OPAC may be searched from a terminal within the library or at a terminal elsewhere in the organization remotely via national or international Telecommunication networks. Today majority of the soft wares which are used for automation in libraries provide a separate module of OPAC. With the latest Developments in integrated systems the OPAC is connected to the circulation system

So that the used can come to know whether the document he/she is looking for is currently available in the library or on loan. OPAC also promotes resource sharing programme and bibliographic search can be done by author, title, accession number, ISBN, keywords etc. Search in OPAC is by using Boolean logic or by truncation.

## Circulation area

The main component of a circulation control system is the transaction of documents i.e. issue and return of documents. This database contains bibliographic details of the documents which provide information on titles, authors and publishing details, which are used in notifying the users about the overdue. Circulation involves the charging and discharging of library materials, reservations, statistics, sending of reminders for the over-due material, etc. The automated circulation provides the information about:

- The location of circulation items.
- Identification of items on loan to the particular borrower.
- Recall notices for items on long term loan.
- Renewal of loans
- Overdue details for notification.
- Calculation of fines and recording receipt of fines.
- Calculation of printing of statistics of various types etc.

Considering all the above mentioned criterions Vimala College automated library offers a meritorious and transparent service using LIBSOFT programme which makes the technology more simple and comprehensive to all. Both the staff and students save their time with an easy access to the vast, varied pool of knowledge.

## Serial Control

Serials are published at regular intervals and the publication is intended to continue indefinitely. Besides scholarly journals and popular periodicals, serials include magazines and all other periodical publications as newsletters, newspapers, annual reports, proceedings of learned bodies, monograph series etc. The term serial control usually denotes two very distinct aspects:

bibliographic control and processing control. Bibliographic control of serials involve preparation and maintenance of a central master list of all serial publications which includes full title, short title, variation form earlier titles, publishers, ISSN, frequency etc. Serials processing control comprises acquisition, claims controls, cataloguing, circulation, binding, weeding out of serials etc.

The automated serial control in Vimala library make data inputting easier when the library receives the issues, ordering new serials and renewing the presently subscribed journals, sending reminders to follow up missing issues which reduces the time for routine works in serial accessions. It also helps us in binding of issues when a particular volume is completed.

## Stock Verification

Stock verification is an important activity in a library. It is one of the most tedious jobs to be done which involves a lot of time. Traditionally, it took many months to complete stock verification for a normal collection but with the impact of information technology, this has been overcome and less time is required comparatively.

In our college library by using bar-coding technology, all accession numbers can be saved in the barcode scanner memory. The most economical and fast way of entering accession number is to use a mobile bar code reader to scan accession numbers of books from bar code tags in books. This laser scanner is passed over the bar-coded books in the stack. The accession numbers of books available in the stack are recorded in the memory and the accession numbers, which are not in display, are checked if they are on loan and thereby, the number of missing books is known. It is also possible now with the proliferation of personal computer to just key in all accession numbers as and when checked to consolidate the loss in terms of missing accession numbers.

## Digital Library

Vimala College Library is the First Library under Calicut University to get access to e-resources through N-LIST programmes of INFLIBNET, through which we can access more than 6000 e-journals and 97000 e-books. Vimala College Library uploaded the Library website Vimalalibrary.libsoft.org through which one can access the Web OPAC also. It has also linked to INFLIBNET. The Library is maintained as digital library through with the Open Source Software GREENSTONE including Calicut University Question papers, e-books, Institutional Repository. Besides Books, there are 33 Audiocassettes, 423 CDs and 188 DVDs.

## Other Digital Services

The Library has a media room and LCD projector. Library has installed Calibre-E Book Management software for manage e-book collection. The Library is under CCTV surveillance to ensure safety & security. The Library also houses Braille materials and the Library staff provides all assistance to the blind students enabling them optimum use of the library.

## Benefits of Library Automation

Many activities of a library are routine in nature, a few are repetitive. Automation of these activities helps in managing the library's resources in a better way at the same time saving time, money and manpower. For example, once the bibliographic details like author, title, edition, publisher, price, ISBN number, etc are entered at the time of ordering, the same data can be used for accessioning, cataloguing (OPAC), and circulation. Other important factors associated with automation are speed, and accuracy. One can imagine the time saved in literature searches and in preparing bibliographies. Automation also offers freedom from doing repetitive and routine works as well as enables providing efficient services properly and more efficiently cutting down time and improving productivity. Automation also facilitates generation of a number of reports for better decision making in the effective management of the library. Availability of various statistical and other usage reports and performance reports will ensure better appreciation from library users. For example, vendor performance analysis is possible. Subject-wise or project department-wise budget can be monitored. Circulation data can provide information on titles that are in great demand so that more copies can be procured if needed. Many current awareness services like current additions, contents of books and journals, etc can also be provided to users.

## Barriers of Library Automation

Library automation brings great changes in the functioning of the library and proves effective and efficient in library services. But in spite of these great advantages, there are many barriers which occur at the time of implementing the automation in libraries. The lack of fund for the machineries, installation and maintenance of softwares, basic amenities, need of trained professionals etc. are the various requirements which have to be deal with. In implementing the automation system we must assess the appropriateness for the placement of computer station, printers, furniture and other equipments. Having an automated system in place required use of look up stations for the OPAC and computer stations for administrative use. Look up station should be placed in proximity to staff so that user assistance is readily available and software and hardware can be observed for security. Fortunately we are blessed with a management which offers atmost care, support, and keen interest in our prospectus.

## Suggestions

- Having a back-up plan will eliminate the need for re-entering data lost due to blackouts, surges, natural disasters or other problems. When the system become fully operational, back-up data daily and the whole system weekly.
- Software installation should be followed by a thorough testing of the automated system to ensure hardware and software compatibility and the system’s conformity to the library’s specifications.
- Computers and other hardware devices should be placed in areas where the air entering the hardware does not exceed 80% humidity. De-humidifiers may be necessary to maintain adequate moisture control.

- To protect our system, have a security plan is placed. Installing firewalls, virus protection software and theft protection systems reduce unauthorized use, protection software and minimize theft.
- Subscription of online journals.
- Library should also acquire digital information sources and create awareness about using those sources.
- Skilled manpower should be developed to manage the computerized operation of library.

## Conclusion

A library is the keystone in the college arch. A good and efficient library will certainly help students to meet the new challenges they start facing at College. Information Technology has changed the old concept of the library. Tremendous growth of literature has thrown much light on the LIS professionals. The traditional methods of library functioning, will give a bad impression to the library as well as the library professionals since the technological development especially in computers and telecommunication. Earlier the library was considered as a mere store house and providing services to the users was much difficult.Though the library services in Vimala College in view of the fast changing technological revolution, tries to walk with the signs of the time, still we have rooms to handle.

## References

1. Fredman, Alan: The computer glossary: The complete illustrated dictionary: American management Association, New York.
2. Hussain, Mohd Vali: Creative Culture for reading: IJIWS, Vol. 23, No. 3-4, 1999, P. 137.
3. Jagga Rao, N.V.: Books to bytes: Library and information technology in the new millennium: ESS, New Delhi, 2000.
4. Kumar, P.S.G.: Information technology basis: B.R. publishing corporation, Delhi, 2003.
5. Mahapatra M and Ramesh D.B.: Information technology application textbook for beginners, Reproprint, Bhutaneshwar, 2005.
6. Ralston, Anthony: Encyclopedia of computer science: Nature publishing group, Delhi, 2000.
7. Ramesh, LSRCV: Need for preparing information professional for digital era. Indian journal of information, Library and Society 14 (1 & 2).
8. Http://eprints.rclis.org/6696/1/library.pdf
9. Http://shodhganga.inflibnet.ac.in/bitstream/10603/5661/9/09_chapter%204.pdf

# E-Learning: An Overview

Chriss Thomas
Librarian, Jubilee Mission College of Nursing, Kachery , Thrissur – 5
E mail – chrissmanojaa@gmail.com , phone no. 9400321685

## Abstract

This paper aims to discuss the over view of E-Learning in the digital age which creates student-centered learning and educational practice, offering new more flexible learning methods. In the digital 21st century cannot be achieve high results in learning and educational process without integrating new information and communication technologies in the education system.

**Key words :** e-learning , tools ,

## Introduction

The development of new information technologies in the 21st is expanding the range of information resources; it is also creating conditions for the formation of a global informational, educational and cultural space and therefore changes occur in the education system. Their impact is revolutionary. It affects the way of life of people, their work and education. The combinations of different technological disciplines such as computer technology, information technology, telecommunication technology, satellite technology, digital technology and electronics have contributed to the emergence of ICT. The ICT applications transformed the traditional libraries into electronic libraries or digital/virtual libraries. The emergence internet as a new media of information delivery triggered proliferation of web-based resources. The increased use of internet and phenomenal increase of web-based resources stimulates web-based potential services that enforce the print media that transforming into electronic media.

## E-Learning

E-learning (or eLearning) is the use of electronic educational technology in learning and teaching. Conceptually, e-learning is broadly synonymous with instructional technology, information and communication technology (ICT) in education, EdTech, learning technology, multimedia learning, technology-enhanced learning (TEL), computer-based instruction (CBI), computer managed instruction, computer-based training (CBT), computer-assisted instruction or computer-aided instruction (CAI), internet-based training (IBT), flexible learning, web-based training (WBT), online education, virtual education, virtual learning environments (VLE) (which are also called learning platforms), m-learning, and digital education. In usage, all of these terms appear in articles and reviews; the term "e-learning" is used frequently, but is variously and imprecisely defined and applied.

Bernard Luskin, an educational technology pioneer, advocated that the "e" of e-learning should be interpreted to mean "exciting, energetic, enthusiastic, emotional, extended, excellent, and educational" in addition to "electronic." Parks suggested that the "e" should refer to

"everything, everyone, engaging, easy".These broad interpretations focus on new applications and developments, as well as learning theory and media psychology.

e-Learning is an alternative method of delivering and receiving education and training. It is alternative in the sense that it is quite different from the traditional, instructor led, classroom environment that we are most familiar with. The term "e-Learning" encompasses a wide range of educational experiences and practices. Instructional content may be delivered through a wide array of methods including: CD or DVD-ROM, the Internet, audio and videotape, television or satellite broadcast, video conferencing, or on an internal network (intranet). The content can include text, audio, video, animation, simulations, and Virtual Reality (VR) applications. e-Learning is student-centered, self-paced, hands-on learning. e-Learning can provide an exciting and highly effective learning experience that can go beyond the level of education and training you might experience in a classroom.

Moore (1989) purported that three core types of interaction are necessary for quality, effective online learning: learner-learner (i.e. communication between and among peers with or without the teacher present), learner-instructor (i.e. student teacher communication), and learner-content (i.e. intellectually interacting with content that results in changes in learners' understanding, perceptions, and cognitive structures).

## Types of E-Learning

In today's e-learning environment the type of learning that takes place is generally divided into one of two categories: synchronous and asynchronous. Both strategies have their own pros and cons, and the technique that is right for a student greatly depends upon their method of absorbing the information that is being provided.

### 1) Synchronous learning

Examples of synchronous e-learning are online chat and videoconferencing. Any learning tool that is in real-time, such as instant messaging that allows students and teachers to ask and answer questions immediately, is synchronous. Rather than learning on their own, students who participate in synchronous learning courses are able to interact with other students and their teachers during the lesson.

The main benefit of synchronous learning is that it enables students to avoid feelings of isolation since they are in communication with others throughout the learning process. However synchronous learning is not as flexible in terms of time as students would have to set aside a specific time slot in order to attend a live teaching session or online course in real-time. So it may not be ideal for those who already have busy schedules.

### 2) Asynchronous learning

Asynchronous learning on the other hand can be carried out even when the student or teacher is offline. Coursework and communications delivered via web, email and messages posted on community forums are perfect examples of asynchronous e-learning. In these instances,

students will typically complete the lessons on their own and merely use the internet as a support tool rather than venturing online solely for interactive classes.

A student is able to follow the curriculum at their own pace without having to worry about scheduling conflicts. This may be a perfect option for users who enjoy taking their time with each lesson plan in the curriculum and would prefer to research topics on their own. However, those who lack the motivation to do the coursework on their own may find that they do not receive significant benefit from asynchronous learning. Asynchronous learning can also lead to feelings of isolation, as there is no real interactive educational environment.

## Technologies used in e-learning

E-learning makes use of many technologies - some of which have been developed specifically for it, whilst others conveniently complemented the learning process, for example computer games. Communication technologies are also widely used in e-learning. Starting with the use of email and instant messaging, message forums and social networks, we see a plethora of tools that any internet user would use in any case.

There are also some technologies that work in a complementary manner to other software and enable new features, for example software that adds a whiteboard on your video conferencing tool to allow you or your peers to make changes on other people's work for review, or screen-sharing which allows someone to make a presentation while still making comments and giving input using the microphone.

E-learning makes good use of database and CMS (Content Management System) technologies. These two work hand in hand to store your course content, test results and student records. The data is stored in the database and the CMS provides a user interface for you to add, update and delete data. A good LMS will often provide reporting tools to generate and store progress reports.

Technologies to improve the quality of content are manifold. Software such as Flash and PowerPoint will help you make your presentations slick and interesting, with high quality, graphically rich content. There are word processing packages and HTML editors available these days that make formatting your text or web pages a breeze, removing a lot of the complexity. There are also lots of online services available that you can use to create interactive elements for your courses such as quizzes and games.

## E-learning Tools

A plethora of ICT or virtual communication tools are now available that are employed in the e-learning process. Most prominent among them are given below. Some of them are asynchronous in character and provide on-to-many type of communication facility. They are primarily useful for information exchanging, networking, repackaging knowledge, providing instructions, undertaking collaborative project work, mentoring and organising online discussions, and meetings.

- E-mail
- Mailing lists or list-servs
- Newsgroups or usenets
- Bulletin boards
- Instant messaging
- Polling
- Webforms
- Chat or conferencing
- Internet telephony
- Videoconferencing
- Blogs
- Learning portal or web-based training portal.

## Advantages of online or computer-based learning

- Class work can be scheduled around work and family
- Reduces travel time and travel costs for off-campus students. Students may have the option to select learning materials that meets their level of knowledge and interest
- Students can study anywhere they have access to a computer and Internet connection
- Self-paced learning modules allow students to work at their own pace
- Flexibility to join discussions in the bulletin board threaded discussion areas at any hour, or visit with classmates and instructors remotely in chat rooms
- Instructors and students both report eLearning fosters more interaction among students andinstructors than in large lecture courses
- eLearning can accommodate different learning styles and facilitate learning through a variety of activities
- Develops knowledge of the Internet and computers skills that will help learners throughout their lives and careers
- Successfully completing online or computer-based courses builds self-knowledge and self-confidence and encourages students to take responsibility for their learning
- Learners can test out of or skim over materials already mastered and concentrate efforts inmastering areas containing new information and/or skills

## Disadvantages of online or computer-based learning

- Learners with low motivation or bad study habits may fall behind
- Without the routine structures of a traditional class, students may get lost or confused about course activities and deadlines
- Sttudents may feel isolated from the instructor and classmates
- Instructor may not always be available when students are studying or need help
- Slow Internet connections or older computers may make accessing course materials frustrating
- Managing computer files and online learning software can sometimes seem complex for students with beginner-level computer skills
- Hands-on or lab work is difficult to simulate in a virtual classroom

## Future of E-Learning

E-learning is here to stay. As computer ownership grows across the globe e-learning becomes increasingly viable and accessible. Internet connection speeds are increasing, and with that, opportunities for more multimedia training methods arise. With the immense improvement

of mobile networks in the past few years and the increase in telecommuting, taking all the awesome features of e-learning on the road is a reality with smartphones and other portable devices. Technologies such as social media are also transforming education constantly. Generally speaking, learning is expensive, takes a long time and the results can vary. E-learning has been trying for years now to complement the way we learn to make ideally, effective e-learning courses should include both asynchronous and synchronous learning activities. This allows students and teachers to benefit from the different delivery formats regardless of their schedules or preferred learning methods. This approach provides students with access to immediate help if needed, while still giving them the ability to learn at their own pace.

## Influence of E-learning in Education

Dramatic changes in the way people across the world live, play and entertain, have changed the way people learn too. Education sector has witnessed a sea change, given the changing demographics, changing industry expectations and a brave new world of youngsters who seek the power of knowledge in transforming their lives, with disdain for distances. Classroom learning is effective, but not the only option anymore. With Internet playing the great equalizer of our times, options like distance learning and self-based learning programs are much more effective, than they were before. Today, universities and knowledge leaders are able to deliver training to students in countless innovative ways. It is all about innovative use of technology, in ways that suit their situations best.

The increasing influence of globalization and the emerging information society, set new requirements for all areas of social life, including to higher education. E-Learning became an important instrument in the new Higher Educational Environment in the digital age which creates student-cantered learning and educational practice, offering new more flexible learning methods.

## Conclusion

The technological advancements in ICT have created a new opportunity effectively store and transmit the information over networks. The rapid technological developments that portrayed the present information age have left a great impact on higher education libraries in India. The winds of technological change have been blowing in our direction not only in the universities but even at secondary and primary education. The vast movement towards e-learning is clearly motivated by the many benefits it offers. E-learning is a medium, not a methodology. In spite of all the efforts and electronic gadgets and gizmos, still e-learning cannot replace class room teaching, though definitely it can improve the learning standards and improvise standards of context of lectures.

## References

1. Ram Kumar & Aswani Kush , E-learning emergence DESIDOC Bulletin of Information Technology , Vol. 26 (2) March 2006, pp. 19-24
2. Pujarand and Kamat , Libraries–a Key to Harness E-Learning: Issues and Perspective , DESIDOC Journal of Library & Information Technology, Vol. 29, No. 1, January 2009, pp. 23-30

# IMPACT OF DATA MINING TECHNOLOGY IN ACADEMIC LIBRARIES

Ramya Raveendran, Research Scholar,Karpagam University Coimbatore
Greeshma Raju , LIS Scholar

## Abstract

Data mining refers to extracting or mining of knowledge from large amount of data. It is a core part of knowledge discovery. This paper describes basic concepts of data mining, use of data mining, Data mining methodology and its impact especially in Academic Libraries.

## Introduction

In recent years, as the rapid development of information technology, communication technology and computer technology, digital has become the main direction of library. Data mining is a new information technology which helps people to develop vast amounts of information in depth, extract the inherent link of the heterogeneous information to promote the digital library. In a last word data mining is the processing of extracting the hidden information and knowledge. Data mining is a new word to the academic community but it is somewhat familiar to commercial communities.

## Concepts of Data Mining

Data mining mainly means to summarize data from a huge surrounding and to make possible future development so as to provide stronger support for any users for their ultimate enquiry. According to different forms of data, data mining can be divided into 3 categories in general; ie; data mining, web data mining & text data mining.

**Data mining:** Mostly data mining is for structured data, such as SQL, Server, Oracle, Informix, and other data or data ware house. Object of data mining is a traditional database or data ware housing.

**Web mining:** In web data mining it includes various web data bases such as web pages, structure between pages, user access to information, business transaction information, which is to discover useful knowledge to help people extract knowledge from the World Wide Web for better or improve services. Web data mining can be divided into Web content mining, Web usage mining, and Web structure mining.

**Text data mining :** When the objects of data mining is composed entirely of text type, the process of automated information processing and analysis massive text information is called text data mining.

## Use of Data Mining

Data mining derives its name from searching for valuable information in a large database. The important point is that it can be used in many problems of intellectual, economic, and business interest. In fact data mining can be used as a problem solving in all respect especially in (ETL) ie; extraction, transformation, and loading of data.

## Data Mining Methodology

Data mining process can be divided into four stages:

1. Identify the problem
2. Analyzing the data
3. Taking action
4. Measuring the outcome

The first and the third stages raise mainly business issues. Data mining will be successful only if these business issues are properly addressed.

There are two basic style of data mining

- Hypothesis testing
- Knowledge Discovery

Hypothesis testing is what scientists and statisticians do. Testing the validity of a hypothesis is doneby analyzing data that may simply be collected by observation or generated through an experiment. It can be done through several steps.

1. Generate good ideas
2. Determine what data would allow these hypotheses to be tested
3. Locate the data
4. Prepare the data for analysis
5. Build computer model based on the data
6. Evaluates computers models to confirm or reject hypothesis

Knowledge discovery can be either directed or undirected. Directed knowledge discovery is goal oriented. It has several steps.

1. Identify sources
2. Prepare data for analysis
3. Build and train the computer model
4. Evaluate the computer model
5. Apply the computer model to the new data

In undirected knowledge discovery data will discover meaningful structure. Another application of this is clustering. It has several steps.

1. Identify source of data
2. Prepare data for analysis
3. Build and train a computer model
4. Evaluate the computer model
5. Apply the computer model to the new data
6. Identify potential targets for directed knowledge discovery
7. Generate new hypothesis to test

Here we can notice that step 1 to 5 are same for both, the two additional steps reflect the fact that undirected knowledge discovery usually pushes for further knowledge investigation.

## Impact of data mining – Academic Libraries

Libraries today are challenged to provide their clients with the right source of information and services they require, and this has been made possible with the technique and process of data mining. Data mining could solve some of the issues faced by the library by making knowledge discoveries from the library's data. Data mining can benefit the libraries by:

(a) Improving the library services
(b) Being a support tool for decision – making by the library
(c) Producing reports which can help to justify decisions

In the sense of improving the library service it can be used in the following ways.

1. Collection and borrowing activities
2. Clients information
3. Web logs
4. Circulation inform

In the case of decision making tools for library management data mining can be implied in a no. of areas

1. Removal of unused material
2. Staff management
3. Purchasing of materi

Coming to reporting and justification data mining provide:

1. Library's Usage
2. Library's staff justification

## Conclusion

In general data mining systems in libraries especially academic libraries can have the right resources , better services, the ability to strengthen their collections and information for the decision making process. So it is urgently needed that systematic efforts have been taken place to develop data mining techniques for library's day to day operations and developments.

## References

1. Dwivedi, Roopesh K. Use of data mining in the field of library and Information Science: an overview.2nd International CALIBER 2004,New Delhi.
2. Zhang, Mei. Application of data mining technology in digital library. Journal of computers, 2011,6(4),761-767.
3. Lone, Tariq Ahmad . Data mining : competitive tool to digital library. DESIDOC Journal of Library & Information Technology,2014,34(5),401-406.

---

# Total Quality Management in Selected Libraries of Management and Engineering Colleges of Lucknow: A Survey

Rishi Kumar
Bbau Lucknow

Dr. R.K.Chaudhary (M.Phil Scholar)
(Assit.Profe.) Bbau Lucknow

## Introduction

The growing needs of information make the Librarians to think in a logical way so as to satisfy the users at a large. Library is the centre of any academic institution. Libraries supplement the instructional work of class rooms and carry forward the ideals of education. The libraries are gradually being recognized for their academic services, and they are occupying prominent position in education, throughout the world.

Total Quality Management (TQM) is a management philosophy which focuses on the work process and people, with the major concern for satisfying customers and improving the organizational performance. It involves the proper coordination of work processes which allows for continuous improvement in all business units with the aim of meeting or surpassing customer's expectations. It emphasizes on totality of quality in all facets of an organization with the aim of reducing waste and rework to reduce cost and increase efficiency in production. However, the adoption of the ideology by most organization has been hampered due to their noncompliance with the procedures and principles of TQM implementation.

## Statement Of The Problem

Total Quality Management in ten selected Management and Engineering colleges Libraries of Lucknow is facing lots of difficulties with manual processing and handling of documents in the traditional library system. This study has been undertaken to purpose most feasible and overcome

the situation. Automation has been proved to the best solution universally. So this study has put emphasis on the effectiveness of implementing computer technology and the increasing user's friendly of the library automation software's.

## Objective of the Study

A clear statement of aims and objectives helps to explain the purpose of the study and generate appropriate methodology and analysis. This means that once the objectives have been formulated, the methods of data collection and analysis can be decided.

The main objective of this study is to find out possible measures in order to make Total Quality Management in selected Management and Engineering colleges Libraries library an automated library centre.

- To understand the concepts of Quality; Quality Control; Quality Assurance; Total Quality Management
- To examine the application of TQM with particular reference to selected Management and Engineering colleges Libraries of Lucknow.
- To study about the criterion for Quality assurance in providing Quality Information Service into ten selected Management and Engineering colleges Libraries of Lucknow.
- To find out the practical role of information management i.e. acquisition, organization and dissemination of knowledge in Management and Engineering colleges Libraries of Lucknow. .
- To explore the cultural role of preserving human knowledge and social in intellectual role in bringing people and ideas together

## Research Methodology

The survey method will be used in this study. Structured questionnaire will be distributed to the library staffs and users. Collected data will be analyzed with the help of statistical software and analyzed data will be shown in charts, diagram and table.

**(Table.No.1)**

### General Information About The Library:

| NAME OF THE LIBRARY | Professional | Non-Professonal | Any Other | Total Staff |
|---|---|---|---|---|
| **Aryavart Institute of Technology** | 03 | 01 | 01 | 05 |
| **MotilalRastogi Institute of Management** | 01 | 01 | 00 | 02 |
| **Azad Institute of Engineering and Technology** | 08 | 01 | 03 | 12 |
| **Lucknow Institute of Technology** | 05 | 05 | 03 | 13 |
| **Maharana Institute of Technology and Sciences** | 02 | 01 | 01 | 04 |
| **Ambalika Institute of Management &Technology** | 04 | 02 | 02 | 08 |
| **Jaipuriya Institute of Management** | 03 | 03 | 00 | 06 |
| **ITM School of Management** | 05 | 00 | 02 | 07 |
| **Dr. M.C. Saxena College of Engineering and Technology** | 04 | 03 | 02 | 09 |
| **Shri *Ramswaroop* Memorial *College* of *Engineering*and Management** | 05 | 06 | 04 | 15 |

Table 3 shows total No. of Library staff Aryavart Institute of Technology Library staff no. Of.5, MotilalRastogi Institute of Management Library staff no. Of.2, Azad Institute of Engineering and Technology Library staff no. Of.12,.Lucknow Institute of Technology Library staff no. Of.13,Maharana Institute of Technology and Sciences Library staff no. Of.4.Ambalika Institute of Management & Technology Library staff no. Of.8, Jaipuriya Institute of Management Library staff no. Of.6, ITM School of Management Library staff no. Of.7 Dr. M.C. Saxena College of Engineering and Technology Library staff no. Of.9 Shri *Ramswaroop* Memorial *College* of *Engineering* and Management Library staff no. Of. 15.

**(Table.No.2)**

## Library Collections:

| NAME OF THE LIBRARY | Printed Resources | Electronic Resources | Total |
|---|---|---|---|
| **Aryavart Institute of Technology** | 7589 | 00 | 7589 |
| **MotilalRastogi Institute of Management** | 9036 | 920 | 9956 |
| **Azad Institute of Engineering and Technology** | 61148 | 00 | 61148 |
| **Lucknow Institute of Technology** | 25015 | 00 | 25015 |
| **Maharana Institute of Technology and Sciences** | 16062 | 00 | 16062 |
| **Ambalika Institute of Management &Technology** | 22505 | 3000 | 25505 |
| **Jaipuriya Institute of Management** | 33000 | 922 | 33922 |
| **ITM School of Management** | 28000 | 50 | 28050 |
| **Dr. M.C. Saxena College of Engineering and Technology** | 47419 | 116 | 47535 |
| **Shri *Ramswaroop* Memorial *College* of *Engineering*and Management** | 90000 | 7729 | 97729 |

Shows that table Library CollectionsAryavart Institute of Technology Total Library collection of 7589,MotilalRastogi Institute of Management Total Library collection of 9956 Azad Institute of Engineering and Technology Total Library collection of 61148, Lucknow Institute of Technology Total Library collection of 25015,Maharana Institute of Technology and SciencesTotal Library collection of 16062, Ambalika Institute of Management & Technology Total Library collection of 25505, Jaipuriya Institute of Management Total Library collection of 33922, ITM School of Management Total Library collection of 28050,Dr. M.C. Saxena College of Engineering and Technology Total Library collection of 47535, Shri *Ramswaroop* Memorial *College* of *Engineering* and ManagementTotal Library collection of 97729.

**(Table.No.3)**

## Networking And Internet Connectivity:

| NAME OF THE LIBRARY | Own Library Network | Type Of Network |
|---|---|---|
| **Aryavart Institute of Technology** | YES | LAN |
| **MotilalRastogi Institute of Management** | YES | LAN |
| **Azad Institute of Engineering and Technology** | YES | LAN |
| **Lucknow Institute of Technology** | YES | LAN |
| **Maharana Institute of Technology and Sciences** | YES | LAN |
| **Ambalika Institute of Management &Technology** | YES | LAN |
| **Jaipuriya Institute of Management** | YES | LAN |
| **ITM School of Management** | NO | NO |
| **Dr. M.C. Saxena College of Engineering and Technology** | YES | LAN |
| **Shri *Ramswaroop* Memorial *College* of *Engineering*and Management** | YES | LAN |

Shows that table Library Networking And Internet Connectivity our own library network and network structure only one institute ITM School of Management have not own library network and network structure, and others have own library network and network structure.

**(Table.No.4)**

## Connectivity to Computerized Library Network:

| NAME OF THE LIBRARY | Inflibnet | Delnet | Intranet | Oclc | Other |
|---|---|---|---|---|---|
| **Aryavart Institute of Technology** | NO | YES | NO | NO | NO |
| **MotilalRastogi Institute of Management** | NO | NO | NO | NO | INFONET |
| **Azad Institute of Engineering and Technology** | NO | YES | NO | NO | NO |
| **Lucknow Institute of Technology** | NO | YES | NO | NO | NO |
| **Maharana Institute of Technology and Sciences** | NO | NO | NO | NO | INFONET |
| **Ambalika Institute of Management &Technology** | NO | YES | NO | NO | NO |
| **Jaipuriya Institute of Management** | NO | YES | NO | NO | NO |
| **ITM School of Management** | NO | NO | NO | NO | NO |
| **Dr. M.C. Saxena College of Engineering and Technology** | NO | YES | NO | NO | NO |
| **Shri *Ramswaroop* Memorial *College* of *Engineering* and Management** | NO | YES | NO | NO | NO |

Shows that table Connectivity to Computerized Library Network Aryavart Institute of Technology Azad Institute of Engineering and Technology Lucknow Institute of Technology Ambalika Institute of Management & Technology Jaipuriya Institute of Management Dr.M.C. Saxena College of Engineering and Technology Shri *Ramswaroop* Memorial *College* of *Engineering* and Management have provide Connectivity to Computerized Library Network DELNET, MotilalRastogi Institute of

Management AND Maharana Institute of Technology and Sciences provide Connectivity to Computerized Library Network INFONET.

**(Table.No.5)**

## Nature of Connectivity:

| NAME OF THE LIBRARY | Dail-Up | Leased Line | ISDN | Wi-Fi |
|---|---|---|---|---|
| **Aryavart Institute of Technology** | NO | NO | NO | NO |
| **Motilal Rastogi Institute of Management** | NO | YES | NO | NO |
| **Azad Institute of Engineering and Technology** | NO | YES | NO | YES |
| **Lucknow Institute of Technology** | NO | NO | NO | NO |
| **Maharana Institute of Technology and Sciences** | NO | YES | NO | NO |
| **Ambalika Institute of Management &Technology** | NO | YES | NO | NO |
| **Jaipuriya Institute of Management** | NO | YES | NO | NO |
| **ITM School of Management** | NO | YES | NO | NO |
| **Dr. M.C. Saxena College of Engineering and Technology** | NO | NO | NO | YES |
| **Shri *Ramswaroop* Memorial *College* of *Engineering*and Management** | NO | NO | NO | YES |

Shows that table Nature of Library Connectivity Aryavart Institute of Technology Lucknow Institute of Technology use of Nature of Library Connectivity Dial-up, MotilalRastogi Institute of Management Maharana Institute of Technology and Sciences Ambalika Institute of Management & Technology Jaipuriya Institute of Management ITM School of Management use of Nature of Library Connectivity Leased Line, Azad Institute of Engineering and Technology only one used two connectivity Leased Line and WI-FI, Dr.M.C. Saxena College of Engineering and Technology *Ramswaroop* Memorial *College* of *Engineering* and Managementuse of Nature of Library Connectivity WI-FI, Last three institute WI-FI connectivity 24× 7.

## (Table.No.6)
## Computerized Information Services:

| NAME OF THE LIBRARY | Cas/Sdi | Dds | Reference Services | Bibliographical Services |
|---|---|---|---|---|
| **Aryavart Institute of Technology** | YES | YES | NO | NO |
| **MotilalRastogi Institute of Management** | NO | YES | YES | YES |
| **Azad Institute of Engineering and Technology** | NO | YES | YES | NO |
| **Lucknow Institute of Technology** | YES | YES | YES | YES |
| **Maharana Institute of Technology and Sciences** | YES | NO | NO | NO |

| | | | | |
|---|---|---|---|---|
| **Ambalika Institute of Management &Technology** | YES | NO | YES | NO |
| **Jaipuriya Institute of Management** | YES | YES | YES | YES |
| **ITM School of Management** | YES | NO | YES | NO |
| **Dr. M.C. Saxena College of Engineering and Technology** | YES | YES | YES | YES |
| **Shri *Ramswaroop* Memorial *College* of *Engineering*and Management** | YES | YES | YES | YES |

Shows that tableComputerized Information Services In Library Four institute have provide Four services Lucknow Institute of TechnologyDr. M.C. Saxena College of Engineering and TechnologyJaipuriya Institute of ManagementShri *Ramswaroop* Memorial *College* of *Engineering* and Management and othersprovide only two servicesin library CAS/SDI, DDS, References, Bibliographical Services. AryavartInstitute of Technology provided in library CAS/SDI only,MotilalRastogi Institute of Management DDS Reference Services Ambalika Institute of Management & Technology CAS/SDI Reference Services ITM School of Management CAS/SDI Reference Services.

## (Table.No.7)
## Status of Library Automation:

| NAME OF THE LIBRARY | AUTOMATION | |
|---|---|---|
| | YES | NO |
| **Aryavart Institute of Technology** | | NO |
| **MotilalRastogi Institute of Management** | | NO |
| **Azad Institute of Engineering and Technology** | YES | |
| **Lucknow Institute of Technology** | YES | |
| **Maharana Institute of Technology and Sciences** | YES | |
| **Ambalika Institute of Management &Technology** | YES | |
| **Jaipuriya Institute of Management** | YES | |
| **ITM School of Management** | | NO |
| **Dr. M.C. Saxena College of Engineering and Technology** | YES | |
| **Shri *Ramswaroop* Memorial *College* of *Engineering*and Management** | YES | |

Shows that tableStatus Of Library Automation only three institute Aryavart Institute of Technology MotilalRastogi Institute of Management ITM School of Management library is not automated, and others seven institute have library automated.

## (Table.No.8)
## Status of Library Automation:

| NAME OF THE LIBRARY | Acquisition | Catalo-guing | Circula-tion | Serial Control | Indexing & Abstracting | Stock Verification | Others |
|---|---|---|---|---|---|---|---|
| **Aryavart Institute of Technology** | NO | NO | NO | NO | NO | YES | NO |
| **MotilalRastogi Institute of Management** | NO | NO | NO | NO | NO | NO | NO |
| **Azad Institute of Engineering and Technology** | YES | YES | NO | NO | NO | YES | NO |
| **Lucknow Institute of Technology** | YES | NO | NO | YES | NO | YES | NO |
| **Maharana Institute of Technology and Sciences** | YES | YES | YES | YES | YES | YES | NO |
| **Ambalika Institute of Management &Technology** | YES | YES | YES | YES | YES | YES | NO |
| **Jaipuriya Institute of Management** | NO | YES | YES | NO | NO | YES | NO |
| **ITM School of Management** | NO | NO | NO | NO | NO | NO | NO |
| **Dr. M.C. Saxena College of Engineering and Technology** | YES | YES | YES | YES | YES | YES | NO |
| **Shri *Ramswaroop* Memorial *College* of *Engineering*and Management** | YES | YES | YES | YES | YES | YES | NO |

Shows that table 11 Status Of Library Automation only four institute fully automated Maharana Institute of Technology and SciencesAmbalika Institute of Management&TechnologyDr. M.C. Saxena College of Engineering and TechnologyShri *Ramswaroop* Memorial *College* of *Engineering* and Management, and only two institute ITM School of Management MotilalRastogi Institute of Managementnotautomated,Aryavart Institute of Technology one secection stock verification.

## (Table.No.9)
## Status of Library Software:

| NAME OF THE LIBRARY | SOFTWARE |
|---|---|
| **Aryavart Institute of Technology** | LIBSYS |
| **MotilalRastogi Institute of Management** | LIBSYS |
| **Azad Institute of Engineering and Technology** | LIBSYS |
| **Lucknow Institute of Technology** | LIBSYS |
| **Maharana Institute of Technology and Sciences** | LIBSYS |
| **Ambalika Institute of Management &Technology** | LIBSYS |
| **Jaipuriya Institute of Management** | LIBSYS |
| **ITM School of Management** | LIBSYS |
| **Dr. M.C. Saxena College of Engineering and Technology** | LIBSYS |
| **Shri *Ramswaroop* Memorial *College* of *Engineering*and Management** | LIBSYS4 |

This is show table all institution use of Libsys software.

**FINDINGS**

- Library is not open that 24* 7.
- Only four institute libraries is fully automated.
- No special funds are provided for the developments to the any library.
- No. of equipment is low in the libraries.
- Lack of Library staff.
- Only one Institute of ITM School Of management Library has no networking and internet connectivity.
- Only four Institutes is provide is the computerised information services.
- Only Three Institute providesWI –Fi facilities and Two Institute provide Dial up LAN and six institutes is provide Leased Line.
- ISDN service is not providing all institution.
- All institution use of Libsys software

**SUGGESTIONS**

- Library should have skill and trained staff
- Increase no of library staff
- Increase no of library equipment
- Library should have open 24*7
- Library should be fully automated

**CONCLUSION**

This study aims to analyses and evaluate the TQM in Academic Libraries with a view of examining the exposure of library professionals. Besides, it aims to highlight the problems encountered by the professionals and suggests some measures for its improvements. The authors investigate the professionals through a survey based on structure questionnaire. Various statistical methods have been used for data analysis. The study confirmed that professionals are aware of the attending the various types of conferences, seminars, workshops and programmers and college should conduct some library events and programmer

## REFERENCE

1. http.//www.wiley.com/college/sc/reid/chap5.pdf
2. https.//src.alionscience.com/pdf/RAC-1ST/SOAR7_1st_Chapter.pdf
3.http.//www.icesi.edu.co/blogs/bitacoraestrategia0314/files/2014/03/21-Total-Quality-Management-concepts.pdf
4. http.//www.encyclo.co.uk/define/Special%20Library
5. http.//comminfo.rutgers.edu/~kantor/SLA/PBKAug19.PDF

# How Can You Prepare Library Orientation

Biji T.T.
Librarian
St.Paul's CBSEPublic School

## Introduction

Our world in 21st century is replete with information which directly and indirectly influences our lives. For long period of time it has been a tendency of human being to preserve information and share it with others. This tendency ultimately makes information permanent. In Today`s world internet, which is rightly a milestone in the history of information, is the best way to share and preserve information easily. The information which is available on internet can be easily accessible through e- resources and these e resources are very important for the advancement of the academic world.

LIBRARY ORIENTATION means that the librarian can introduce students/teachers to the basic library functions and teach them how to use the library.

## Importance of Library Orientation

- It helps to uses of library consIt helps to uses of library conscious about the tremendous value of information.
- To understand the classification of library.
- To identified library hours.
- To know the different books – subject wise books (library - wise ).
- It provides easy selection/reading habits.
- It help s the students to familiar with conscious about the tremendous value of information.
- To understand the classification of library.
- To identified library hours.
- To know the different books – subject wise books (library - wise ).
- It provides easy selection/reading habits.
- It help s the students to familiar with signboards.

## Merits of library orientation

- It provides to show library materials details.
- To give details of library services & facilities.

## Libraries as Learning Laboratories

As new technologies are created that increasingly inform the learning experience, any institution seriously considering the future of its libraries must reach a consensus on the role that it wants these facilities to play in meeting the needs not only of its current academic community but also of the community it aspires to create in the future. The principal challenge for the architect is to design a learning and research environment that is transparent and sufficiently flexible to support this evolution in use. However, we must not design space that is so generic or anonymous that it lacks the distinctive quality that should be expected for such an important building. The charge to architects is to create libraries that, themselves, *learn*. One key concept is that the library as a place must be self-organizing—that is, sufficiently flexible to meet changing space needs. To accomplish this, library planners must be more entrepreneurial in outlook, periodically evaluating the effective use of space and assessing new placements of services and configurations of learning spaces in response to changes in user demand.Planning for libraries today should be premised on 24-hour access, with critical services and technology provided and located when and where they are needed.

The use of electronic databases, digitized formats, and interactive media has also fostered a major shift from the dominance of independent study to more collaborative and interactive learning. A student can go to this place called the "library" and see it as a logical extension of the classroom. It is a place to access and explore with fellow students information in a variety of formats, analyze the information in group discussion, and produce a publication or a presentation for the next day's seminar.

To address this need, libraries must provide numerous technology-infused group study rooms and project-development spaces. As "laboratories that learn," these spaces are designed to be easily reconfigured in response to new technologies and pedagogies. In this interactive learning environment, it is important to accommodate the sound of learning—lively group discussions or intense conversations over coffee—while controlling the impact of acoustics on surrounding space. We must never lose sight of the dedicated, contemplative spaces that will remain an important aspect of any place of scholarship.

Ten or fifteen years ago, we were taking all the teaching facilities out of libraries. The goal was to "purify" the library—to separate it from the classroom experience. Today, these spaces are not only back in the library, but in a more dynamic way than ever. Although they sometimes add to the stock of the institutions teaching spaces, more significantly, they take advantage of a potential to become infused with new information technologies in a service-rich environment.

In this regard, the faculty plays a significant role in drawing students to the library. Now that information is available almost instantaneously anywhere on campus, faculty expect their students to use their time in the library thinking analytically, rather than simply searching for information. Faculty also see the library as an extension of the classroom, as a place in which

students engage in a collaborative learning process, a place where they will, it is hoped, develop or refine their critical thinking.

Several years ago, we designed a number of facilities in academic libraries that were expressly aimed at helping faculty members advance their own understanding and use of changing information technologies. As faculty members have become increasingly sophisticated in their use of technology, we now provide special kinds of teaching spaces for the application of these skills. At the same time, traditional and often-arbitrary boundaries among disciplines are breaking down. In response to these changes, interactive presentation spaces and virtual reality labs are becoming the norm. Faculty members can now make connections with interrelated disciplines or disciplines other than their own and access resources, regardless of their locations. The library is regarded as the laboratory for the humanist and social scientist.

This time-sensitive pattern of use not only provided our planning team with an understanding of how the library continues to be a critical part of the intellectual life of an institution but also gave us insight into how to organize various functions to most efficiently serve its users. Understanding the horizontal and vertical relationship of services and collections was paramount to our discussions.

## A Place for Community, Contemplation

One of the fascinating things that we are now observing is the impact of redesigned library space on the so-called "psychosocial" aspects of an academic community. The library's primary role is to advance and enrich the student's educational experience; however, by cutting across all disciplines and functions, the library also serves a significant social role. It is a place where people come together on levels and in ways that they might not in the residence hall, classroom, or off-campus location. Upon entering the library, the student becomes part of a larger community—a community that endows one with a greater sense of self and higher purpose. Students inform us that they want their library to "feel bigger than they are." They want to be part of the richness of the tradition of scholarship as well as its expectation of the future. They want to experience a sense of inspiration.

While students are intensely engaged in using new technologies, they also want to enjoy the library as a contemplative oasis. Interestingly, a significant majority of students still considers the traditional reading room their favorite area of the library—the great, vaulted, light-filled space, whose walls are lined with, books they may never pull off the shelf.

## The Planning Process

The way in which we plan libraries today has changed significantly. Planners and designers define space in response to anticipated user patterns, identifying the physical characteristics of this space and the specific value it will add to the educational mission of the institution as a whole.

Previously, program requirements were developed in response to carefully defined comparative library standards, such as the number of books to be housed, the number of seats for a particular style of study, or the number of square feet required for a specific technical support function. The quick and easy solution to any perceived need was formula driven—always to add more space.

Very often, this was the wrong response. Too much space has already been built in the name of library "needs" without any real understanding of the true value or contribution of expanded or renovated facilities to the institution's long-term future. The library today must function foremost as an integral and interdependent part of the institution's total educational experience.

Achieving this goal requires a collaborative planning process. That process must include the library director, members of the administration, trustees, students, and faculty, and it must begin *before* a program for space needs is developed. Questions that should be addressed include the following:

- How should the "library," and its services and its collections, serve the institution?
- What programs not in the library at present should be in the facility in the future?
- How does the library add value to the academic experience of the students and faculty?
- How is the library presently perceived, and how can it function as an interdependent facility with other learning and teaching opportunities on a campus in the future?
- How much of the traditional library program must remain in a centralized facility?
- How does the library reflect the vision of the institution of which it is part?

It is our belief that library facilities are most successful when they are conceived to be an integral part of the institution as a whole. It is no longer acceptable to consider libraries as stand-alone facilities. In the conceptual program phase of a facility, consideration must be given not only to anticipated learning patterns but also to the goals and the culture of the institution. We must consider the type of student and faculty an institution wants to attract and retain; the library plays a critical role in this respect. Once we understand the potential of the library, its role, and the value it adds to the educational experience, we can develop a detailed program to explore alternatives for spatial organization as a means to fulfill an educational vision. Only then can we create a unique physical response to the needs and aspirations of a given institution.

With this in mind, the architect and the institution need to develop a partnership, sharing a vision and goals. It has often been said that an architect cannot create a great library without a great client. A look at the planning-process model for some of our recent projects illustrates this principle.

## Levels of Awareness and Use of E –Resources

- (6.45%) of users are not familiar with the e- resources available
- In the library. Highest percentage 45(72.59%) felt that they consideration themselves as fully
- Aware and another 20.96% somewhat aware of e- resources in the library.
- E-Resources Used
- CD/DVD 14(22.58%) 4(20.00%)
- Online Database 11(17.74%) 2((10.00%)
- E Books/E Journal 31(50.00) 12(60.00%)
- Other Resources 6(9.68%) 2(10.00%)

## Preparation based on modern trend

### 1 A Class on Purpose of Using E-Resources.

- Study
- Research work
- update Knowledge
- Teaching
- Education
- Research purpose
- Communication
- Entertainment
- Download Software
- News
- Sports
- E-mail
- Download Text

### 2 A Class on Purpose of Using E-Resources

Study
Research work
Update Knowledge
Teaching
Education
Research purpose
Communication
Entertainment
Download Software
News
Sports
E-mail
Download Text

### 3 A Class on Use of the Internet

- It has become user-friendly communication of daily life of students and has brought a significance
- Change in the searching of information.
- The Internet can be defined as “network of networks and is the world’s largest and most widely used network.
- The Internet plays a vital role in science and technical student’s education.
- The Internet offers more information on every field and subject that is valuable to students and research scholars than the largest print collection of the library.

- The required information can be accessed from anywhere with an Internet connection and with no time limitation, no physical boundary.
- In the age of the internet revolution, many libraries provide the internet facility to the users for right information to the right user at the right time.
- Using Internet in libraries has a positive value. Students use the Internet to communicate not only with colleagues, but also with their instructors.

## 4 A Class on Internet Resources

1.E-Journals.
2.E-Database.
3.Lecture notes.
4.E-Research Report.
5.E-Books.
6.News Paper/ Magazines.
7.Standard and Patients.
8.Technical Report.
9.E-Thesis and
10. Dissertations.
11. E-maps .
12. Non Journal Article

## 5 A Class on Different Strategies of Reading Habits

- Prepare to reading.
- Increase reading rate.
- Improve reading comprehension.
- *To Think - Reading Time :-* 1) what is the page about2) what is key idea of page3) How is it organise

## ***CONCLUSION***

The culture of the library is a culture of service. Service to students, service to faculty, service to the institution. The librarian, and the library services, exists to make the work of learning and scholarship possible. The focus is on the patron, the learner, the researcher, the searcher, the browser, the borrower. This service orientation translates very well into the world of technology, where platforms and tools are only as good as they are friction free, usable, and helpful. Library orientation is essential in library, because save the time of user and staff of library Bulk of the users satisfied with the e-resources accessible in the library. They are giving more importance to electronic version of documents. With the accessibility of more resources through the Internet with high-speed connectivity the demand for e-resources in their definite subject is growing. Accordingly, the libraries have to develop more scientific methods for the compilation of e-resources along with print documents by continuously reviewing the requirements of the user community. So our duty to give service to users of library at high level.

# Information Literacy Skill - Ethical use of Information: an evaluative study

Nisha N B
Research Scholar
Dept. of Library and Information Science
Central University, Pondicherry

Dr. Rekha Rani Varghese
Assistant Professor
Dept. of Library and Information Science
Central University, Pondicherry

## Abstract

An evaluative study was conducted among the scientists in agricultural sector at Thrissur, Kerala state by obtaining responses against the questionnaire prepared to assess information literacy skill on ethical use of information. The analyzed data shows half of the scientists requires enhancement of knowledge in this area. Suggestions are made to uplift the information literacy skills of scientists to meet requirements of the current scenario.

## 1. Introduction

Scientists are the generators and end users of scientific information. Scientific community needs up-to- date knowledge on ethical use of information. The present scenario demands to maintain high standards in ethical use of scientific information in light of the public conscience is vigilant in this regard, especially dominance of plagiarism in scientific research. Assessment of present status of Information literacy skill is the need of the hour to take the remedial measures to equip the scientists to meet the challenges on ethical use of information.

## 2. Definitions

Association of College and Research Libraries defined Information literacy:

"A set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information"

CILIP (UK's Chartered Institute for Library Professionals) have defined "Information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner."

Why information literacy? (American Library Association (1998))

- Equips individuals for lifelong learning
- More than knowing how to use computers
- Includes critical analysis of information
- Highlights the global nature of information

## 3. Need and significance of the study

Since the scientific community is dealing with several types and forms of information they need deep knowledge with information literacy skills. In this study, representative samples from

the scientific community was collected, and analyzed and evolved specific recommendations to enhance information literacy.

## 4. Review of literature

Sivakumar K P and Lawrence Mary A (2013), based on their study at Kanyakumari District opined that the students need to be trained through the curriculum to make them information literates.

Anwarul Islam and Salma Chowdhury(2010), in their study conducted at Dhaka university recommended that the students should be made a proud partner of global information literacy campaign.

Sangeetha Sharma (2008), in her study described the Librarian's role in collaborating with faculty to implement an effective information literacy curriculum

## 5. Objectives of the study

- To evaluate awareness on ethical use of information among the researchers / scientists in agriculture sector.
- To suggest adequate remedial measures

## 6. Methodology

The methodology adopted for the present study is the survey method. Samples taken for the present study from the Agricultural Scientists in Thrissur, Kerala. Questionnaire method was used to collect the data.

A detailed questionnaire was prepared based on information literacy competency standards for science and engineering/ technology by the American Library Association/Association of College and Research Libraries/STS Task force on information Literacy for Science and Technology which helps to determine the level of efficacy on issues related with finding, using and communicating information.

Options were provided to assess efficacy level of information literacy skills. Data obtained were analyzed and plotted in graphs. Based on the analysis suggestions were evolved.

# 7 Limitations of the study

This study is limited to an information literacy skill - ethical use of information. Since the data are collected as self-assessment, there is a possibility of slight error. Hence pre- evaluation test can be conducted to measure actual information skills of the researchers and provide adequate training accordingly.

## 8. Analysis and interpretation of the data

As per the information literacy standards for science and technology fourth standard, " the information literate person understands the economic, ethical, legal and social issues the use of information and its technologies and either as an individual or as a member of group, uses information effectively, ethically, and legally to accomplish a specific purpose." ACRL standards describe six performance indicators, under the fourth standard which are mentioned below and twenty three outcomes also described for this six performance indicators.

- Understands many of the ethical, legal, and socio-economic issues surrounding information and information technology
- Follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.
- Acknowledges the use of information sources in communicating the product or performance.
- Applies creativity in use of the information for a particular product or performance
- Evaluates the final product or performance and revises the development process used as necessary
- Communicates the product or performance effectively to others

The data on performance indicators were analyzed and obtained results as follows:

1. Identification of issues related to free vs. fee based access to information

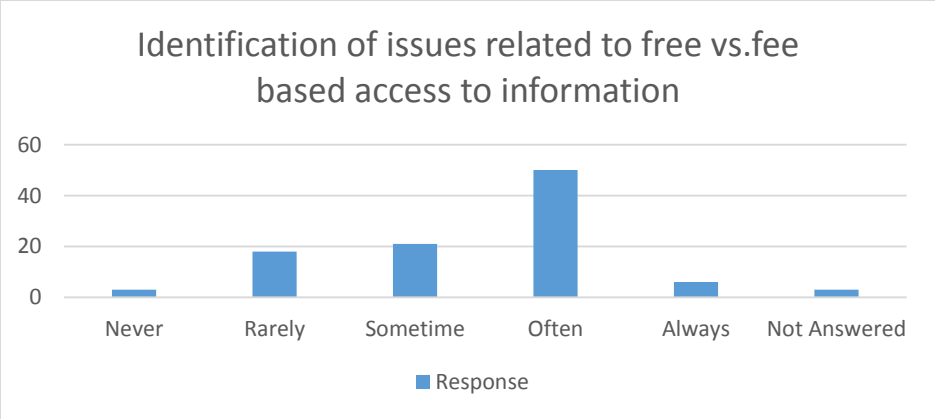



Figure 1

Above 56 percent of respondents are well versed in understanding issues related to free vs fee based access to information. 44 percent of respondents showed below average performance. Hence requires adequate measures to improve their information literacy skills.

2. Fair use of copyrighted material and research data.

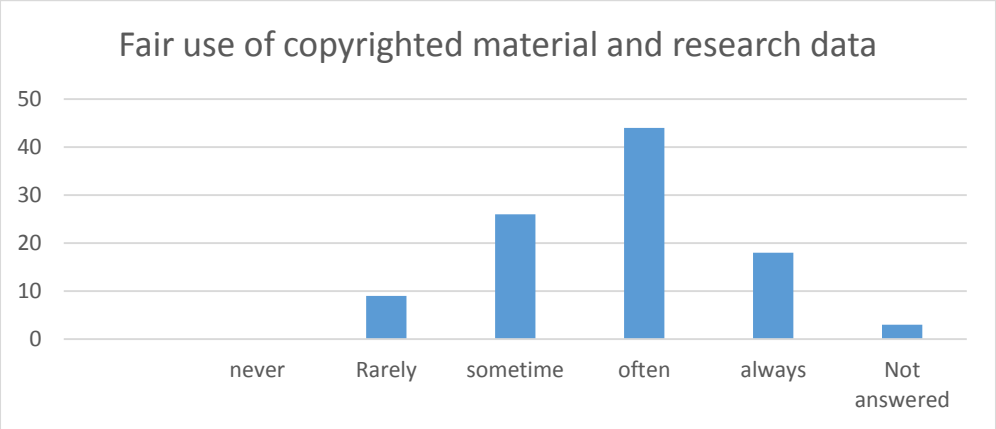



Figure 2

62 percent of respondents shows better skills to fair use of copyrighted matters and research data. 38 percent of respondents showed below average performance. Hence they have to be empowered with better information literacy skills regarding copyright norms to be followed in record.

3. Participate in electronic discussions following accepted practices.

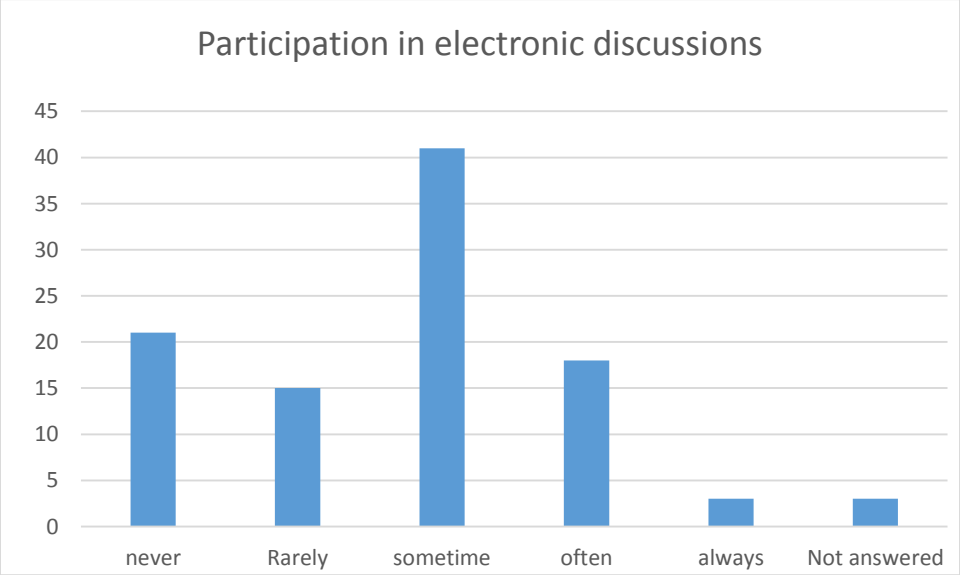



Figure 3

Compared to other skills very few people were participated in electronic discussions. 75 percent of the respondents showed below average performance. This shows incompetence of researchers to participate in effective discussions which will be reducing their opportunities to interact the global research community. Hence urgent measures are needed fill the gap.

4. use approved passwords and other forms of ID for access to information resources ethically

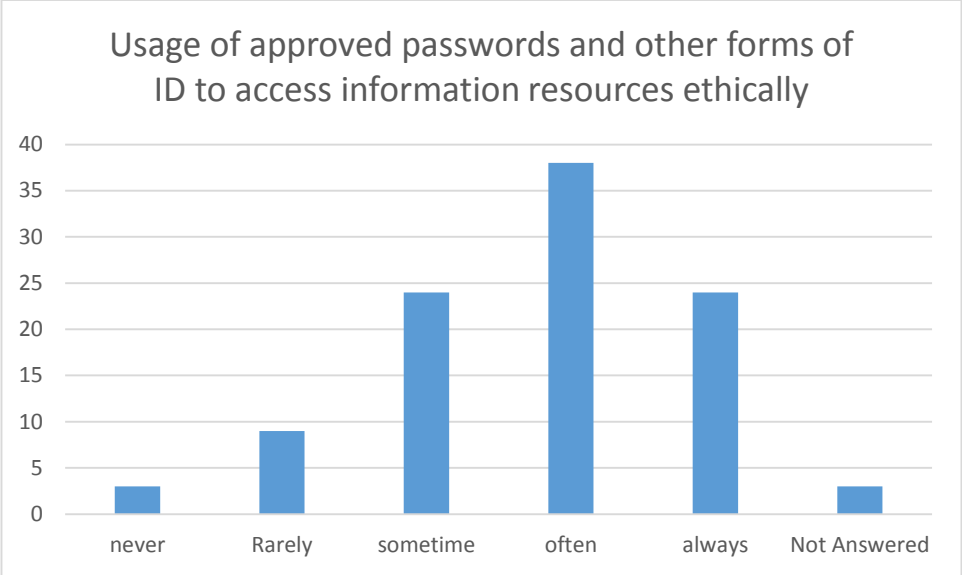



Figure 4

More than 50 percent of respondents showed adequate skills to access information resources ethically but 50 percent showed less capacity in this regard. 12 percent of respondents showed very poor performance. Hence multi-faceted measures are required to empower the respondents to acquire adequate skills in ethical research.

5. Understanding of what constitutes plagiarism and does not represent work attributable to others.

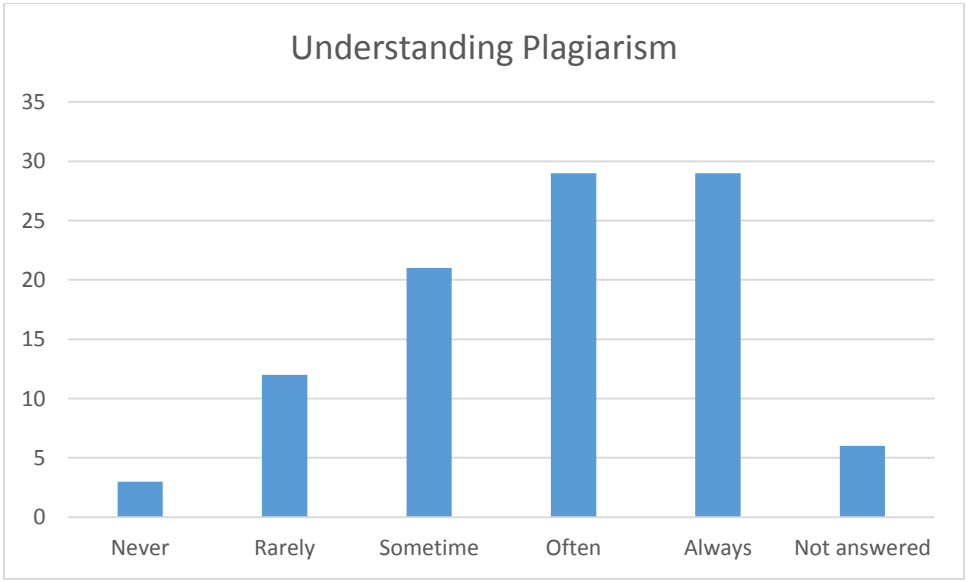



Figure 5

With respect to plagiarism more than 50 percent researchers knows it relevance and the problems related to its violations. But 40 percent remain unaware of most of the problems in connection with plagiarism. This leads deterioration of quality of research papers and invites criticism by

public conscience. Only systematic and comprehensive awareness in this subject will restore the credibility of scientific community.

6. Appropriate documentation style for each research project

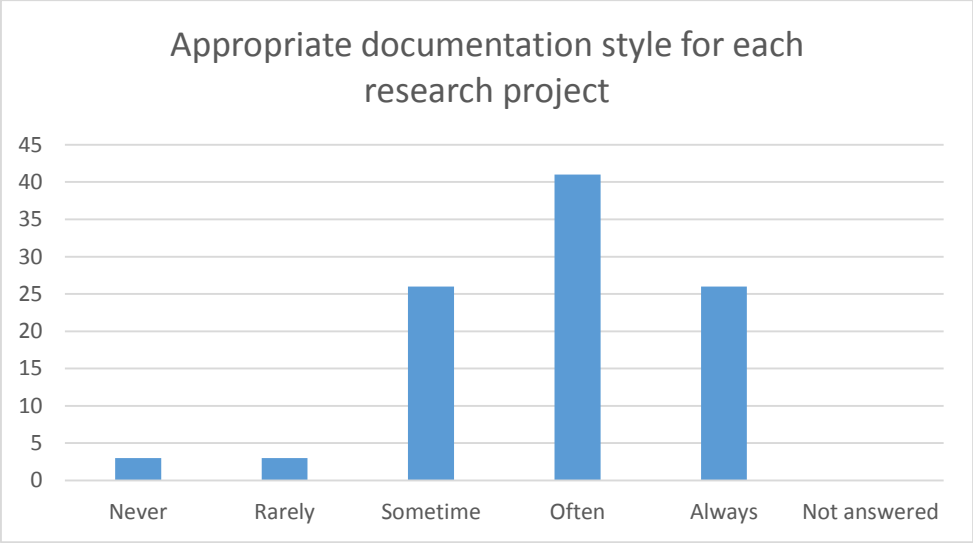



Figure 6

About 70 percent of respondents shows that consistence in documentation styles. 7 percent showed relatively lower level of documentation skills. Moreover 26 percent showed positive response but lack in adequate skills. Hence these two sectors are to be addressed separately to acquire required skills to perform well in documentation.

7. Post permission granted notice, as needed, for copyrighted material

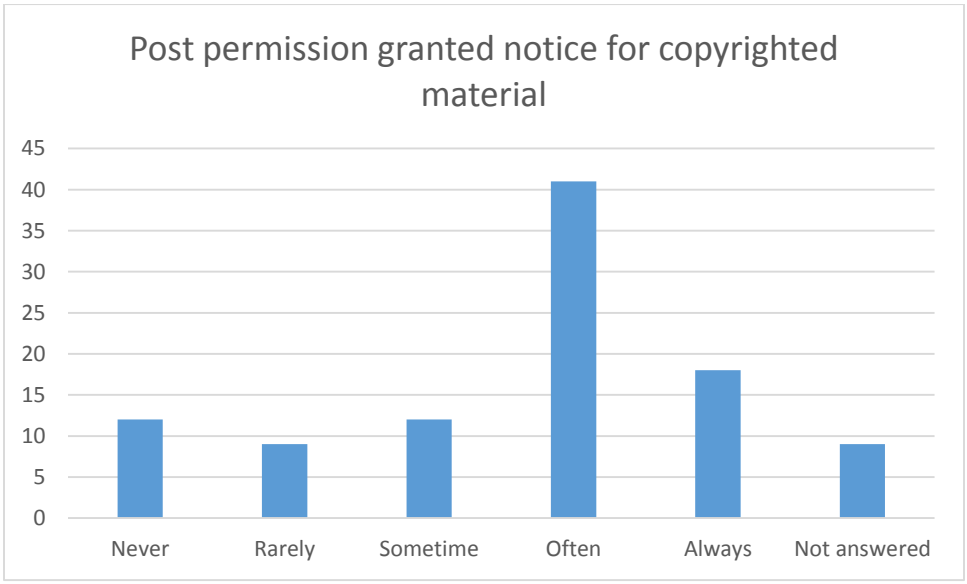



Figure 7

Above 50 percent of respondents known about post permission granted notice for copy righted materials. Below 40 percent of them requires adequate education regarding copy right norms.

8. Advanced information technologies, such as data mining, and visualization to move beyond retrieval and identify trends and patterns within large sets of complex research data

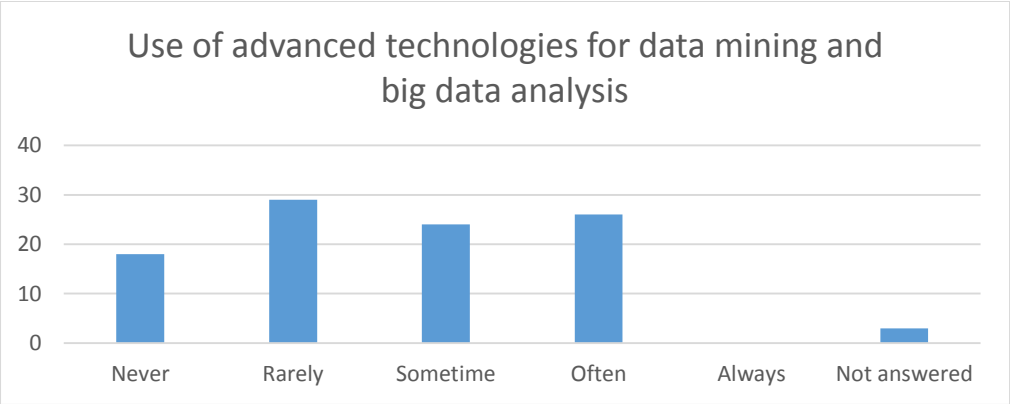



Figure 8

Only 25 percent of respondents showed use of advanced technology skills like data mining and 75% were yet to acquire higher level of knowledge in this regard. Hence comprehensive training measures are to be adopted in this regard.

9. Maintain a log of activities related to information seeking, evaluating, and communicating process

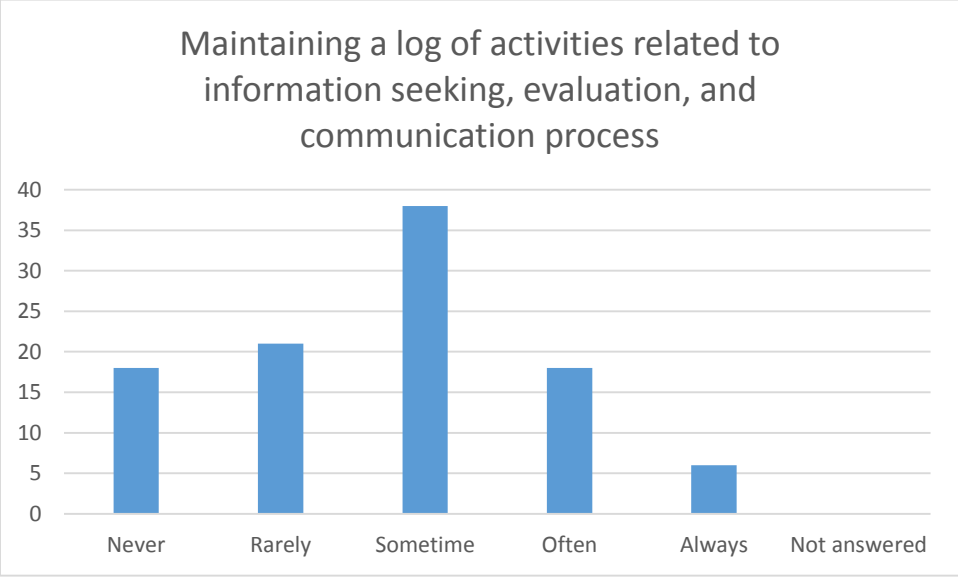



Figure 9

Similarly 24 percent respondents maintain log of activities. Hence remaining 76 percent requires adequate training in preparing log of activities.

10. To choose a communication medium

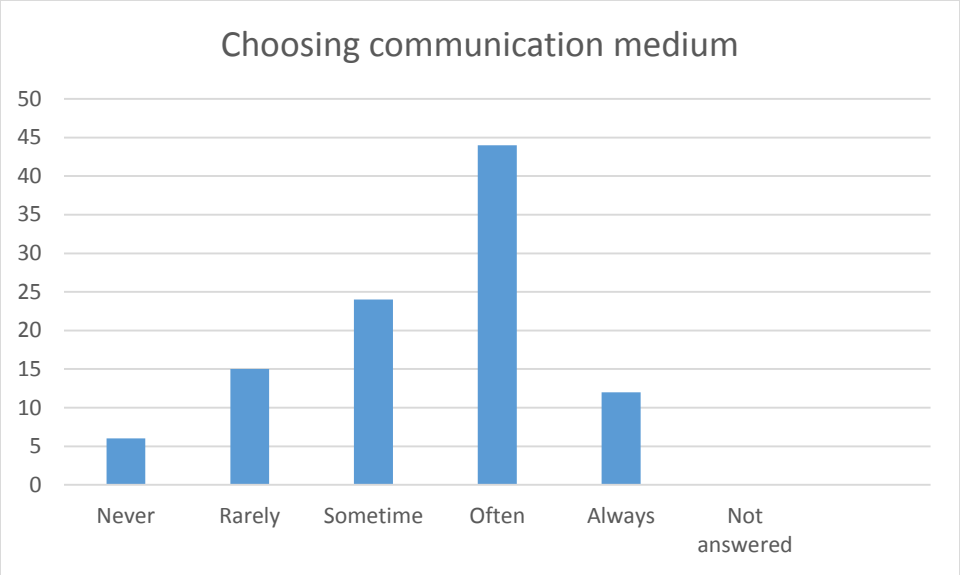



Figure 10

About 60 percent of the respondents know selection of communication medium and related activities. This shows they have acquired high level of media literacy. 20 percent of respondents need training on media literacy.

11. Use a range of information technology applications in creating and communicating the product or performance

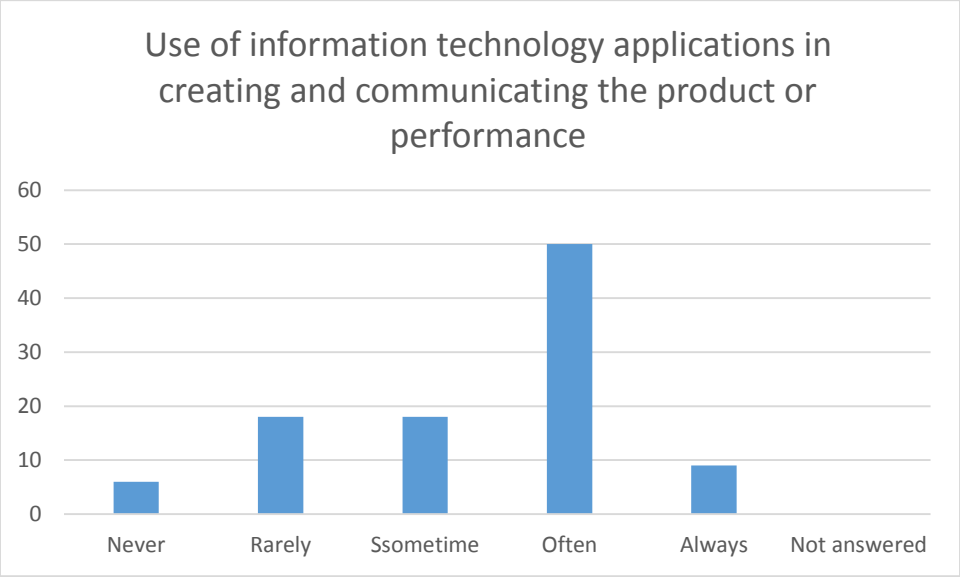



Figure 11

60 percent of respondents have adequate skills in information technology applications to communicate their product. 40 percent still lagging behind, hence requires training in this regard.

## 9. Major findings and suggestions

1. In general, more than 50 percent of the scientific community showed good performance in activities concerned with ethical use of information. 50 percent are lagging behind. About 15 percent shows very poor performance.
2. Multifaceted training programmes can bring up elevation of standards regarding ethical use of information.
3. The community may be divided in to sub groups on the basis of standard to deal separately according to the training needs.
4. Continuous trainings are to be conducted to update the skills acquired by the researchers.
5. Practical sessions are to be included to fine tune the performance and correcting errors in dealing with effective tools
6. Acknowledge and appreciate the best performers, to get more people inspired.
7. Make the training a pleasant community activity to promote mutual support and empowerment.
8. Facilitate the learning groups so that they can perfect the learnt skills. Encourage the interaction between trainees through social media and follow up their activities.
9. One day trainings can be conducted to induce awareness on ethics of use of information. Short term trainings can also be conducted as per requirement.

10. Conclusion

This study was conducted among the researchers in agricultural sector. Analysis of data shows inadequacy in information literacy skill on ethical use of information. About half of the sample population showed requirement of further training to acquire desired knowledge in this field. Multifaceted training programmes and practical sessions may help them to uplift their knowledge and to correct their errors in using effective tools.

## Reference

1. Anwarul Islam and Salma Chowdhury (2010) Assessing Information Literacy Competency of ISLM Graduate students of Dhaka University: an analysis *Library Herald*, 48, 4, 320 – 343
2. Sangeetha Sharma (2008) Information Literacy and Library Education: exploring dimensions in Librarian's role. *SRELS Journal of Information Management*, 4, 2, 169 - 180
3. Sivakumar K P and Lawrence Mary A (2013) Information Literacy Competencies among the post graduate students of arts and science colleges in Kanyakumari District. *KELPRO Bulletin*, 17, 1, 55 – 64
4. http://www.ala.org/ala/acrl
5. http://www.informationliteracy.org.uk