



played a pivotal role in creating information based societies.

ICT and related technological developments have encouraged the growth of internet, and increasingly libraries are being linked to this information "superhighway". Networks at different levels in different countries have come into existence. The advent of internet and later the WWW in the early nineties of the 20th century offered greater attraction to libraries because in it they found solutions to a host of their problems. Buzzwords like digital libraries, electronic library, virtual library, digital repositories and library without walls prevailing throughout the world came into existence. Library and information organizations had assumed new roles in the creation of databases, information systems, digitization, creation of virtual libraries, metadata and development of intranets and portals which require new skills in information entrepreneurship, architecture, human machine interface, connectivity, data warehousing, information packaging and information delivery.

### 2.1 LIS Profession in Emerging Environment<sup>14,18,19</sup>

LIS discipline has undergone tremendous changes in all its facets. There have been the changes and shifts from:

- Preservation to utilization
- Possession to Access
- Paper media to other media
- Print publishing to electronic publishing
- Caretaker to gatekeeper
- Isolation to Consortia
- Manual process to automation
- Manual practices to Technological base practices
- Traditional libraries to Hybrid /virtual libraries
- Librarian to cybrarians Polymedia to multimedia

Current environment in which present day LIS professional is supposed to function has been perceived by in the following words<sup>3</sup>:

- A vision towards information and knowledge rich society
- Information recognized as an important commodity (information brokerages, information entrepreneurship and fee-based information.
- Information recognized as power/strength/weapon.
- Role of virtual/digital/electronic libraries.

To face the future successfully, it is a common belief that libraries must change from static resource centers to dynamic centers of instruction, exploration and learning.

### 3. EMERGING COMPETENCIES<sup>9,10,15</sup>

In the changing environment library professionals are supposed to know the nature of the changes and design competencies accordingly. Table 2 gives a periphery look on these changes and respective competencies

**Table 2**  
**Competency in Changing Environment**

Nature of	Competencies Required
<b>Technological change</b>	Computer and information literacy, ICT competencies and managerial skills, use of facsimile, electronic mail system, computer networks, the internet,
<b>Economic change</b>	Marketing, public relations, business and information management techniques, negotiating skills & techniques etc
<b>Political changes</b>	Knowledge of national and international information systems and knowledge in international relations
<b>Social change</b>	Learning foreign language in order to communicate & work globally

Computerization, electronics and telecommunications have resulted in the alterations of almost every function performed in libraries today. LIS professionals in the changed scenario will have to suppose the role of analyzers, synthesizers and interpreters of knowledge / information rather than to be content with acquiring, organizing and providing information when required. The role of traditional librarianship is changing into modern way cybrarianship rather suitable as an information manager to contain the tasks of searching scanning, filtering, selecting, organizing and packaging the information. LIS professionals are now believed to change from preservation of information to gateways of information by performing activities as information audits, training in information literacy, and by helping their users to navigate through the world of information more meaningfully. Librarians not only need the basic core competencies regarding traditional skills and professional knowledge but also require a new brand of skills in terms of "flexibility, lifelong learning, people's skills, technological skills, business skills including marketing negotiations.

LIS profession has moved out from the four walls of library and is now acting as active players in the universe of knowledge. Librarians are no more treated as 'custodian's of knowledge houses' but are now acting as "Creators, Collectors, Communicators, Consolidators". Numerous websites are devoted to these "new librarians of 21' century the new breed librarians, anarchist librarian, the shifted librarian, progressive librarian, street librarian or modified librarian". Different names are now used for representing the person belonging to the profession of LIS like information scientist, information manager, knowledge worker etc. All these features have a call for LIS profession and the call is to tune the profession with the changes and developments occurring in the environment at national and international level and frame the competencies accordingly. Some emerging competencies in LIS profession are discussed as under:

### 3.1 Collection Management<sup>1,5</sup>

The history of modern-day libraries demonstrates that they have developed from acquirement to Collection Management. From twentieth century various terms such as selection, acquisition, collection building, collection development, and collection management have been used to indicate acquiring knowledge and information sources in the libraries. In the words of Collection Management includes the activities traditionally associated with collection development, the selection and acquisition of library materials but it also includes the systematic maintenance of a library's collection, including resource allocation, technical processing, preservation and conservation, weeding and withdraw of stock and the assessing and encouragement the collection use.

In the present scenario, when access rather than ownership has become virtually the motto of the library profession, collection management has become a challenging task. In technology oriented environments, information sources are in multiple formats like printed, electronic, digital or other multimedia formats e.g. e-books, e-journals, ETDs, e-magazines etc. With the digitization of documents, modifications of policies regarding collection management have become inevitable. Technology related factors have to be incorporated in the policy as this would affect the selection of material; budgeting has to be modified to include the cost of the hardware and software. For collection management, library professional now have a larger and more complex set of resources from which to select. These resources range from analogue versions of books, journals, encyclopedias etc. to digital versions of these in a variety of formats such as CDROM, DVD, digital video tape, online digital e-journals, e-books and online databases. With the Open Access Initiatives (OAI) the Collection management process is taking a new turn. With the published and unpublished material freely accessible over the Internet, collection developers have to re-think the policies as authors submit articles, book chapters, monographs, etc directly onto the web. As information resource manager, LIS professionals need to be able to manage the full cycle of information from its generation or acquisition to its utilization. This is possible when library professionals have following competencies:

- Have proper knowledge of the organization, its mission & vision.
- Develop proper assessment of user's diverse needs.
- Have thorough knowledge of full range learning resources both documentary and non documentary, print and electronic sources. A range of electronic resources are now available on CD-ROMs, available online on networks and on the ubiquitous internet. Have thorough understanding of web browsing i.e. having knowledge of relevant search engines, meta-search engines , methods to find web resources, appropriate list servers, databases , directories , information portals, subject gateways and other e-information resources.
- LIS professional should possess enough knowledge and skills for managing both tacit as well as explicit knowledge. After identifying, locating and evaluating information resources, these must be acquired by libraries or LIS Professional should arrange access to them. Thus LIS Professionals need to have expertise in total management of information resources including the ability to identify, select, acquire, process and share electronic resources besides having the skills to evaluate these resources i.e. ability to compare them with the print versions (if available) and ability to compare different electronic versions of the same resource. LIS professionals should possess enough understanding of legal and financial implications

while making a deal with publishers or vendors or any such agency whether at national or global level.

### 3.2 Organization of Information Resource

The most basic core competency, organization of knowledge and knowledge resources deals with describing recorded information in all formats so that it is retrieved easily from the information system. The organization and description of documents by means of classification, cataloguing and indexing etc is regarded as the intellectual heart of librarianship. Traditionally different classification schemes and cataloguing codes, indexing and abstracting processes were developed by pundits of the discipline of LIS for this purpose.

However, with the emergence of MARC, UNIMARC and other library software packages like SOUL, Libsys etc and even open source software like Greenstone, Jumla etc, bibliographic databases like WorldCat and preparation of OPACs, nature of technical operations in libraries has changed a lot. With the emergence of digital and other intangible information sources, the process of organization has been redefined. Concepts like metadata, Dublin core, interoperability, Z39.50, OAI-PMH, taxonomies etc emerged. Keeping these developments in view, LIS professional would require possessing competence in organizing collection of information resources in multiple formats that involves thorough knowledge of bibliographic and intellectual control principles and standards, understanding of how to apply these principles and standards in practical and cost-effective operations. Know-how of the software packages and other emerging concepts like meta data, Dublin core, interoperability, Z39.50, OAI-PMH, taxonomies etc is essential for professionals to perform activities professionally.

### 3.3 Management Competencies

LIS Professionals are involved in managing physical resources, information resources, financial resources, human resources, intellectual resources comprising of both producers as well as consumers of information. These resources can be exploited optimally, when these are managed by a professional who is/are competent and capable. Library and information centers are faced with the rapidly evolving rate of change. This change is evolutionary because tasks, technologies and even organizational structures are dictated by constantly changing environmental pressures. Due to this constantly changing environment, libraries and information Centers are becoming complex organizations dosing new challenges to the management facet of LIS profession.

In the emerging information landscape where individual libraries are unable to satisfy information needs of their customers from its resources alone, mutual collaboration and cooperation with other libraries, consortia etc has become a necessity. Changes brought about by digital information resources has changed the financial models of individual libraries and all these and like changes have their impact on the management of libraries and information centers. This scenario demands that LIS professionals must possess management competencies that include planning, management of finance, management of project, negotiation, decision-making skills, management and evaluation of performance, executive skills, management of human resource, outsourcing, quality management, skill to motivate subordinate professionals, leader, deliberate planning, marketing and public relations etc and the most important competency in this regard is to manage libraries in changing environment in such a way that libraries become vibrant, dynamic and powerful with advance services and knowledge based arsenal in bringing social, economic, educational, technological and like changes in the societies<sup>7,17</sup>

### 3.4 Technological Competence

The greatest challenge for the LIS professionals has been the technology based information industry where technology is functional in creating, processing, preservation, dissemination, delivery and all concerned activities in the field of information. Latest technologies are performing a very crucial role in the emergence of a variety of mechanisms with a broader range that include digital libraries, institutional repositories, open archives, knowledge management systems, learning resource centers etc. The internet and revolutionary information technology have become a key force in shifting the information landscape of LIS profession.<sup>2,16</sup>

LIS professionals require technical ability in order to become productively in the knowledge age. Therefore competencies related to technology implementation are playing significant role in the daily work activities of LIS professionals. Recognition of WWW, social networking etc in all societies across the globe demands that those involved in information related industries need to be adequately prepared to handle both the user's perspective of information and the attendant technologies. Thus networking, communication and retrieval technologies knowledge has become core to the profession. Consequently, LIS curricula need to consider equal part of ICT concepts and competencies with the actual sense of practice not only theoretical bases that will enable LIS graduates to adapt and use ICTs effectively.

### 3.5 Service related Competencies

Library professionals have been delivering a wide range of information products and services to fulfill the needs of their clientele. These range from simple issue/return of documents to most complex and value added information products and services in both online and off-line manner. Traditional modes of providing information services like CAS, SDI, document delivery service, reference services have been redefined due to the penetration of ICT. With the application of ICT library and information centers can extend their services globally with 24 x 7 concepts in effective and efficient manner but only when are competent enough in handling ICT.

#### 3.5.1 Traditional Services in ICT Environment

##### a) Catalogue Based Service

Libraries and information centers are facilitating the access to information resources through the catalogues. However with the automation in libraries, physical form of catalogue changed into OPAC. OPAC provides access to the catalogue through a computer terminal. OPAC allows searching the entire catalogue online, conveniently and quickly, using one or more search criteria. One can search by author, title, keywords, class number or one or more of these combined together. OPAC even shows the current status of a book, whether it is loaned out, available on the shelf or lying elsewhere. With modern library systems offering interface to OPAC, it is also possible to provide access from anywhere in the world through Web OPAC.

##### b) Reference Service

Personal assistance by library professional is now possible in a variety of modes and tools such as e-mail, subject gateways, FAQs, electronic libraries and interactive tools like chat rooms, virtual reference desk, ask-me etc. are replacing the conventional means of post, phone or in-person reference enquiries. Ask-a-Librarian facilitate for the user to click on ask-a-librarian link to send a request or enquiry to the reference librarian. The reference librarian either makes available an answer, resources link or a subject expert link. Interactive techniques and tools now allow an online reference interview. Moreover reference service through chat can be provided by using computer applications.<sup>4</sup>

##### c) Bibliographic Service

Compilation of bibliographies, reading lists and state of the art reports is one of the most important aspects of LIS work, particularly in research and academic libraries. Availability of databases in electronic form (off-line and online) offers convenient, efficient and cost effective information retrieval. Electronic databases also provide unique search features such as searching on multiple criteria (keyword, subject, author, source, code classification, publication year, Language, etc.), and variety of display formats and styles.

##### d) Current Awareness Service

Current Awareness Service is important means for keeping the users up-to-date in their areas of interest. Libraries now accumulate current awareness bulletins using some search approach and running on the database either online periodically or CD-ROM getting the determined output. Keep attention of copyrights, the information can also be uploading in local system and disseminating online through Internet, Intranet and offline set up. Advance information service of journal like Table of Contents (TOC) now provided by publisher also and otherwise as a professional need to provide as library service. Some publishers even offer free e-mail update of table of contents e.g. Sage publishers etc. Internet has enabled a lot of innovations in contents, methods of production and distribution of current awareness products. Tools such as Listserv, Weblog, Webzines and e-newsletters are common.

##### e) Document Delivery Service

ICT has made the document delivery service very simple and reliable. From searching the source/holdings to ordering and delivery have been benefited by the use of ICT. Some of the commercial document delivery services are Ingenta (<http://www.ingenta.com/>), BioMedNet, OCLC (<http://www.ocic.org/>) and Science Direct (<http://www.scienceDirect.com>) etc. Full-text of electronic journal articles that are available in electronic form may also be downloaded through links provided by aggregator or gateway services such as Informatics's J-gate (<http://www.j-gate.informindia.co>) etc. and can be get organizational membership of DELNET for the service by networking national international libraries.

##### f) Audio-visual Service

The new multimedia of audio CD, VCD and DVD has advanced storage capacity. Many libraries maintain such collections and loan them out to their clientele. Developments in storage media, compression and encryption technology have made possible to store huge amount of multimedia documents and disseminate through Internet. Software such as Quick Time Player, Microsoft Media Player, etc. is now open available to play or see these documents in a browser. Most recent storage and disseminate source can be adopted and provide services through cloud base service and system.

### 3.5.2 New Services<sup>8</sup>

Libraries use different channels for making e-journals, e-books, ETDs and other categories of information sources accessible to users. LIS professionals can use subject gateways and subject directories. Digital repositories developed by different institutions can provide opportunity to the library professionals for designing digital library that will be accessible round the clock to the users.

As the main objective of the professional has been to provide right information to the right user at the right time in the right form and format the professionals need to develop competencies like:

- Developing and maintaining a portfolio of cost effective and client valued information services.
- Performing research of the information behaviors and difficulties of current and potential user groups to identify concepts for latest or enhanced information.
- Solutions for these groups and then transform these concepts into customized information products and services.
- Information professionals would require to regularly assessing uses information wants and gaps using tools like questionnaire, surveys, interviews, focus groups and observations. By this they can continually measure the quality and value of information offerings and will take appropriate action to ensure each offering's relevancy within portfolio.
- Information and communication technology is applied for providing advance user oriented information services which are more convenient, better accessible and cost effective.

These services can be provided only by a competent professional who having knowledge on all the above mentioned aspects of the library services.

### CONCLUSION

Knowledge empowers an individual and a community but knowledge itself does not empower. The individual must provide the will and the community the ability to use knowledge. The LIS professionals make it possible to provide pinpointed and exhaustive information service to the users. The use of modern technology will reduce the energy finance constrains. Utilization the modern technology has made it possible to become effective and self sufficient. Change is the law of nature. A shift from traditionally techniques to modern new technology will really help in fast research and development.

Great library and visionary LIS professional have always looked the future to make able themselves to cope up with changing environment. Joel A. Banker says-“Vision without action is merely a dream. Action without vision just passes the time. Vision with action can change the world”

### REFERENCES

- 1.Ameen, K. (2009). Needed competencies for collection managers and their development: Perceptions of university librarians, *Library Management*, 30(4/5),266-275.
- 2.Baker Abu & Bakeri Ahinad. (2005). IT competencies in academic libraries: the Malaysian experience. *Library Review*. 54(4), 267.
- 3.Bin Hashim,Laila and Wan Mukhtar, Haliza. (2012). Preparing New Era Librarians and Information Professionals: Trends and Issues. *International Journal of Humanities and Social Science*. 2(7),151-156.
- 4.Competencies for Information Professionals, (2016).<http://www.sla.org/about-sla/competencies/> accessed on 2 November 2016.
- 5.Feather, J. and Sturges, R.P. (2003). *International Encyclopedia of Information and Library Science*, 2nd ed., Routledge, London.
- 6.Goreman, G E and Corbitt, B.J. (2002). Core competencies in information management. *New Library world*. 103(11/12), 436-45.
7. Gulati, Anjili & Raina, Roshan Lal. (2000). Professional competencies among librarians and information professionals in the knowledge era. <http://cdigital.uv.mx/bitstream/123456789/6217/2/Gulatia.pdf> accessed on 5 November 2016
8. J. Raju (2014). Knowledge and skills for the digital era academic library, *The Journal of Academic Librarianship* 40, 163–170 <http://www.sciencedirect.com/science/article/pii/S009913331400024X>
- 9.Kigongo-Bukenya, I.M.N (2007). Taking the Bull by the Horns: the case for inculcating appropriate theory and competencies to the information professionals to face challenges of the new information era with special reference to Makerere University Main Library in Uganda. Paper delivered at the Pre-IFLS Satellite Meeting, Conference Seminar, Durban.
- 10 .Lettis. L. (2000). The future of information professionals—size the day. *information Outlook*. 4(5), 25-27.
- 11 .Luo, Lili (2007). Chat reference competencies: identification from a literature review and librarian interviews. *Reference Services Review*. 35(2), 195-209
- 12.Lyman, Peter and Varian, Hal (2000). How much information. <http://quod.lib.umich.edu/cgi/t/text/text-id?c=jep;view=text;rgn=main>, accessed on 5 November 2016

13. Marshall, Nancy J. (2001). Public Relations in Academic Libraries: A Descriptive Analysis, *The Journal of Academic Librarianship* 27, 116.
14. Myburgh, S. (2005). *The New Information Professional: How to Thrive in the Information Age Doing What You Love*, Chandos Publishing, Oxford.
15. Newman, N.C, Porter, A.L & Yang, J. (2001). Information professionals: changing tools, changing roles. *Information Outlook*. 5(3), 24-28.
16. Raghavan, K.S. (2007). Education for the Information Management Profession: Challenges and Opportunities. *DESIDOC Bulletin of Information Technology*. 27 (2).
17. Singh Jagtar (2009). Leadership competencies for change management in libraries: Challenges and Opportunities. [crl.du.ac.in/ical09/papers/index\\_files/ical-51\\_250\\_732](http://crl.du.ac.in/ical09/papers/index_files/ical-51_250_732) accessed on 15 October 2016
18. Singh Jagtar & Malhan, I.V. (2010). Trends and Issues in LIS Education in India. <http://conf.euclid-lis.eu/inex.php/IFLA2010/IFLA2010/paper/view/15/15>, accessed on 10 October 2016
19. Thomas, V.K., Satpathi, Chitra & Satpathi, J.N. (2010). Emerging challenges in academic librarianship and role of library associations in professional updating. *Library Management*. 31(8/9), 594-609.



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