LIBRARY AND INFORMATION SCIENCE PROFESSION: OPPORTUNITIES AND CHALLENGES
About the Presenter

Dr. Ramesh C. Gaur
PGDCA, MLISc, Ph.D. Fulbright Scholar (Virginia Tech, USA),
Director (Library & Information) & Head, Kala Nidhi Division
Indira Gandhi National Centre for Arts (IGNCA) - (Autonomous body of Ministry of Culture, Government of India)

Mobile: 9810066244, Office 011-23388333 | e-mail: rcgaur66@gmail.com, gaur@ignca.nic.in |
www.ignca.gov.in

Member of International Advisory Committee-UNESCO MoW & National Coordinator- Expert's Group UNESCO Memory of the World(MoW) Programme in India, Member-IFLA RSCAO and ARL Section, Governing Council-INFLIBNET, NDLTD Board of Directors, International Consultative Committee on Digital Dunhuang Project, China, eSS National Advisory Committee, UGC National Committee on Plagiarism Regulations 2018, member of over 20 Library Advisory Committee / Boards of Many Central Universities and other institutions; Awards- Have received 10 National and International awards; Have visited 22 countries in relation to various professional assignments
Library and Information Science: Trends and issues

- Present day Libraries
- Do we need libraries in Digital Era?
- Administrators
- Users
- Library and Information Professionals
- Industry
- Technology
- Funding
Few thoughts

- Libraries are changing
- The user needs are also changing
- Therefore, role of librarians is also changing
- Why libraries and user needs are changing?
  - Because we are in a knowledge society or in a digital age
- How libraries and user needs are changing?
- How to manage above changes in digital age?
General Impressions

- Invisibility – librarians position is largely invisible. Public has no idea of what a librarian actually does.
- Economics – libraries contribute little if any to the economic growth of the country
- Quality of the service – users generally have almost had no idea about the kind of services that the librarian provide nor about the quality of service they render.
- Low salary – causes low status
- Poor image – a female image has a negative effect on the status of an occupation
- Dull image – characteristics of a librarian, dull, strict
- Low Expectations – users of libraries have low expectations from the quality service of a librarian
Current scenario in Library and Information Science and Services

- Too much focus on IT
- Less training on Library techniques and methods such as
  - Classification / Cataloguing / Indexing / Abstracting
  - Reference Service
- Lack of inputs on Managerial skills
- Lack of standardization in Library Automation
- More Digitization and less number of digital libraries
- No Digital Preservation Policy
- Open Access initiatives without a proper strategy
- Misconception about Marketing of Library and Information services and Products
- Lack of understanding about libraries' and librarianship amongst administrators
- Library Associations
LIS Education and Training

- Composition of LIS students
- Evolution of LIS programs
  - Variations of LIS programs
  - Introduction of “information studies”
- Information technologies and LIS programs
- Competition from other academic disciplines
- Increasing cost in LIS programs
- Continuing education for LIS graduates
- Issues in distance education
Why Libraries and Librarians are Still Extremely Important

- Not everything is available on the internet.
- Digital libraries are not the internet.
- Libraries aren’t just books.
- Like businesses, digital libraries still need human staffing.
- Not everyone can afford books.
- Libraries are a stopgap to anti-intellectualism.
Why Libraries and Librarians are Still Extremely Important…2

- We just can’t count on physical libraries disappearing
- Eliminating libraries would cut short an important process of cultural evolution
- The internet is a mess
- The internet is subject to manipulation
- Libraries’ collections employ a well-formulated system of citation
- It can be hard to isolate concise information on the internet
- Libraries are stable while the web is transient
- Libraries can be surprisingly helpful for news collections and archives
- Not everyone has access to the internet
Managing Knowledge

- Knowledge is not a ‘thing’ that can be ‘managed’. It is a capacity of people and communities, continuously generated and renewed in their conversation, to meet new challenges and opportunities. People responsible for knowledge value creation can be inspired and supported, but they cannot be ‘managed’ as people were managed in the industrial era, as mere extensions of the machinery.”

  - George Por ‘Why knowledge management is an oxymoron’
  - Community Intelligence Labs. 1997

Information empowers
  “Knowledge is power”
When everyone has information, no one has an advantage
  “Knowledge is no longer power”
data
Information
Knowledge
Intelligence

Libraries
The success of an organization strongly depends on the proper organization and management of the information as it relates to the organizations’ short and long term objectives.

Libraries deals with collection, organization, storage, analysis and dissemination of information.
Students at different levels of study in different subjects;
• Teachers, imparting instructions and guiding students at different levels and in different subjects;
• Research students working for M.Phil. or Ph.D degrees;
• Post-doctoral research scholars working on specific projects;
• Professors and experts guiding research projects and managing research activities of the; Members of the various academic and executive bodies of the;
• The management involved in its major task of managing of a large scale institution of higher learning and research;
• Scholars in general, who get special privileges of using the Library;
• Scientist, Public and
• Others as per the profile of libraries
Traditional Services in Libraries

- Acquisition Services
- Processing
- Lending Services
- Current Awareness Services
- Bibliographic Services
- Maintenance
Ambience
Space to implement BYOD
Library needs of users with various disabilities
Group Learning
Creation of Wi-Fi garden in front of Central Library.
Space to display their thoughts / activities
It is an online union catalogue of books available in its member-libraries or libraries located in different locations. The information can be retrieved by author, title, subject, conference, series, etc. For example, **IndCat (Online Union Catalogue of Indian Universities)** is unified Online Academic Library Catalogues of books, theses and journals available in major libraries in India. The union database contains bibliographic description, location and holdings information for books, journals and theses in all subject areas available in more than 160 libraries across the country. A Web-based interface is designed to provide easy access to the merged catalogues. **Copac** is the example and initiative by The of Manchester.
LIBRARY TOOLBAR

It is embedded in the web browser and allows users to search the Academic Library online public access catalog and online databases from any web site. While this is the main feature, the toolbar can also contain quick links to the library’s homepage, Academic Library tour, reserves, research guides, reference Services, recommending book purchase, media resources enquiry.
Simply defined a Library portal is a personalized, customized and integrated information service to aggregate all kinds of Library resources and services through a single access and management point for our users. Portals gather a variety of useful information resources into a single, ‘onestop’ Web page, helping the user to avoid being overwhelmed by ‘info glut’ or feeling lost on the Web.

Researchers are likely to find material relevant to their subject in a variety of Web-based resources: from their own library’s catalogue; catalogues outside their own Library, such as a national or union catalogue or a catalogue of another institution that specializes in similar subjects; reference databases, such as an abstracting and indexing database or citation database; full-text resources; digital repositories; and Web pages. Library portal.
RFID in Libraries

RFID plays vital role in redefining the Library process to make everyone’s job easier right from patron to Academic Library staff.

**Advantages**


Academic Library inventory tracking in minutes instead of hours.

Unique ID of the RFID tag prevents counterfeiting., Automated material handling using conveyor & sorting systems.
Remote Access using login id and password to Academic Library e-Resources via VPN (Virtual Private Network) can be done by libraries. The resources can be accessed online from anywhere (24 x 7) at any time. Example: Athens login.
• Anytime, Anywhere access
• Increase flexibility for Library services
• Real-time data access
• Instant up-to-date information
A special Academic Library search engine that allows libraries to arrange search facility to its users in any or most subscribed databases at the same time. Example is Knimbus, GIST etc. The Academic Library should integrate FSE in its website in order to save the time of the users in accessing scholarly communication subscribed by Academic Library.
Federated Search

Search Results

Real-time query and responses
HOW FEDERATED SEARCH WORKS

Linking:
-- Between full-text using DOI, CrossRef, Appropriate Copy.
-- Between A&I and full-text.
-- Between OPAC and full-text.

User Query: “I want information about X in the following forms:”
Web, journals, books, reprints.

Portal Functions:
-- Authorization
-- Linking mechanisms between resources and among resources.
-- Simultaneous search.
-- Navigation

Portal Presentation Level
Local Link Server,
Local Value-Added

CrossRef Metadata
DOI Server (OpenURL)

OPAC
A&I Services (Local and Remote)
E-Resource Registry
Full-Text Resources
Local Databases and OAI Resources
Web Resources & Knowledge Environments

Aggregator (Ebsco, OCLC)
Publisher Portal (Elsevier)
Web-scale Search + Federated Search

Search: __________________

Search Results

Consolidated Index

Fed Search

Pre-built harvesting and indexing

Non-harvestable Resources

Interim model to deal with resources not possible to harvest into consolidated index

ILS Data

Digital Collections

ProQuest

MLA Bibliography

ABC-CLIO

Consolidated Index

Fed Search

Pre-built harvesting and indexing

Non-harvestable Resources

Interim model to deal with resources not possible to harvest into consolidated index
Creation of Research and Information Research Support Services

- Access to language learning tools i.e. Grammarly
- Access to plagiarism detection tools like Turnitin
- Electronic document delivery system
- Creation of database of synopses/research topics undertaken by faculty and students
- Creation of research profile/citation profile of faculty
- Setting up of article alert facilities
- Training on reference management tools like Mendeley, Endnote and Zotero
- Organisation of plagiarism workshop
- Organisation of other workshop of how to write and get it published in academic journals and books
The importance of properly citing sources is being emphasized today due to the rising awareness of copyright, plagiarism, scientific integrity, and honesty in the academic community. This is a software for scholars and authors to use for recording and utilizing bibliographic citations (references). It is a bibliography organizer. One can store research citations (books, journals, articles, dissertations, anything found during research) and then sort, format and present the citations as needed. Once a citation has been recorded, it can be used again in generating bibliographies also.
Research Guides include many different kinds of aids & tutorials to help you do research. Most focus on subject areas/disciplines providing access and instruction to appropriate resources. Subject gateways are Internet based services designed to help users locate high quality information that is available on the Internet. Compared to common link-lists SBIIGs are labor intensive, but gives the advantage of a quality-assessed collection, with standardized descriptions that gives the user a possibility to judge the relevance of the resources. They are typically databases of detailed metadata records, which describes Internet resources and offer a hyperlink to the resources.
The Library can provide information search service over phone, mobile, web, social media and SMS to its users by creating kind of helpline. It is little expensive but worthy. Through E-mail, Phone, Chat, the libraries may provide information (short range reference) at the early. According to the American Academic Library Association, 70% of U.S. public libraries offer digital or virtual reference services.
“Ask a librarian” services are provided by instant messengers all over the world. Reference questions are answered immediately without the need to go to a reference desk. Librarians and patrons both appreciate the fact that instant messaging is faster than traditional chat services, and librarians also like the fact that the software can be downloaded for free. It is an online reference services that allows users / researchers to submit reference questions and get back the answers for their questions immediately.

Q&A: The libraries may use social media by connecting a Q&A section to its Academic Library website through which faculty and students can post their questions and get answers from the subject experts related to their field of interest.
Libraries may soon be building and managing their own data centers. In its broadest usage, the term cloud computing refers to the “delivery of scalable IT resources over the Internet, as opposed to hosting and operating those resources locally, such as on a Academic Library local network and on intranet”. To be more specific, Cloud Computing is the improvement of Distributed Computing, Parallel Computing, Grid Computing and Distributed Databases. The libraries may use this kind of computing for Academic Library information storing, processing and retrieval of bibliographic database, IRs, Digital libraries, Open Access Journal Articles, E-content etc.
LOCKSS (Lots of Copies Keep Stuff Safe) is an international community thriving initiative that provides libraries with digital preservation tools and support so that they can easily and inexpensively collect and preserve their own copies of authorized e-content. LOCKSS provides libraries with the open-source software and support to preserve today’s web-published materials for tomorrow’s readers while building their own collections and acquiring a copy of the assets they pay for, instead of simply leasing them. LOCKSS provides fully managed preservation and 100% post cancellation access. LOCKSS preserves all formats and genres of web-published content.
The Libraries may utilize digital signages for many years for gangways, Bay guides and shelf guides. The libraries always looked to move from the monotonous static systems of the past to a communicative system that was more dynamic and interactive. There are many digital signage solutions available on the market – both open source and commercial – that have the features and functionality for building a robust digital signage system with touch screen kiosks.
The libraries can add FAQ section to the Academic Library website for providing general information about Academic Library, working hours, staff contact details, Academic Library tour, Academic Library rules, Academic Library services, how to access e-resources etc.
DATA AND STATISTICAL SERVICES

The libraries may provide statistical consultation, a data and statistical service to the researchers with support of faculty of concerned departments who can help in downloading, formatting, reshaping or analyzing data. For example Software like STATA, Zotero, SPSS and Excel are installed in cybercafé in libraries.
This Academic Library with collaboration of other departments, IT Services, and the Legal consultant can establish Copy Right Information Centre for faculty, researchers and students. While copyright law is discussed and guidance is given, this site should not be relied on as definitive legal advice. This section should cover copy right and public domain (works that may be copy righted and works that may not be copy righted), fair use and its check list, plagiarism software etc.
An ETD is simply the digital representation of a thesis or dissertation. An electronic thesis is similar to its paper counterpart in organization, and basically meets the formatting requirements described by the affiliated institution. ETDs can be “born digital” by way of using a word processing program like MS Word, WordPerfect, WordPro, etc. These can also be created by way of a digitization process done through imaging or scanning the print copies of the theses and uploading them to a database using given software like DSpace, EPrints, FEDORA, Greenstone, etc. For example: The Shodhganga@INFLIBNET Centre (http://shodhganga.inflibnet.ac.in/) provides a platform for research students to deposit their Ph.D. theses and make it available to the entire scholarly community in open access.
FREE AND OPEN-SOURCE SOFTWARE (FOSS)

FOSS is computer software that can be classified as both free software and open source software. That is, anyone is freely licensed to use, copy, study, and change the software in any way, and the source code is openly shared so that people are encouraged to voluntarily improve the design of the software. This is in contrast to proprietary software, where the software is under restrictive copyright and the source code is usually hidden from the users. The benefits of using FOSS can include decreasing software costs, increasing security and stability (especially in regard to malware), protecting privacy, and giving users more control over their own hardware.
Some libraries have developed mobile applications for smartphones. Duke has created a free iPhone application called DukeMobile, containing a wealth of information on digital Academic Library resources, including extensive access to the library’s digital photo archive and other collections that includes a mobile OPAC and the ability to place holds on items, and also provides information on hours and locations of local libraries. The libraries can provide a wide range of mobile services such as access to e-books, mobile OPACs, mobile collections, mobile Academic Library instructions, mobile learning, virtual reference service, SMS service to its Academic Library users.
LIBRARY SERVICES USING SOCIAL MEDIA

- Announce Library programs, events
- Respond to Reference questions
- Ask a librarian
- Teach basic search tools, Provide Library tours
- New resource alerts, Promote new Library collections
- Send brief updates to patrons
- Facilitate collaboration & communication with users
Promoting of Library Resources & Services
Relationship Building
Library instruction, orientation, tutorials
Publicity & public relations
Online book clubs
Outreach services – off campus services
Readers advisory
A bulletin board is a public discussion area where people can post messages without sending them to anyone's e-mail address that can be viewed by anyone who enters the area. It is also called a forum. On the Internet, the equivalent areas are called newsgroups. Separate notice board option can be created though e-mail facility and the latest information of the daily news, job opportunities, new arrivals, notices about events, workshops, etc. can be posted and made available for the users through this bulletin board service.
It is a web based excellent media and most probably most popular media. The Academic Library professionals can use this web medium for various purposes specially for delivering some web based services. The most easy and convenient method to access the web sources is e-mail. When a researcher who registers his name and chose the content pages of some journals of publishers like Elsevier science, Pergamon Press and some other society publication, request for sending the content page of the selected journal the publishers take care of sending the content in advance, against the registered individual's e-mail address. This helps as excellent current awareness service to the scientists.
Assistive technologies include both hardware and software that enable visually impaired persons to use digital contents, use a computer, take notes, and communicate via email. Such users can thus gain access to information from Library catalogues, subject gateways, databases, and websites, and therefore participate in the research process in ways never before thought possible.

Some of these tools and technologies are Braille books, Braille readers, Kurzweil 3000 reader, Very Easy Reading Appliance, SARA (Freedom Scientific's Scanning and Reading Appliance), MAGic for Windows, JAWS (Job Access With Speech for Windows), ZoomText, Dragon Naturally Speaking, Text Aloud 3, Connect Outloud, Braille n Speak, Talking Typer software, Screen enlargers and Screen readers so on. Equal opportunity for access to all is possible using these technologies.
It is very service to the users, listing available Internet services, sites, new additions, faculty publications, events like Conference, Workshops, Training and Fellowship programs, holiday updates. A catalogue of Internet based information sources is useful assets for all libraries if given at regular intervals through e-mail or they can host it in their website.

Most of the libraries have access to e-paper version and libraries may provide the news clippings through e-mail, Whatsapp, Facebook etc.
OPEN EDUCATIONAL RESOURCES (OER / OCW) MOOC (MASSIVE OPEN ONLINE COURSE)

OER are digital materials that can be re-used for teaching, learning, research and more, made available free through open licenses, which allow uses of the materials that would not be easily permitted under copyright alone. OER are understood to comprise content for teaching and learning, software-based tools and services, and licenses that allow for open development and re-use of content, tools and services. OER are understood to be an important element of policies that want to leverage education and lifelong learning for the knowledge economy and society.

The IITs NPTEL (www.nptel.iitm.ac.in, http://youtube.com/nptelhrd/), MIT Courseware, NCERT online text books (http://www.ncert.nic.in/textbooks/testing/Index.htm) are best examples of such resources.
Academic Library tours, instruction / orientation programs have been quite significant in bringing the non-users to libraries and also help the remotely located users. Academic Library users, who don't have time or inclination to attend an on-site workshop, can get access to Academic Library tours on their computers / mobile devices. Audio / virtual Academic Library tours can be produced fairly quickly, inexpensively, and could reduce the amount of staff time spent helping new users to orient themselves in the Academic Library and explaining the facilities available.
Some Altmetrics Tools

- Altmetric
- ImpactStory
- ReaderMeter
- ScienceCard
- PLoS impact explorer
- PaperCritic
- Crowdometer
- PlumX
QR (QUICK REFERENCE) CODES:

It is a two dimensional barcode. A QR code is read by an imaging device, such as a camera, in a mobile phone and there a number of different barcode scanner applications such as Red Laser, Barcode Scanner and QR Scanner that can read and decode data from a QR code. Some of the features of QR are high capacity data coding, small in size, damage resistant, readable from any direction, supports
is a part of the larger green building movement. There are many ways to define a green Library, but there are a number of central themes that run through all of them, including, minimizing the negative impact the building will have on the local environment, and if possible having a positive impact. Reducing the use of water and energy by designing in a way that maximizes the use of natural and renewable natural resources. Integrating actual greenery and vegetation into the building and site design; and, maintaining high standards of indoor air quality to help ensure the health of the people who inhabit the building.
What is Education 4.0?

Anywhere Anytime

Personal

Flexible Delivery

Peers and Mentors

Why/Where not What/How

Practical Application

Modular and Projects

Student Ownership

Evaluated not Examined
Opportunities for Libraries to be part of Education 4.0

- Explore use of freemium models for knowledge assets
- Develop a technology-driven libraries—building in low cost models of outreach, delivery, resource acquisition, user engagement and connect
- Develop off-campus libraries learning resource centers to provide global exposure to learners and partnership development for academic enrichment
- Develop innovative learning lifecycles and resources that span over 10-20 years to support lifelong learning and enrolments
- Build social media leaders in the libraries to establish an interwoven communication network to influence conversations, expand their social power and build trust in users
- Make access to information and systems as open and accessible as possible so that data can be consumed in new and innovative ways
- Revisit existing policies and procedures to encourage innovative use of technology by staff, students, researchers and academicians
- Provide a thrust to internationalization of libraries to promote networking across boundaries
Conclusions

- Change is inevitable, you need to change your ways of managing information resources, and its acquisition, storage, organization and dissemination.

- Technology is just a tool to provide information in a better way. Rest depends on how to manage it.

- Information support for users is not just for the purpose of learning and research. It supports the overall development of society.

- Keep it in mind, we are developing future leaders in a society. So entire nation is looking to you.
Acknowledgements and Declaration by Presenter

- I would like to express my sincere thanks to Authors of various Internet sources used to prepare this presentation.

- Wherever possible the links have been provided. However any omission is duly regretted.

- The presentation is mainly prepared to create an awareness amongst students and researchers about the plague of plagiarism.

- These slides have been/being used in my various talks and presentations both online and offline.
For any further information / question
Please feel free To write to me
rcgaur66@gmail.com
gaur@ignca.nic.in