

Emerging Research Trends in the Field of Library and Information Science: An Overview

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Abstract: - *This paper outlines the emerging trends in the LIS research which has a important role to play in the ever changing and technologically evolving filed of education of which libraries are the support system. Hence libraries also need to do research and evolve simultaneously contribute with its continuing importance and responsible role in this data driven knowledge society.*

Keywords: Oging trends, LIS, Data analysis, Higher Education, ICT, ICE

Introduction:

Emerging research trends in the field of LIS are a result of new innovations, technologies learning patterns, education policies and infrastructure, environments, resources, services platforms and so on. Technological advancements evolution takes place so rapidly in the digital era that LIS professionals need to develop their professional competencies by equipping themselves with these new developments as well. Research in the present age of digital innovations will encompass all the major areas which have revolutionized the working pattern of library and information centers in terms of the form, format, and the ways and means of delivering the knowledge resources to its immediate and long term users in a handy way.

We are living in the age of ICE (Information Communication Entertainment) and hence librarians are needed to re-evaluate the way they develop, manage, deliver and promote resources and services. (Mitra, 2016). Hence the major research in the field of LIS will pertain to the top emerging trends and techniques used in libraries as these ensure to channelize the quintessentials of a knowledge centre/ library by helping in raising the big picture of the libraries in today's world in the following ways:

- To leverage on the potential of Libraries
- Attract user interest in a big way in less time towards the potentialities of Libraries
- Updating in library services and products using new technologies will build a image of LIS professionals

- Knowledge resources, services and facilities of the libraries will be promoted in a big way.
- To prove the relevance of the new ICE innovations for the functioning of the libraries

All this will usher Libraries into a new form and appeal which will justify and rather consolidate the importance and existence of libraries in the digital data driven society

The new trends which will have greatly impacted on the working and functionalities of the library and the services offered. The latest areas for research are directly related to the trends which are actively used in providing services to the library patrons. A few trends which are now offered by libraries in the context of the changing technology are as follows:

1. **Research data services (RDS):** Libraries are nowadays part of HEI's and research forms an part and parcel for any higher educational institution to sustain. By way of data service libraries can proactively offer informational and consultative services that align with existing liaison and reference roles.
2. **Data policing of the institution:** Libraries can play a major role in drafting the data usage policies of an institution by way of analyzing institutional research data practices and policies. Libraries can support faculty members and concerned heads in navigating these policies.

3. Emerging new technologies, such as GIS data, visualization, and big data across the curriculum, Digital asset management, digital preservation, training, consultations, and tools for digital scholarship are the prompt services and resources which can be offered by Libraries.
4. **Data mining and Reality Mining:** These are the most happening thing in all over the world. Libraries can explore available data systems to analyze the learning process and to make improvements in teaching, learning, and/or the student experience.
5. **New directions with the Framework for Information Literacy for Higher Education:** As per the ARCL's directives information literacy framework recognizes information as an ecosystem and encourages librarians to pursue a broader agenda based on the new information literacy concept as a "set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning. (Association, Framework for Information Literacy for Higher Education, 2016) Hence a integrated Information Literacy initiative by Libraries supplemented by the new

technologies incorporation in their services will reinforce the importance of libraries in a strong way.

6. **Open Educational Resources (OER):**

OER includes a range of course materials, including entire courses, lesson plans, modules, and recorded lectures. Higher Education institutions. Libraries in higher education are collaborating across campus to promote and support OER with the following leadership opportunities for libraries in OER: “supporters in policy, help in finding quality materials, and professional development around copyright, open licensing, and integrated course design.”

7. **Online presence of Libraries:**

Libraries can make their presence in the digital world through their dynamic website as well as creating a Library web page on the social networking sites like Facebook, library blogs and portal etc

Emerging Areas of Research in the field of Library and information science

Internet of Things (IoT):

The Internet of Things, or IoT, has caused an explosion in the number of everyday devices that are able to collect and transmit data. Librarians recognize the balancing act required to implement IoT technologies in accordance with core principles of librarianship. Where IoT can improve access to materials or services, or provide learning opportunities, without compromising patron privacy, libraries are joining

hands with their communities and diving in. One of the advantages of IoT technologies is that they allow for remote monitoring, data transmission and control.

Research areas pertaining to IoT will cover aspects like tracking of user usage of library, special upkeep techniques for special collection by way of various monitoring activities like monitoring humidity levels of the databases servers, detecting theft and other safety concerns in the library. IoT can be extensively used in libraries as it involves hands on exploration of embedded technologies and improved efficiency by way of use of low cost practical solution to day to day and long terms problems. Thus IoT can enhance the functioning of the library by keeping a track of:

- Furniture movement
- count visitors/track usage
- provide keycard access
- control digital signage
- alert the library when restocking is needed
- Identify popular selections for informed collection development (Libraries and the IoT, 2017)

All these aspects mentioned can be practically implemented and researched to study about the success, applicability and problems thereof.

Cloud Computing : Cloud computing is a kind of computing technology which facilitates in sharing the resources and services over the internet rather than having these services and resources on local

servers/ nodes or personal devices. The combination of servers, networks, connection, applications and resources is defined as 'cloud'. Cloud computing is acting as a resources pooling technology for accessing infinite computing services and resources as per demand of users and can be compare with models of pay as you use or utility model same as used for mobile services usages and electricity consumption.

Cloud computing technology offers great advantages for libraries to connect their services not only promptly but also in new formats with the flexibilities such as pay as you use model, access any where any time and so on. (Kaushik & Kumar, 2013)

Library services can be enhanced using cloud computing as a platform. Cloud computing can be beneficial in the following ways: (Dutt, 2015)

- Online E-books Lending Service
- Resource sharing through Union /Shared Catalogue/OPAC/Web-OPAC/M-OPAC
- Remote Document Download Service
- Research Article Delivery Service
- Ready reference virtual current Awareness Service:
- Information commons: Basic information like bibliographical data, content pages, cover pages, question papers, syllabus, and other reading material can be shared on one platform.
- Information Discovery: Cloud provides a platform to store all information that one

can access anytime from anywhere; so information discovery and searching become easy and it is very useful for researchers.

- E-Learning: This is the era of virtual classroom and cloud computing is boon for this as Study material can be kept on the cloud for reference purpose and online examinations also can be conducted. Moodle and other learning management system are a valid example of this.
- Information Literacy/Orientation: Libraries can conduct information literacy and orientation courses on the cloud. They can keep the tutorials, videos, presentations and files on the cloud for users' orientation. Social Interactions with the users can be possible because of cloud computing.

Cloud computing services and their practical application in library work areas have been part and parcel of various types of libraries. Already many research have been done on various cloud computing use and applications. Practical applicability and concerned issues of cloud computing holds major areas of research for future references.

Massive Open Online Course (MOOC)

Today's most advanced economies are based on the greatest availability of knowledge. Comparative knowledge is increasingly determined by the competitive use of knowledge

and of technological innovations. Massive Open Online Course has emerged as one of the prominent platform in online learning domain and is a step forward for universalization of education by expanding its access and quality learning. (Pushpanadham & Chirumamilla, 2017)

MOOCs can be of immense value for LIS education as well as in assisting teaching and learning process. LIS professionals can enhance their technical skills in the best way by motivating faculty members to be a part of the MOOC ,assisting MOOC developers through appropriate reading materials and resources for the development of MOOC's and providing easy solutions for various hurdles faced by MOOC developers from creation to successful running MOOC to their target audience. (Agrawal, 2015)

On similar lines, as LIS professionals are familiar with copyright obligations related to the online medium, they can help to make use of MOOC in the right legal perspectives of copyright domain. Also MOOCs on Library and information science topics, collections, events etc can be done on a large scale.

Thus the emergence of MOOC represents a rising trend of removing the learning process from physical platform to a virtual more dynamic base for an exaggerated degree. Libraries have played, are playing and will be playing great role in teaching-learning process. Library's role was relevant in the traditional teaching-learning environment. It is and will be relevant in the hybrid, online and collaborative teaching-learning environment also. Libraries are responding

positively to the emerging trends of online, hybrid and collaborative learning by way of (a) supporting the MOOC and (b) by developing information commons.

Thus there is a paradigm shift in education system towards more learning in broader, formal, informal and non-formal spaces. With the education system revolutionized by multi-modal and multi-dimensional learning pedagogy, the onus is also on the knowledge centers and libraries to facilitate implementation of the ICT tools in nooks and corners of their service sector regime and so the MOOC forms a very important area of research for the LIS professionals ranging from techno-pedagogy library solutions to this futuristic learning trend in the area of higher education.

Digital Preservation: The digital resources have become the order of the day, and have revolutionized the way and form in which knowledge resources are used. It has compressed the knowledge in bits and bytes with increased storage, anytime, anywhere accessibility. Digital preservation ensures the preservation and accessibility of digital material whether born digital or digitized for longevity of the knowledge resources in terms of their long terms usability, authenticity, discoverability and accessibility. Many aspects related to digital preservation like copyright obligations, library role and responsibility pertaining to digital preservations are a few aspects of research in this.

Data analytics: Libraries are trying to collect and use 'student's library use data' to calculate return on investment (ROI) and to prove library's value. The emerging technique of learning analytics will help libraries in knowing well-doing as well as the struggling students. Results of learning analytics will be useful for academic libraries in developing 'personalized information services'. Results of learning analytics could also be used by academic libraries to develop 'reader development index' as well as 'information/reading packages for challenged/ exceptional students'. (Kumbhar, 2014)

Academic libraries can provide consultancy services related to research data management and curation; to provide the infrastructure, or at least the frontend, for data storage and curation and to support librarians becoming active members on research and grant proposal teams as data curation consultants. Data analytics is emerging as a big research area in the field of LIS. Many researches in this area will unveil the characteristics of data analytics, Legal obligations on big data analytics, techniques of data analysis, process thereof etc.

Flipped Classroom to flipped Libraries/Librarians: Flipped Learning is the new pedagogical concept incorporated in higher educational apex body of India (NAAC). To encourage academic excellence with the advent of the concept of flipped classroom there came the emerging need of the converting libraries into flipped libraries and also librarians in a flipped role ranging from to simultaneously serve as

'database search experts', 'reading advisors/consultants', 'advisors for ethical use of literature', 'publishing advisors', 'information source advisor' 'data curators as well.

The emerging role of librarians is a major area of research of which the concept of flipped libraries occupy a major attention as the flipped classroom concept is the demanding requisite for the accreditation process of any educational body and libraries supplement teaching and learning and hence such innovative concept need to be experimented and researched to understand with the technical know-how and the concerns and issues related to it.

Conclusions

LIS profession and professionals are evolving with the rapid developments in the ICE environment. All these technological developments and emerging trends are there to speed up the functions and services provided by the libraries. With the cut-throat competition for the LIS professionals, marketing of library services and products has been a part and parcel of the profession. All the new trends and technological advancements has helped the LIS profession to grow in a big way as it has not only consolidated the strong hold of these knowledge centers (libraries) in a big way but has also universalized the growing importance of LIS services and products which are delivered to its user incorporating and encompassing the latest technological trends and tools .Thus the Libraries are in the forefront in canvassing their ever growing importance and role and are keen for

leveraging it by way of marketing libraries in a big way.

Libraries are evolving with the new emerging trends, technologies and techniques. Libraries form the major channel of communication between the teaching and learning and knowledge resources and hence the change in the mode, pattern, and pedagogy of education system has directly impacted upon the role and responsibilities of libraries. Hence in the age of omnipresent technology, techno-pedagogy, digital shift, Open Source University concept and so many emerging trends have a profound and continuous impact on library activities, organization, functioning, prospects and importance in this data centered world. Hence areas of research are continuously evolving in the field of research for LIS. All these research areas will reap benefit in terms of RoI (Return on Investment) for the libraries to expand the growing importance in the ever dynamic techno-evolved knowledge spectrum.

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