Role of ICT in Present era of Library Science

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Abstract: *Information is regarded as an important resource for all human activities. ―The right information from the right source, to the right user at right time is everybody's right‖. development of Information and Communication Technologies (ICTs) and different library software and its application in the field of Library and Information Science (LIS)create changes in entire library management system. The present study highlights the present scenarios of LIS profession and the professionals in this changing environment. ICT has long standing influence in almost all areas of human activity. The benefit of instant access to digital information is the most distinguishing attribute of the information age. In this paper, the authors tried to highlight the libraries/information centers in the 21ˢᵗ century, the different components of providing digital information services, and Information and Communication Technology's role in modernizing libraries. In India , the use of ICT is yet to take off. In absence of strong telecommunication the Internet facility is not spread out successfully.*
The advent of digital computer advances in telecommunication and audiovisual technologies has opened up new ways of collecting, organizing and disseminating scientific and technical information.
Key words: *library service, LIS profession, LIS User , Use of ICT, LIS professionals, LIS Best Services Influence of ICT on LIS, Need for ITS Skills , Software, Hardware*

I. INTRODUCTION

Information and communications technology have changed the academic library in a profound way. Computers and networked electronic resources had become an integral part of the academic library the past decade. Information and Communications Technology (ICT) have transformed Library and Information services globally. The needs for progressive changes in people's attitudes and behaviors are essential for global acceptance. Never the less for Library and Information Science (LIS) professionals, a change is often linked with modern information technologies and management issues

With the development and application of information and communication technologies (ICTs), the library environment has shifted from the traditional library to hybrid library, then automated libraryand then digital library and virtual library and presently it is shifted to Library 2.0. With such changes, the structure and nature of library and side by side the LIS profession has also changed in a dynamic way. Now in this present situation the LIS professionals are playing all-round multimodal roles to satisfy the different approaches of the end users.

A. ICT SERVICES IN INDIAN LIBRARIES MOSTLY UNIVERSITY

today not only increased and broadened the impact of information resources at their doorsteps, but also placed more emphasis on effective and efficient services. Their applications in libraries, commonly known as library automation, have indeed continued to ease & promote quick & timely access to and transfer of information resources that are found dispensed round the globe. The various services provided in the libraries are complimented by available facilities, some of which are technology driven. In modern library, technology application in the provision and performance of library services provided by libraries to patrons.
The following are some of the ICT facilities or resources that can be used for effective libraryoperation

- BAR-CODING TECHNOLOGY
- BULLETIN BOARD SERVICES
- CAS & SDI SERVICES
- CHAT SERVICES
- COMPUTER TECHNOLOGY
- DATABASE SERVICES
- DOCUMENT SCANNING SERVICES:
- ELECTRONIC BOOKS
- ELECTRONIC DOCUMENT DELIVERY SERVICES
- ELECTRONIC JOURNALS
- ELECTRONIC MAIL (E-mail)

- ELECTRONIC RESOURCES
- FAX (FACSIMILE TRANSMISSION/ TELE FAX)
- INDEXING AND ABSTRACTING SERVICES:
- INSTITUTIONAL REPOSITORIES

- **INTERNET: Internet connects universities, colleges, schools and other educational institutions for information sharing and exchange. Access to information through Internet has changed the total scenario of librarianship.**
- LIBRARY MANAGEMENT SOFTWARE PACKAGE: Ex. CDS/ISIS, SOUL, LIBSYS, KOHA etc.
- LIBRARY RETRIEVAL SYSTEMS:
- LIBRARY WEBSITE:
- MICROGRAPHIC & REPROGRAPHIC TECHNOLOGY:
- NETWORKED ELECTRONIC INFORMATION RESOURCES:
- NETWORKING TECHNOLOGY e.g. - DELNET, INDONET, INFLIBNET, MALIBNET, NICNET, ADINETetc are major WAN in India.
- NPTEL SERVICE
- ONLINE FULL TEXT SERVICE
- ONLINE INSTRUCTIONS
- ONLINE PUBLIC ACCESS CATALOGUE (OPAC)
- ONLINE READERS' ADVISORY SERVICES
- OPEN SOURCE SOFTWARE
- PRINTING TECHNOLOGY: such as Dot Matrix Printers, Laser printer, Inkjet, Bubble-Jet, etc.
- RFID TECHNOLOGY
- SMART CARD FOR MEMBER IDENTIFICATION
- STORAGE TECHNOLOGY
- TELE TEXT SERVICES
- TELECONFERENCING
- VIDEOTEXT SERVICES
- VOICE MAIL
- WEB TECHNOLOGY

B.   THE CURRENT TRENDS
The ITC Library offers a specialized information resource focusing on international trade. The collection has been built from the perspective of ITC's beneficiary countries, their product and services and their existing or potential target markets. The Library provides access to its collection through its online catalogue. In addition, it offers an information referral service to trade support institutions from developing countries. These two services are described below.

1.   Online catalogue
The library's online catalogue is available to all users. The catalogue provides details of the printed and electronic information sources that are maintained by the Library. Users may search the catalogue according to a range of criteria and can subscribe for alerts on new acquisitions.
Users can directly access a number of key information themes and new information sources throughthe link available on the right.

2.   Information services for trade support institutions (TSI)
ITC's Library inquiry-reply service provides recommendations to TSI information centers on appropriate information resources to use to either build their overall collection or to tackle specific research requests. Our aim is to build the capacity of TSI information staff by directing them to relevant information sources that they can build into their own knowledge base. This service is only available to trade support institutions. For companies and individuals, we recommend that you contactthe most appropriate trade support institution in your country for assistance. Library is a vast storehouse of information. Emergence of Internet and Communication Technology (ICT) libraries has been acquiring different approaches of the same and mode of service is changed. Therefore, different types of libraries have born in society, such as:

3. Hybrid library
4. Automated library
5. Digital library
6. Virtual library
7. Library 2.0
8. TOWARDS NEW PARADIGM

C. MANAGERIAL ROLES OF LIS PROFESSIONALS
1. Advocate
2. Consortia manager
3. Consultant
4. Content manager
5. Facilitator
6. Guide/teacher
7. Intermediary
8. Knowledge manager
9. Researcher
10. Sifter
11. Web designer

D. Problems of Implementation
IT in Indian Libraries Though IT has shown great potential for modernizing the library activities, it is only at university level that the initiation has been made towards automation. In some private professional colleges the adoption of IT is under way. Apart from this, the situation in this regard is pathetic in most of the academic institutions. Still large percentage of library professionals are not aware of the use of IT in library because,

Lack of resources

- Lack of expertise
- Lack of manpower training
- Installation of computer in library is still considered as a costly affair
- The high cost involved, especially for accessing the remote databases and their
- installation.

E. REQUIRED SKILLS FOR LIS PROFESSIONALS
The electronic environment of the 21st century will demand a range of skills from by Library and Information Science (LIS) professionals, including:
i. Technical skills.
ii. Information Technology (IT) skills.Iii Managerial skill (Sridhar, 2004).

F. SUPPORTS FOR DEVELOPMENTS Government Bodies
The University Grants Commission (UGC) has initiated a Programme to provide electronic access over the Internet to scholarly literature in all areas of learning to the University sector in India. The programme is wholly funded by the UGC. All Universities which come under UGC's purview will be members of the programme, and it will gradually be extended to colleges as well. The programme is being executed by Director, Information and Library Network (INFLIBNET) Centre, Ahmedabad which is an autonomous institution under the UGC. Access to various E-Journals has started from January 1, 2004 (Murthy et al., (2005).

INFLIBNET initiate a project as part of ongoing interna-tional efforts to construct a networked digital library of theses and dissertations, Indian University Libraries and it is presently accessible through its website.

The UGC has announced the Career Advancement Scheme (CAS) mandatory for the Assistant Librarian/ College Librarians (vide its letter no. F.3-1/94(PS)-7, dated 19.10.2006). Every Assistant Librarian in a University and a Librarian in a College, who is in the scale of pay of Rs.8000-275-13500, will be eligible for placement in a Senior Scale of Rs.10000-325-15200 through CAS. It is also applicable for the higher positions. While formally launching the "Knowledge Commission", the Prime Minister of India (October, 2005) said that

it is the" Brain Power" which would be more powerful than military and economic power of a nation to determine a nation's place in the world now in making. The ability of a nation to make best use of its brain power will shape its place in the world in the present century. Building a knowledge economy and knowledge society was the only way to meet the challenges of Globalization and 21st cen-tury. Going beyond Universities, Colleges and Schools, there are other elements of "Knowledge Economy". Public libraries are an extremely important element of the foundation of a knowledge economy.

Think Tanks and specialized institutions are equally important, especially facilitating informed policy making (Rath, 2006). The National Knowledge Commission, India has suggested the following points for LIS professionals realizing the changing roles in the society:

i.   Set up a National Commission on Libraries.
ii.   Prepare a National Census of all Libraries.
iii.   Revamp LIS Education, Training and Research facilities.iv.Re-assess staffing of libraries.
v. Set up a Central Library Fund. Modernize library management
vii.   Encourage greater community participation in library management.
viii.   Promote Information Communication Technology (ICT) applications in all libraries.

ix.   Encourage Public Private Partnerships in LIS development

G.   Professional organizations
        Professional organizations should also play a great role to develop the professional efficiencies time to time by organizing seminars, workshops, hands-on trainings and refresher courses on new technologies. Professional organizations can keep up with changes in the profession and embrace it smoothly.

If we view the seminars / conferences that are organized by different LIS professional bodies of India we can definitely understand that the realization of multimodal roles of LIS professionals is well accepted. As for example, Indian Association of Special Libraries and Information Centers (IASLIC) has organized such topics since 2001.

IASLIC has been emphasizing the present trends of LIS profession through its seminar / conference
Profesional

H.   FUTURE TRENDS
Since past decade or so, many philosophers have predicted severe consequences resulting from an aging workforce and technological change. LIS professionals have done a commendable job in seizing new techno-logy, but they will need to become much more aggressive and proactive in the future as they face increased competition from a variety of groups who think they can do a better job in providing information to the user. So in the near future the LIS professionals should have to take necessary responsibilities in:

i.   As providers of resources, they can help to enhance the amount of available resources by making stakeholdersaware of the importance of sharing. In particular, as far as the sharing of content is concerned, they can operate by promoting digitization campaigns and the open access approach. These actions may result in a vast amount of new digital information accessible online which can be exploited by advanced services.

ii.   Within a digital framework, libraries are certainly the best candidates for carrying out content description, maintenance and preservation of resources. By exploiting their large experience acquired in the past, they can contribute to the long-term availability and to the quality of the resources disseminated by the digital libraries (DLs).

iii.   Long-term availability also requires the implementation of models able to support the sustainability of the re-sources provided. Libraries, either alone or as members of library consortia, can also act as the organizations deputed to define and put in place these models.

iv.   As main resource providers, libraries can work jointly on the definition of common policies and standards. An agreement on these aspects would strongly contribute towards facilitating the design and development of the new complex services required to fulfill the emerging user needs.

v.   In the future libraries can also play an important role as mediators between the infrastructure and the user communities. In particular, they can proactively promote and facilitate the creation of DLs that respond to the needs of the user communities. They can also assist users by providing, if necessary, the skills required to select, update and exploit the DL content and services (Castelli, 2006).

It is not hard to realize that in near future library and information centers would be globalized and maximum services will be available from remote places.

I.   Some Suggestions and Points for Discussion
The LIS schools all over the country should include more on IT and ICT in their

• course curriculum as one of the core subjects in each semester. The students of final year should do project work on any topic related to IT

• application. This would enable them to gain practical experience in IT applications. Training for trainers, thiswill help teachers in imparting IT based education and

• training to students more effectively. It would be better if training programmers' are planned exclusively for teachers in IT resourceful LIS schools and Libraries such as IITs, IIMs, and NITs etc. Training should be supplemented by having short term instructional programmer,

• workshops, continuing education programmer attendance to which should be mandatory to both teachers aswell as students. Brain storming sessions may be arranged to design the course, which may be done in

• such a way that, within the frame work of syllabus it offers opportunities to students to groom themselves to give quality serviceswhen they enter the profession.

II.   CONCLUSION

Information and communication technology has become essential part of 21st century's libraries. ICT has madedrastic change in the field of libraries, the libraries has transformed from traditional libraries to Digital libraries or Virtual libraries. The librarians must bring to this technological environment to make sense of a multiplicity of digital collections and e-resources. They must identify strategies to provide access to wide range of networks & information resources. For this purpose they need new skills and competencies to manage and create many information sources and services. The competencies & skills form the basis for the continued survival and growth of professional in the new information technology age. So in the fast changing environment, the library professional must possess multi skills, multi-tasking abilities and competent in specialized area of work

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