Abstract
This paper tangibly reflects paradigm shift emerging from technological developments required for effective and efficient services by the academic libraries of 21st Century. The open information culture has shifted focus from subject experts and limited modes to common man’s participative domain where inputs can be simultaneously added and accessed and new modes of wikis, blogs, Web 2.0, information commons, instant messaging are in vogue, where academic libraries has great onus of quenching the quests of information seekers by incorporating the revolutionary technological changes to provide state of the art services.

Keywords: Gateways to information, Learning centre, Training centre, Library 2.0, Digital library, Information commons, Instant messaging reference service, Information literacy.

Academic Libraries in New Role
The abode of knowledge is in transition mode from repositories to open access, dramatic and drastic changes in acquisition, process, storage and dissemination of information, harnessing and apt application of versatile technologies, gap between user needs and services rendered and from phobia of ICT developments to justify the inevitable changes required in e-environment for sustainability and future life. 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 we will be left behind in the transformational phase.

Academic libraries are changing dramatically by adopting new means of technology in all activities of print to e-environment like printed library card catalogues have been replaced by computerized OPAC system with a variety of web-based graphical user interface (GUI) functions, online accessibility for 24/7, availability of numerous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. (Li). 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. The new roles of an academic library in present era can be seen as:

Gateways to Information
An academic library has to function as a central gateway for library users to access, locate, transform, and utilize information resources in a variety of printed and electronic formats via applications, databases, networks, platforms and systems. (Ibid).

Learning Centre
An academic library has to provide library users with dynamic equipment, facilities, resources and services to support their learning activities, which cover assignments, presentations, projects, research papers, reports, etc. (Ibid).

Training Centre
An academic library shall provide best supporting and training facilities to faculty and instructors for designing, developing, integrating and implementation of various teaching courses, programmes, workshops including support for distance learning programmes.
An academic library shall provide library users with computer hardware and software, audio-video equipment and other supporting facilities and peripheral devices to create, design, develop, integrate, publish, and upgrade their various multimedia presentations, projects, reports, web sites, blogs, and so on. (Ibid).

It is imperative for academic library administrators, librarians, executives, staff and other professionals to review and reassess the objectives in digital age where academic libraries are shifting from “information possession” to “information access” and redefining its new roles of learning and training centre.

To harness the technological paradigms some new services should be focused upon such as:

**Library 2.0**
The term Library 2.0, first coined by Michael Casey in 2006 on his blog Library Crunch, refers to a number of social and technological changes that are having impact upon libraries, its staff and their clientele, and how they could interact. It is a model for modernized form of library service that reflects a transition within the library world in the way services are delivered to users. The focus is on user-centered change and participation in the creation of content and community. (http://en.wikipedia.org/wiki/Library_2.0 accessed on 07.06.2009)

The application of concepts and technologies of Web 2.0 applied to the library services and collections is named as "Library 2.0". It is a concept that personified new generation of library services to meet the present day users’ needs and expectations.

**Library Digitization**
Library digitization is the process of utilizing computers, databases, multimedia equipment, networks, video equipment and web technologies to electronically collect, classify, copy, compress, scan, store and transform conventional library information resources. Library digitization is different from a digital library as it focuses on the process of making diverse library information resources electronically available, while a digital library is a platform for accessing, collecting, managing, searching and storing distributed digitized information resources over the Internet and World Wide Web (www). (Li). Thus, to provide access to these digitalized library collections, academic libraries need to set up and implement digital library projects which provide digitalized resources, network access and distribution management via network technology.

**Digital Library**
A digital library is an assemblage of digital computing, storage, and communication machinery together with the content and software needed to reproduce, emulate and extend the services provided by conventional libraries based on paper and other material means of collecting, cataloguing, finding and disseminating information. A full service digital library must accomplish all essential services of traditional libraries and also exploit the well-known advantage of digital storage, searching and communication. (Chowdhury and Chowdhury, 2003). It provides access to part of or all its collections, such as plain texts, images, graphs, audio/video materials and other library items that have been electronically converted, via the Internet and www.

**Instant Messaging Reference Service**
It is one of the real-time electronic consulting and reference offered by academic libraries via specific software running on the Internet platform. (Li). It is virtually instantaneous communication between two or more people using textual format, providing “real time reference” services, where patrons can synchronously communicate with librarians much as they would in a face to face reference context. The software often allow co-browsing, file sharing, screen capturing and data sharing and mining of previous transcripts. Libraries are already offering live reference service using 24x7x365 in a collaborative fashion.

**Information Commons**
An Information commons is an innovative and evolving collaborative academic library service model built on a variety of networked interactive academic learning platforms. The primary function of an academic library information commons is to integrate existing information resources, services, instructions and other public service programmes in the library into one consistent dynamic, interactive and scalable student-centered interactive academic learning environment. (Ibid).

It is also called a learning commons, which serves an integrated one stop information gateway for users of the library.

**Wiki**
A Wiki is a website that uses Wiki software, allowing the easy creation and editing of any number of interlinked web pages, using a simplified markup language. Wikis are often used to create collaborative websites, to power community websites and for note making http://en.wikipedia.org/wiki/Wiki. For example, the collaborative encyclopedia, Wikipedia is one of the best-known Wikis that has broken down the golden rules of library science, i.e. content validation and authentication of information. Wikis are also used in business to provide affordable and effective Intranets and for knowledge management. Libraries can use Wikis as a communication tool to enable social interaction among librarians and patrons. Users can share information, ask and answer questions, and librarians can do the same within a Wiki. Moreover, a record of these transactions can be achieved for perpetuity. Transcripts of such question-answer sessions would serve as resources for the library to
provide as reference. A Wiki like platform created for the librarians to work collaboratively and concurrently on providing answers to the user enquiries. This allows any staff to tap on the collective wisdom of the communities of subject librarians and provide quality answers to their queries.

**Blog**

A blog (an abridged form of term web log) is a website, usually maintained by an individual, with regular entries of commentary, descriptions of events, or other material such as graphics or video. (http://en.wikipedia.org/wiki/Blog). Blogs provide control to an individual or group of individuals for publishing contents or making commentary on it. Technologically, blogs are easier to use, platform-independent and accessible online over the Internet. Blogs are increasingly used by libraries as promotional, alerting and marketing tools; providing a useful method of promoting new services, alerting users to changes and offering advice and support. In library blogs typical posting include information about fresh arrivals, e-databases, news and services rendered can be flashed for wider effects.

**Disseminator of Information Literacy**

ALA defined information literacy is “recognizing when information is needed, and having the ability to locate, evaluate and use effectively this needed information.” (http://en.wikipedia.org/wiki/Information_Literacy). In 2003, ALA evolved this definition and set information literacy standards for student learning, strives that it is essential for higher education institutions, students and staff be provided with opportunities to learn not only how to access information sources but also how to evaluate, manage and use them effectively. Information literacy forms the basis for life long learning and enables learners to master content and extent their investigations to become more self-directed, thus assuming greater control over their own learning. This leads information literate individuals to address:

- Assess the extent of information needed;
- Access the desired information effectively and efficiently;
- Use information effectively;
- Evaluate information and its resources critically; and
- Incorporate selected information into their knowledge base. (Nyamboga, 2004).

The academic library has to provide information literacy services to introduce known and unknown information sources to users by discharging its prime function of service oriented knowledge centre.

**Staff Responsibility**

The behaviour, role and skills of staff member need to be changed in a race for relevance, regard and resources. The library staff should have strong technical skills and an ability to identify specific areas in which technology can advance the institution in fulfilling its academic mission. They should understand the user information needs, work effectively in partnership with faculty members to enhance teaching and research activities, willing to learn new skills for efficient and effective services and work not only for the sake of duty but also for true service. (http://www.ala.org/ala/mgrps/divs/acrl/issues/future/changing_roles.cfm). Open access publishing and institutional repositories are new paradigms of electronic environment and information professionals not only need to respond to changing user expectations and relationship between stakeholders in scholarly publishing, they are also required to work in different partnership models with other academic services and other professional groups, which can take them far beyond the traditional concept of libraries, creating new models of holistic student support, learning environments and teaching and research collaborations. (Griffiths and Craven).

Library administrators and executives will need to set up specific cross training programmes for librarians and staff working in diverse academic library settings. Regular training programmes will help staff to improve their skills for their daily operations and services, and better understanding of knowledge resources (books, journals and electronic media including web based resources). Therefore, staff should possess some indispensable competencies such as:

- Be alert, innovative and creative;
- Willing to learn and adopt to environment;
- Identify specific areas in which technology can advance the institution in fulfilling its academic mission;
- Enable users to interact with knowledge resources;
- Sound communication skills; and
- Provide quality services. (Nyamboga).

**Role of Librarian**

In the present electronic environment, academic librarians are required to work independently or as a team to deliver service-oriented and user-centered applications, instructions, programmes, projects and services. In addition to general qualification and requirements, a commitment to excellent user-centered services, effective oral and written communications, as well as team collaborator must also possess additional capabilities, experience, knowledge and skills such as:

1. Expertise in the use of innovative emerging technologies to design and develop web-based applications, programmes and services.
2. Assist users to locate, access, store and trans-
form electronic information resources, services and instructions across multiple applications, databases, networks, platforms and systems through an academic library’s information commons.

3. Having knowledge of designing, developing, launching and maintaining of digital content management and assess, evaluate, recommend and test various methodologies, policies, and standards for utilizing computer software in the process of creating and preserving digital collections and resources.

4. Assess, understand, think and adopt changes fit to the requirements rather become blind follower of versatile technological developments. (Li).

Changes Inevitable For Success

Undoubtedly, it can be said that academic libraries were, are and will remain indispensable for information seekers but they require to redefining their nature, role and value in changing world. To remain vital forces in transformational era the libraries have to focus on:

1. Paradigm shift from domain of books into four walls to information pathways of high quality information in a variety of media and information sources. (http://www.ala.org./ala/mgrps/divs/acrl/issues/future/changing roles.cfm).

2. To serve as a portal for access the vast information resources and concentrate on access and knowledge management rather than physical ownership.

3. Libraries, leadership and staff should recast their identities in relation to the changing models of knowledge creation and dissemination and in relation to the academic communities they serve.

4. Academic libraries and staff should be the torchbearers to lead versatile information seekers and relinquish their tasks by providing right information to the right users at the right time and if possible with right personal touch.

Conclusion

Changes are inevitable thus, ignoring the change leads to failure and acceptance trails to success. The challenges associated with acquiring, organizing, making available, and preserving the information resources required for the support of scholarship and research in academic institutions have never been more complex and demanding than they are today. Plethora of information and variety of modes pose challenges but acceptance and harnessing technological developments by library professionals will help in quenching the quests of information seekers, redefining the nature, role, services and value of academic libraries and proving its nucleus essence for the social and economic development of the society.

References


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