Present Scenario of ICT Applications in Libraries

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Abstract

In the present scenario the almost whole working of Libraries is information and communication technology centric. Information and communication technology improves the functioning of Libraries. Benefits of information and communication technology in Libraries can be measured in various forms like it improves the functioning of housekeeping operations like acquisition of information, processing of information, storage and retrieval of information on the other hands it also improves the provision of Library services like remote access of information, Electronic delivery of information, computerized delivery of CAS, SDI, delivery of update in the Library through websites, etc. By the implementation of advanced information and communication technology in libraries duplication in the forms of information resources, efforts can be avoided and vice versa these saved resources can be utilized for the betterment of the libraries. Due to emergence of advanced information and communication technology various library consortiums stands to be emerged which is a mile stone in the provision of Library services like UGC-Infonet digital Library consortium, National knowledge resource consortium, Consortium of e-Resources in Agriculture, etc. In future the Libraries cannot sustain and survive without the implementation of advanced ICT.

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1. Introduction

Library and information science (LIS) is the study of issues related to libraries and the information fields. This includes academic studies regarding how library resources are used and how people interact with library systems. Basic topics in LIS include: acquisition, cataloging, classification, and preservation of library materials. LIS should not be confused with information theory, the mathematical study of the concept of information or information science a field related to computer science and cognitive science. LIS is distinct from librarianship, in a way analogous to the difference between medicine and doctoring. Librarianship, the application of library science, comprises the practical services rendered by librarians in their day-to-day attempts to meet the needs of library patrons. Many practicing librarians do not contribute to LIS scholarship but focus on daily operations of their own library systems. Other practicing librarians, particularly in academic libraries, do perform original scholarly LIS research and contribute to the academic end of the field.

Information and Communication Technology includes all the components like computers, operating systems, Super computers, networking wires, networking switches, Xerox machines, fiber optic communication, RFID equipments, Bar code technology and Internet , etc.

2. Today's Problem

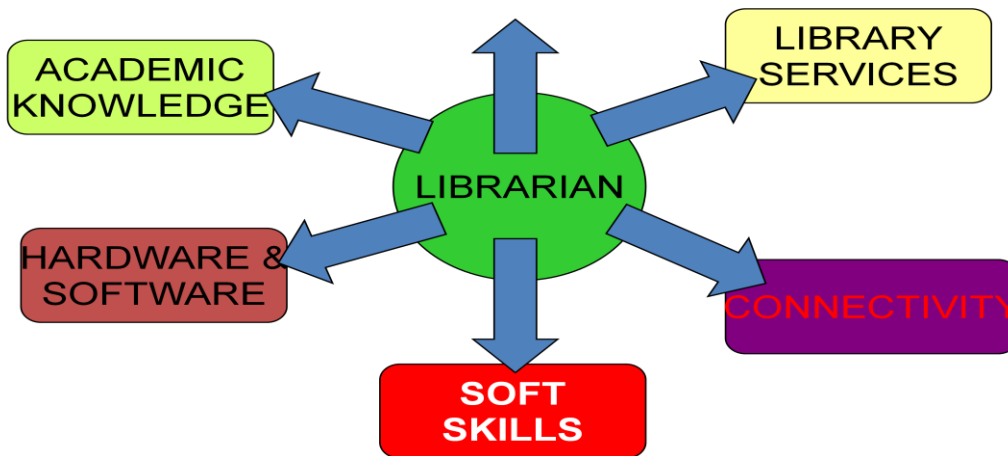There are various today's problems are identifies as under
   •   Information explosion: Information explosion is the major problem in the present scenario.

- exponential growth of information artifacts, if not of information itself
- PLUS today
- Communication explosion
  - exponential growth of means and ways by which information is communicated, transmitted, accesses, used
- Use of Technologies: use of technologies is also a challenge in present scenario.

3. **Resources Needed for an Effective Librarian:** In present scenario the following resources required for provision of effective services to the users.

Electronic Journals: Focused shifted from print to electronic journals.
Worldwide digital libraries: In all over the world, the users used digital libraries.

4. **Changing Scenario:** In the present scenario, the traditional library services changed to Computerized Library services. Following changes were noted:

- Transformation into a new information services unit: In the present scenario new service units in the Libraries stands to be emerged like E-resources and Digital Library units.
- Electronic acquisition and serials control: Due to emergence of ICT, the acquisition and serial control performed in the Libraries electronically.
- Electronic inter library loan: The Electronic inter library loan performed due to emergence of ICT.
- Electronic circulation functions: The circulation in the libraries performed electronically due to emergence of ICT.
- Gradual trends toward library digitization: We are gradually moving towards Library digitization due to emergence of ICT.
- Emergence of library information networks: Various Library information networks stands to be emerged due to emergence of ICT.
- Connectivity to campus Intranet and Internet: Due to emergence of ICT, it is possible to create own Intranet in the Libraries and can be also connected to Internet.
- Journals on CD-ROMs: Now the journals are arriving in CD-ROMS in the Libraries which is milestone in the today's age.

Changing Scenario of Information during last two decades		
Changes	**1991**	**2015**
Content	Print	Digital
Computing	Expensive	Inexpensive

Choice of content	Selective	Comprehensive
Index creation	Human	Automatic
Frequency	One time	Monthly
Vocabulary	Controlled	Not controlled
Query Boolean	Ranked	Retrieval
Users	Trained	Untrained

There is lot of difference in the last two decades as scenario of information stands to be changed due to emergence of ICT. The contents in the back two decades available in print form but now available in digital form. The computing not so expensive in the present scenario means ICT infrastructure can make easily available in the market. Now comprehensively we can choice the contents in the present age. Now the software packages can automatically create the indexes of the contents but in two decays back it was created by human being. Now the contents can be searched through non controlled vocabulary and at the same time the untrained users can also search the desired information.

Information Technology: As far as IT is concerned, all the components of IT gradually developed as described as under

- IT refers to computer-based systems: hardware, software, networks. It means the formation Technology covers almost all the hardware, software and networking technology.
- IT spans from the design and production of chips (e.g., Intel, etc.) to the design and creation of complex computer-based systems (e.g., the IRS) to the end-use of such systems (e.g., e-business, etc.) IT includes all aspects of managing and processing information.

5. **ICT applications in Libraries:** There are applications of ICT in Libraries as under
   ➢ **Push-based services:** This is the outcome of modern ICT. Various profile based services emerged in the present scenario and these services can be performed by creating profiles of the users.
   - Current awareness (e.g. new additions, news letters, content pages). Such type of current awareness services can be provided to the users in which new additions, newsletters and content pages can be dispatched.
   - Profile-based alerting services (e.g. SDIs, content pages). It means alerting services can be provided to users according to their profilers.
   - Discussion forums (Listserv, blogs, etc.). Such types of services can be provided to the users according to their interest.
   ➢ **Housekeeping operations:** In the present scenario, the working of Libraries is ICT centric. ICT can be used for housekeeping operations in the Libraries for following operations as under
   - Book acquisitions: In the book acquisitions the computerized operations can be performed.
   - Technical processing (cataloguing, classification): Technical processing can also be done by using internet.
   - Serials management: Serial control can be performed by using computers.

6. **Use of ICT in Libraries**: The use of Libraries can be determined from following facts as under

   ➢ Why Use Internet in Libraries?
      - Extend local collections to include information sources on the Internet (Internet as an information source): By which own collections can be uploaded on the internet for wide access to public irrespective of any distance and location.
      - Integrate different L&I services, local and remote information sources using web browser as the common user interface: Various Library and information Services can be integrated with the Internet and the remote access can be provided.
      - Improve productivity of house-keeping operations (e.g. acquisitions): Internet can be used in the house keeping operations for acquisition of books.

- Deliver information to the desktops of users: Internet can be used for delivery of information to desktop computers of respective users.
- Efficient information delivery: Through Internet information can be delivered efficiently.
- Reach local and remote users: Through Internet we can reach to local users.
- Extend information content to full text, animations and multi-media: On the other hand information can be accessed in multimedia form.
- Enable resource sharing among libraries: Through Internet resource sharing amongst the libraries can be enhanced.
- Foster professional development: By use of Internet professional development can be enhanced.
- Easy availability of technologies for digitization, indexing, retrieval and dissemination over intranets and the Internet.
- Internet is forcing libraries to move from 'Holdings' model of information provision to 'Access' model and integrate all resources to which users have access behind a single Web-based interface.

➢ Carry out key operations within the circulation module: By using Internet we can carry various operations in acquisition section more efficiently and more effectively as under
- issuing, discharging, renewing and reserving items
- registering new clients
- removing clients from the system

➢ Describing and operating the acquisitions process competently:
- explaining budget allocation processes
- ordering, receipting and invoicing new items

➢ Using the catalogue to manage resources effectively and support clients
- checking an item's loan status
- searching the catalogue using different fields — author, title, class, phrase or keyword
- initiate an ILL request
- monitor progress of an ILL request
- carry out internal ILL procedures for issue, discharge, recall of ILL items to client
- carry out procedures for receipt of and return of ILL item from/to home library
- locating items from internal and external sources
- requesting items from internal and external sources
- carrying out administrative procedures
- monitoring progress of requests and reporting to clients

7. Remote Digital Library Service

The days are gone where libraries can work within their four walls to provide services to the community. The demands of our user base are changing and with this we need to change our services as well. One of our first goals will be the development of services that remove geographic and generational barriers to information access. Our patrons have more options for information access than ever before, most of those options are digital, if we're not there they will go somewhere else. One of the first solutions which have been developed is web-based service. The potential: A librarian in every classroom, home and office - any time of the day (or night).

A comment:

"Earlier in younger days, kids *hated* to go to the library because of unfriendly, strictness, staff that worked by telling everyone to be quiet. Now you can sit at home and get a library person to help you right in your living room!"

- **Use of Technologies:** The other technologies can be used in Libraries in different ways like
  - ICT Application: ICT can be used in whole working of the library.
  - Bar Code Technology: This type of Technology has lot of applications in libraries.
  - RFID Technology: This technology has lot of significance in libraries.
  - Smart Card Technology: It is also a part of RFID Technology.
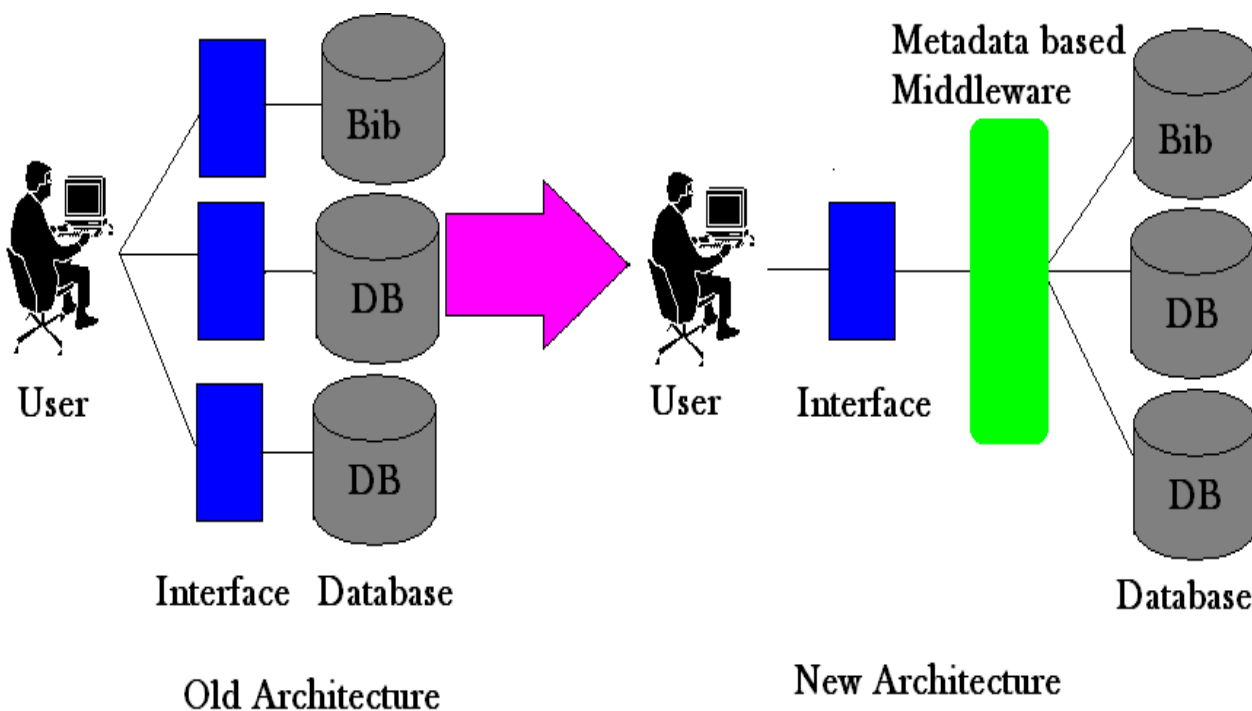 - WIRELESS Networking Technology, etc.

- **Locally owned electronic information sources:** There are various information services which can be provided to the library users those which are locally owned by libraries as under
  - OPAC
  - Networked CD-ROMs
  - Electronic journals
  - Internal publications (e.g. staff publications, dissertations, reports, projects, manuals)
  - Reference sources (e.g. dictionaries, encyclopedias)
  - Digital audio, video and multi-media collections
  - On-line courses
  - Tele-education
  - Tele-medicine
  - Distance Education
  - Multi-media
  - Virtual Learning, Virtual Laboratory and Virtual Observatory
  - Mobile Information Society
  - New Generation Internet (NGI) in Gbps
  - Virtual/Digital Libraries
  - E-mail:
  - Academic
  - Administration
  - Management
  - Socio-economic activities
  - Remote Login (Telnet)
  - Possible access to super computer facilities
  - World Wide Web (WWW)
  - Revolution within revolution
  - Teaching, research and development
  - Distance Education and on-line courses

- **Forms of Digital Reference:** Now in the present scenario reference services transformed into digital reference services which has great significance in the present scenario given as under
  - Web Forms
  - Chat/Live-Reference
  - Voice over Internet Protocol (VoIP)
  - Video Conferencing
  - Web Contact Centre

- **New Challenges for libraries:** As I have identified that there are various challenges to the Libraries in present scenario like to change the attitude of professionals regarding adaptability of advanced ICT, to pursue the authorities to spare lot of funds to purchase ICT equipments, to fully trained the Library personnel's   in use of ICT, to organize the advanced training programs for the users of the library, etc.

8. New library System architecture:

With the advancement of new information and communication technology, the new architecture of the Library will definitely supersede the old architecture of the Libraries in which users are usually search the bibliographical information the databases then thereafter locate the concerned document in the shelves arranged according to classification system. But in the new architecture, the users will definitely search multimedia contents instantly by using metadata assigned to the contents. The new architecture will definitely perform the revolutionary change in the provision of library services to the students which is possible only due to advancement of ICT.

9. Conclusion

It is hereby concluded that it is mandatory to all the Libraries in future to implement advanced ICT otherwise these libraries and Library personnel stands to be vanished. The Library personnel should change their attitude i.e. to develop positive attitude regarding implementation of ICT in the Libraries. The future of Libraries depends upon advanced Information and Communication Technology.

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