Digital and Virtual Libraries: Transformation in Libraries and Information Services

Gururaj F D
Librariran, Surana College, Center For Post Graduation
Kengeri, Bangalore.
Fd.gururaj@gmail.com ; guru_f_d@yahoo.com

Arun Kumar H S
Asst. Librarian, Surana College, Centre For Post Graduation
Kengeri, Bangalore, arunkumar.hs20@gmail.com

ABSTRACT: The different technologies, media, publishing trends, information storage methods, information retrieval practices etc changed the concepts of library and information services in past decade. The continuous paradigm shift in libraries developed digital libraries and virtual libraries from traditional analogue libraries and the transformation made an impact over library functions including library and information services. Reference and information services are major activities of library functions. In the present paper efforts are made to analyse the possible changes in library and information services due to digital and virtual environment. Transition of libraries in passage of time is reviewed due to applications of ICT over last few decades as well as possible future changes to come.

Keywords: Library and information services, User oriented library services, information services, reference services.

1. Introduction:

Among the different functions of libraries**, *library and information services*** is an essentional activities. In the era of information explosion users need accurate, current and pinpointed information, but due to limited budges libraries cannot build sufficient collection in libraries. It is now possible to provide enhanced information services form single library's collection and hence new resource sharing programmes were introduced to meet the needs of users. The changes in library and information services are due to technological developments and publishing trends. The difference between traditional reference service and web based services or modern services is that majority of the needs could be less matched in traditional services as it is based on print collection and limited library collection. But today due to internet and web technologies and using the global information all the needs are meeting out quickly and efficiently. The growth in search engines (Google, Google Scholar, Wikis etc) web tools like YouTube, Facebook, and Twitter have challenged library practices especially in providing reference and information services and offer new enhanced services to users.

2. Transformations In Libraries:

Initially the historical role of the library was to serve as a storehouse, an archive of manuscripts, art, and important documents. Later in medieval times, books sere valuable possessions far too expensive for most people to own. As a result, libraries often turned into

collections of books chained to them for security purpose. In around 1455 Johann Gutenberg developed his printing press and started printing copies of the Gutenberg Bible. Later Gutenberg had his printing press repossessed by Johann Fust, the man who had financed his work for the previous 10 years. The sons of Johann Fust were largely responsible for printing revolution and saw over 500,000 books put into circulation before 1500. A huge turning point in the evolution of libraries was architected by Andrew Carnegie. Between 1883 and 1929 he provided funding for 2,509 libraries, of which 1,689 of them were built in the US.

Richard West and Peter Lyman as quoted by Lynch Clifford (2000) in his communication "from Automation to Transformation" clearly indicated three phase procession in organizations due to applications of ICT

1. Modernization: doing what is already in process but with more efficiency.
2. Innovation: new capabilities possible due to trends like ICT
3. Transformation: fundamentally alerting the nature of organization.

In modernization of libraries ICT was used to manage the collection and automate the libraries
since 1980's. Later innovative concepts and transformation in library activities took place due to scholarly communication, database development, internet and web tools usage in libraries as well as print media shifted to digital and networked information appeared in libraries. Traditional libraries are popularly called as power house of information and have main functions of acquiring information resources, organize them systematically, and provide information services to users and enhance the use of available collection.

3. Current Trends:

Transition from traditional to modern libraries is due to adapting trends and changes in libraries to perform better for the information community. Acceptance of new technologies, new information storage media, publishing trends, communication tools, internet, web tools, access to information and search technology is leading towards complexities like information mining due to development of databases and information warehouses, demand for global information is growing exponentially, transitioning from a product-based economy to an experience based economy, libraries are transitioning from a center of information to a center of culture and assist users in different ways. Current trends in libraries are marching towards digital and virtual libraries since most of the libraries have crossed the automation. Though the development is slow but libraries have initiated practices of subscribing to digital resources, e-books, e-journals and database. Use of internet is more in libraries as it is proved as tool for the information collection. Digitization and institutional repositories are initiated in many libraries. However there is a need to initiate library and information services using modern information resources and technologies. This challenge is to be accepted in the profession as this is the main function of libraries to provide information on demand using different services.

3.1.   Digital Libraries (DL's):

Digital library is focused on collection of digital objects that an include text, visual material, audio material, video material, stored in electronic media, along with means for organizing, storing, and retrieving the files and media contained in the library collection. Digital libraries can very immensely in size and scope, and can be maintained by individuals, organizations, or affiliated with established physical library buildings or institutions, or with academic institutions. The electronic content may be stored locally, or accessed remotely via computer networks. A digital library is a type of information retrieval system. Types of digital libraries are: Stand-alone Digital Library (SDL), Federated Digital Library (FDL), and Harvested Digital Library (HDL).

3.2.   VIRTUAL LIBARARIES (VL's):

Virtual library is a collection of resources available on one or more computer systems, where Single interface or entry point to the collections is provided. The key point is that the user need not know where particular resources is located and form where user is getting information required, the location is "virtual". The building blocks of VL are digital collection, URL of web pages, digitized recourses, acquired born digital resources, additional technologies for VL like web designing, HTML, Web scripting, languages, web servers, high information storage servers etc. VL is a library in which the holdings are found in electronic stacks. It is a library that exists, without any regard to a physical space or location. It is a technological way to bring together the resources of various libraries and information services, both internal and external, all one place, so users can find what they need quickly and easily.

4. Transformation In Libraries: Services

Today libraries have consisted as large collections of books and other materials, primarily funded and maintained by academic institutions and organizations. Collections are often used by people those who cannot afford to purchase books for themselves as well have a habit of reading and collecting knowledge for the different presentations. At present information society have transitioned from a time where information was scarce and precious to today where information is vast and readily available, and in many cases, free.

4.1.   Conventional Library Services:

Library services are designed and developed to fulfill the need of users and also meet the expectations of users. Since past the common popular services provided through the libraries are based on cataloguing, classification, indexing, CAS, SDI, reference, referral, DDS, ILL, CD-Rom database services, reading room, book bank, Xeroxing and DDC etc.

Using ICT the existing services are upgraded and becomes more effective and efficient. The services are:

- OPAC and Web OPAC Searching facilities
- Virtual Reference Desk (VRD) or Virtual Reference Services (VRS) using E-resources on net and CD-ROM, gateways, portals and online database.
- FAQ, Ask Librarian etc provide advanced services
- Database searching for compilation of bibliographies and searching topical information provided unique search features and variety of display formats.
- CAS based on electronic publications and internet resources.

4.2. Library Services Using Different Technologies:

Following are the few services initiated due to application of technologies and management techniques applications in libraries:

- Library services based on outsourcing crowdsourcing
- Library services using online and offline databases
- Internet and web resources based library services
- Electronic or digital library based services
- Social network based library services
- Cloud based library services
- E-Mail / Chat / Video conferencing based reference services
- Library website based services
- Ask about service
- Mobile based services
- Virtual library based services

5. Best Practices for Providing Library Services:

To manage better and effective library and information services it is necessary to follow best practices:

- Develop modern library system using powerful technological tools and develop library website with social networking sites like facebook, blog, RSS feeds, which gives access to library resources.
- Ask librarian service to response to active reference service
- Awareness of information literacy among staff and students through orientation, induction and training.
- Support to e-publications and procure e-book readers like kindle for users
- Capacity building and acceptance of new skills
- Information seeking studies at regular intervals
- Development of specialized databases, and institutional repositories

6. Conclusion:

Growth and development of ICT has brought tremendous changes in information and reference services in academic libraries. Digital reference services i.e. Asynchronous and Synchronous which includes E-Mail reference services, web form, ask service, Virtual Reference Desk, 24/7 Reference, Instant Massaging Video Conferencing or web cam services etc are becoming more popular and also provided efficiently. In addition to these web based, Internet based, CD-Rom based, Network based and consortium based information services, are purely based on the digital documents or information resources like databases, e-books, e-journals etc. Synchronous communication, content delivery, collaborative publishing tools, collaborative service platforms and hybrid applications are changing the library services structure. Academic libraries are becoming research centers and have to provide various services as per demands to users. The best practices to be followed and capacity building in the profession is the need to sustain in future.

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