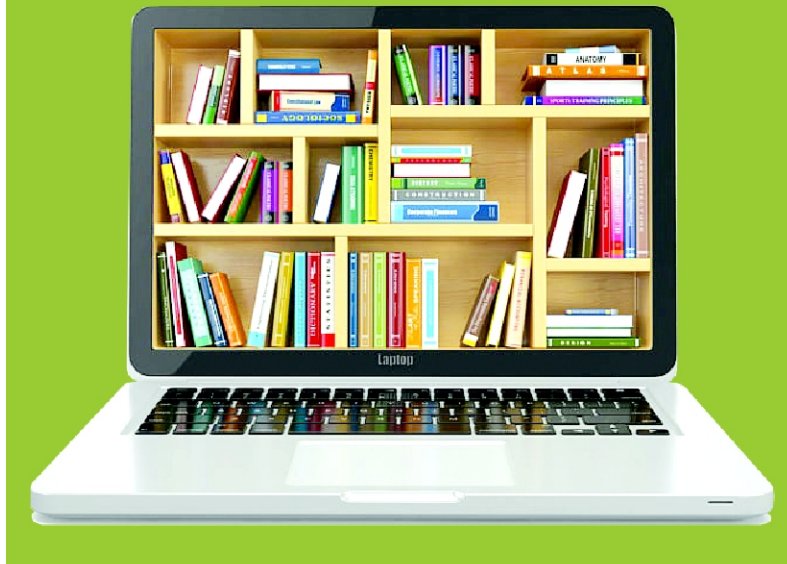


VOL - II



Reinventing Academic Libraries

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**Dr. Daya T.Patil (Dalve) | Dr. Veena Kamble (Salampure) | Dr. Dharmraj Veer
Dr. Shivshankar Ghumre | Dr. Hitendra Patil**

REINVENTING ACADEMIC LIBRARIES VOL - II

(III) Digital Libraries and Social Media
(IV) Future Role and challenges of
Academic Libraries

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EDITORIAL

Education aims to impart knowledge and makes good citizens. New education policy goals of Access, Equity, Quality, Affordability and Accountability. Since education is both a training of minds and training of souls, it should give both knowledge and wisdom. Libraries are the repositories of knowledge and form an integral part of education. Academic libraries are considered to be the nerve centre of academic institutions to support teaching, research, and other academic programmes. Academic Libraries must provide maximum information with limited resources.

Libraries have changed from closed-access libraries to hybrid, digital, and virtual libraries by using the latest technology. With the advent of computers, the nature and services of libraries have changed dramatically. Computers are being used in libraries to process, store, retrieve and disseminate information. As a result, the traditional concept of library is being redefined from a place to access books to remote access to a wide range of resources. Libraries have now metamorphosed in partially digital form. Now libraries are surrounded by networked data, cloud based that is connected to a vast ocean of Internet-based services.

Academic library is heart of an institution in education system. There is considerable importance for ICT in new education policy. So there is need to reinvent the Academic libraries. In this view, the MUCLADr. BAMU Sectional Council has decided to provide the common Academic Platform for the library Professionals to discuss these points in the form of this Conference. Hence it has been decided to organize the National conference on "Reinventing Academic Libraries for New Education System in Digital Age: Challenges and Opportunities"

The main theme is broadly classified in the following streams viz : Knowledge Management, Development and Assessment of Digital Repositories Consortia, Digital Libraries and Social Media, Future Role and challenges of Academic Libraries. Development of Information and Knowledge Services, Models of Information Literacy, Knowledge Management, Development and Assessment of Digital Repositories, Technology and Innovations in Libraries, OERs, MOOCs and LIS Education, Libraries as Learning Organizations, Digital Libraries, Role and Status of Libraries in New Education Policy, Digital Content Management Systems, Future role and challenges of Libraries / LIS Education, Social Networking , E-resource Management, Cloud computing, Role of Libraries in Research and Development, Open Source Software in Higher Education, Sharing Infrastructure / Consortia, Continuous Revamping.

The conference brings together academic librarians and research students. Over 169 good number of Qualitative papers have been received from Academic

Librarians and Research Scholars from reputed Institutions, The editors express sincere appreciation to all the authors for contributing and sharing their valuable Research work and experience in the form of Research Paper, Case Studies and Theoretical Knowledge for the Conference.

We, the organizers and editorial board is truly delighted in collecting experiences, suggestions form delegates and honorable resource person. We hope that the papers will prove as useful tool to the policy makers, researchers, librarians and students of Library Science.

We sincerely acknowledge the MUCLA core committee we must express our deep sense of gratitude to Hon. President Dr. Mohan Kherde, Dr. Vinay Patil, Dr. S.K.Patil, Dr. Santosh Chartubhuj, Shri. Ranjeet Dharmapurikar, all Members of Dr. Babashaeb Ambedkar Marathwada University Sectional Council, Aurangabad and Organizing Committee of the Conference, sectional council of various universities in Maharashtra and all Academic Librarians in Maharashtra.

We appreciate the support the of Shri. Yuvraj Mali, Atharva publication Jalgaon for publishing the conference proceeding in book form and producing the same in Digital form within a given time limit.

We hope the outcome of conference will be helpful to update the knowledge of library and information science professionals to reinvent the academic libraries to achieve the goal of new education policy.

- Editors

INDEX

(III) Digital Libraries and Social Media

- **Digital Library and Information Literacy** 01
-Dr. Vikram V. Giri
- **Use of Internet by the Fashion Designing Students: A Case Study** 06
-Dr. Hitendra J. Patil, Mr. Yogesh P. Surwade, Dr. Daya T. Patil (Dalve)
- **Mobile Cloud Computing: Characteristic Advantages and Benefits** 13
-Dr. Yadav Shyamla C, Dr. Ghumre Shivshankar K
- **Use of Social Media Networking in Academic Libraries** 18
-Dr. Shamsunder V. Kantule, Mr. Ganesh Sagre, Dr. Vikram Dahiphale
- **Role of Consortia in Resource Sharing among Libraries** 22
-Mr. Dhage Santosh, Mr. Sagar Ambhore
- **The Role of Digital Library in Present Era: An Overview** 26
-Prof: M. M. Chavan
- **Resource Sharing in Libraries Role of Consortia** 28
-Dr. Thorwe Rajkumar Hiranman
- **Trends of Content Management Systems In Library Management: An Overview** 32
-Dr. S.N.Dongare
- **Social Media Awareness & Use by College Librarians Affiliated to Dr. Babasaheb Ambedkar Marathwada University LA Case Study** 37
- Dr. Nirmala G. Borade , Dr. Madansing D. Golwal, Dr. Veena Kamble-Salampure
- **Digital Library: An overview** 42
-Dr. Vikram Dahifale , Prof. Balasaheb T. Deshmukh
- **Information Access Management and Data Security Services** 46
-Dr. Vaishali M. Choudhari
- **Digital Libraries : Definition and Characteristic** 50
-Prashant Bhat, Gopal Rajaram Patil
- **Digital Libraries and e-Learning** 53
-Prakash Nilknthrao Chondikar
- **Role of Social Media in Digital Era** 56
-Prof. Dr. Kishor M. Dhumne
- **Social Networking for Academic Libraries** 59
-Dr. Mrs. Daya T. Patil (Dalve), Mr. Vaidya Ashok Haribhau
- **Digital Resources** 63
-Dr. Hariprasad Bidwe
- **Maintenance of collection in Digital Library** 66
-S. A. Mutkule
- **IT and digital information preservation** 71
-Kalyan Dattatray Yadav
- **Digital Library: An Overview** 74
-Mr. Yuvraj B. Andhorikar, Dr. Shobha R. Sulsule
- **Challenges for Digital Libraries** 77
-Swapna P. Gaikwad
- **Social Networking Sites in Libraries** 79
-Mrs. Vandana Jalindar Ambhore, Dr. Anjali Dashrath Kale

• Bulk SMS Services in Academic Library	83
<i>-Dr. Sonali A. Deshmukh, Dr. Milind Anasane</i>	
• E-Book Readers: a study	86
<i>-Mr. R. R. Mali, Dr. C. R. Satpute</i>	
• Digitization of Libraries Effect on Readers and their Reading Habbits	88
<i>-Mrs. Trupti Rajendra Shah</i>	
• Digital Libraries in India : Issues and Advantages	91
<i>-Jadhav Balaji Nivaratirao, Shirish A. Zope</i>	
• Digital Library	94
<i>-Hangargekar Vithal Nivratirao</i>	
• Digital Libraries	95
<i>-Mr. Vishnu S. Shelke Dr. Vivek S. Sathe</i>	
• Social Networking: with reference to University Libraries in Maharashtra	97
<i>-Miss. Rajashree D. Wagh</i>	
• Use of Social Media in Libraries	104
<i>-Dr. Chopkar Hemraj Duryodhan</i>	
• Digital Library	108
<i>-Amol Bhaudas Meshram</i>	
• Changing Scenario of Academic Libraries in a Social Networking Sites	111
<i>-Dr. Hirve P. S.</i>	
• Social Media Use For Agricultural Extension	114
<i>-Shubham U. Patil</i>	
• Application of Web Content Management Systems in Academic Libraries: An Overview	119
<i>-Syeda Sarwat Farheen, Ambhore Vandana Jalindhar</i>	
• Position of Library in Digital Era: Opportunities and Challenges	124
<i>-Somnath D Suradkar, Shirish A. Zope</i>	
• Challenges in Development Digital Libraries	128
<i>-Dr. Vilas A. Kale, Mr. Nilesh Nagare</i>	
• Role of Social Networking Sites in Libraries	131
<i>-Mr. Phatak Anil Shahaji, Dr. Patil Daya Tryambak</i>	
• डिजिटल ग्रंथालय	134
<i>-काळे सचिन भाऊराव, सय्यद अनीस मोइनोद्दीन</i>	
• डिजिटल ग्रंथालय : आजची गरज; उदयाची सोय	137
<i>-प्रा. अमृता रविकीरण शिंदे</i>	

(IV) Future Role and challenges of Academic Libraries

• Future Role and Challenges of Academic Libraries	141
<i>-Chaturbhuj S.B.</i>	
• Information Literacy Initiatives by the Librarians: A study of Colleges in Thane District	144
<i>-Dr. Mahesh M. Dalvi, Dr. Sachin J. Shashtri, Mr. Subhash Athavale</i>	
• The Nature of OERs, MOOCs and LIS Education	148
<i>-Narwade Mukesh Ramesh, Shrisunder Nikhil John</i>	
• eBooks Management Using Open Source Softwares	155
<i>-Dr. Neeta A. Kene</i>	

•	Use of Mobile Technology in Library	158
	<i>-Dr. Kumbhar Kalyan N.</i>	
•	Information Literacy: An Overview and Models	163
	<i>-Dr. Daya Dalve Patil, Shri. Fartade S.G.</i>	
•	Information Literacy: Use full Education for Higher Educational	168
	<i>-Dr. G N Panchal, Dr. Sambhaji G Patil, Dr. Sachin J Gadekar</i>	
•	GIS Based Decision Support Systems in Agriculture	171
	<i>-Mr. Rajendra S. Lawande, Dr. Daya T. Patil (Dalve)</i>	
•	Marketing of Library and Information Products	175
	<i>-Yogaraj S. Firke, Dr. Govardhan P. Aute</i>	
•	Outsourcing Service in Library Automation Libraries in Beed City A Study	178
	<i>-Dr. Veena M. Kamble, Asha M. Kamble</i>	
•	Future Role and Challenges of Libraries/LIS Education Reader Advisory Service : A Future Role of Libraries	182
	<i>-Manisha Nimraj Jadhav, Saurabh Balasaheb Sabale</i>	
•	Education Policy in India and Libraries	184
	<i>-Harsha S. Kambe</i>	
•	Mobile Technology Using in University Library	188
	<i>-Mr. Vijay C. Rahane, Dr. Kirit H. Shukla, Dr. Sambhaji G. Patil</i>	
•	Information Literacy Model for Higher Education	191
	<i>-Dr. Vilas Ubhale</i>	
•	ICT Application and Innovative practices in Academic libraries	195
	<i>-Dr. Nilima Rajendra Banker</i>	
•	SWAYAM : A MOOCs platform for Library Education	200
	<i>-Mr. Siddheshwar Rajaram Kokat</i>	
•	Academic Libraries and MOOCs Era	203
	<i>-R. B. Pagore, B. V. Chalukya</i>	
•	The Role of libraries in the implementation of National Education Policy-2019 : Higher Education Institution Library Point of View	208
	<i>-Sachin R. Ambaskar, Dr. Ashish Raut</i>	
•	Models of Information Literacy	213
	<i>-Dr. Sanjay Laxman Bhedekar</i>	
•	Role and Challenges of College Libraries	217
	<i>-Dr. V. V. Giri, Drarde Gajanan Sanjabrao</i>	
•	An Introduction to Information Literacy Models: A Review	222
	<i>-Miss. Kadam Rohini, Sachin V. Kadam</i>	
•	Open Source Software	229
	<i>-Gavhane Maharudra P.</i>	
•	Impact of Cloud Computing on Libraries	232
	<i>-Mr. Gavali A. B. Mr. Deokar S. M.</i>	
•	Roles for Libraries in the MOOCs	235
	<i>-Dr. Savita Madhav Mhaske</i>	
•	Open Source Software Need Libraries in Higher Education	238
	<i>-Mr. Karbhari Govindrao Magar</i>	
•	Benefits and Challenges of Open Education Resources and Indian Initiatives	241
	<i>-Dr. Sunita Mane (Saware)</i>	
•	Information Literacy Models: An Overview	246
	<i>-Prof. Ganesh B. Darade, Prof. Amruta R. Shinde</i>	

• Information Literacy Initiatives by College Libraries	251
<i>-Dr. Yogesh Bhale, Dr. Rathod Sukhalal</i>	
• Library and Information Science Open Access repositories	254
<i>-Jawale J. N.</i>	
• Models of Government (National) Information Literacy & Lifelong Learning Policy Statements	259
<i>-Lasha B. Kamdi, Dr. Veena M. Kamble</i>	
• Cloud Computing	262
<i>-Dr. Pawar Vidulata Shahurao</i>	
• Models of Information Literacy	265
<i>-Dinesh T. Sakhare</i>	
• Role of ICT in Academic College Library Services	268
<i>-Dr. Smita D. Surywanshi</i>	
• Information Literacy And Lifelong Learning-Inter-Related	271
<i>-Kavita Narayan Tupe</i>	
• Role of a Librarian as facilitator in an academic library	274
<i>-Varsha Varma, Durga Murari</i>	
• Open Educational Resources and the Role of Librarians	278
<i>-Dr. Umesh B. Deshmukh</i>	
• Cloud Computing In Libraries	281
<i>-Varsha D. Ingle</i>	
• The Role of the Library in the Research and Development	284
<i>-Mr. Waghmare Sanjay Shamrao</i>	
• Changing Roles of Academic Libraries and E-learning	287
<i>-Smt. Rakte Jyoti Bhausahab</i>	
• Future role and Challenges of Libraries	291
<i>-Mr. Fulari Arjun Ramdas</i>	
• Changing role of Library Professionals in Knowledge Era	295
<i>-Gaikwad Manisha K</i>	
• Role and Importance of Internet in Library - A Study	297
<i>-Dr. Mortale Heera N.</i>	
• Information is A Value Addition Service	300
<i>-Dr. Bhausahab B. Shelke</i>	
• Models of Information literacy	303
<i>-Dr. Dattatray R. Dhumale</i>	
• Open Source Software's in Higher Education	306
<i>-Prof. Dr. S.R. Nimbhorkar</i>	
• Open Source Software	310
<i>-Prof. Pratibha N. Atram</i>	
• Technology and Innovation in Libraries	312
<i>-Dr. Sudhir Astunkar, Dr. Chandrashekhar Hanwante</i>	
• Future role and Challenges of Libraries / LIS education	314
<i>-Mrs. Bahegavankar S. G. (Kulkarni C. C.)</i>	
• Models of Information Literacy and Academic Library	317
<i>Dr. Choure Anjali A.</i>	
• Technology and Innovations in Libraries	321
<i>-Dr. Rekha Kalbande</i>	
• Cloud Computing	324
<i>-Pallavi Vijay Sonar</i>	

- **MOOCs : A new era of learning in LIS Profession** 328
-Mrs. Deepali R. Sarode
- **Research Productivity of Library professionalin Dr. BAMU, Aurangabad on Google Scholar** 332
-Dr. Rahul K. Deshmukh
- **Style Manual, Plagiarism Software and Impact Factor Journals Used by the LIS Professionals** 339
-Dr. Govardhan Pralhadrao Aute, Dr. Amol Babasaheb Sawai, Dr. Sachin Jaiwantrao Gadekar
- **Library as Learning Resources with NAAC Revised Guidelines** 345
-Raju Ramdas Tupe, Dr. Veena M. Kamble
- **Cloud Computing** 352
-Dr Mrs.S, P. Bidarkar-Lehekar, Sapna. D. Kamble
- **आधुनिक काळातील ग्रंथालयात क्लाऊड कॉम्प्युटिंगचा उपयोग** 357
-श्री. बोंबले राजू बालासाहेब, डॉ. सुळसुळे शोभा राजाभाऊ
- **ऑनलाईन लर्निंगसाठी उपलब्ध असलेले प्लॅटफॉर्म व सुविधा: एक दृष्टिक्षेप** 360
-सहा. प्रा. बर्फे विजय उत्तमराव, डॉ. कापडे दिपक
- **ओपन सोर्स सॉफ्टवेअर्स आणि ग्रंथालये** 364
-गणेश दराडे, अमृता शिंदे
- **संशोधनातील समानता तपासण्या संदर्भातील ज्ञान स्रोत केंद्र, संत गाडगे बाबा अमरावती विद्यापीठाचा प्रयत्न : एक अभ्यास** 367
-कु. स्नेहा श. कथलकर, कु. मीना वा. वानखडे
- **महाविद्यालयीन ग्रंथालयामध्ये माहिती साक्षरता उपक्रमाच्या अनुषंगाने प्रारूप विकसन** 371
-डॉ.माधव देवबा वराडे

(III)
Digital Libraries and Social Media

Digital Library and Information Literacy

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Abstract :

The present paper includes a detailed study of types of college library users and role of librarian to increase library utilities through various types of services with the help of Information Literacy Programme. The Use of information technology in the library is the prime necessity in the digital era. The purpose of this paper is to describe the role of librarian in digital library and information literacy for the students, teachers, nonteaching staff, other users etc. It also deals with importance of information literacy and need of information literacy for all users.

Keyword : Digital Library, E-Information Literacy

Introduction:

The role of librarian has to be change in modern age. Library play central role in the development of college education. In the college library flow of students, teachers, nonteaching staff and other users towards library are decreasing. Duty of librarian is, to increase reading habits through digital library information literacy programme.

Information literacy is an essential component in the educational development of each type of user. Information literacy programme is to help library users become effective information seekers able to find and evaluate information efficiently, effectively from the various sources. In the college library type of users are students, lecturers, Office Staff and the other users. Responsibility of the librarian has to be increases towards library use and the reading habits of the users.

A digital library is a collection of materials in digitized form. The materials in the digital library are stored in a computer system in a form that allows it to be manipulated and delivered in ways that the conventional version of the materials cannot be. A digital library service is an assemblage of digital computing, storage and communication machinery together with the software needed to reproduce, emulate, and extend the services provided by conventional libraries based on paper and other material means of collecting, storing, cataloging, finding and disseminating information.

Information literacy is a set of abilities to recognize need of information, to locate to identify appropriate information sources and to know how to search contained those sources, to evaluate quality of information obtained and finally to skill the organize information with the help using presentation technique.

The role of college librarian in the college library, he collect the information material in print media as books, journals, reports etc. and electronic media for the use of their users. They do various process on the material to bring in to light on the library collection through and should make every effect so that the resources reach the users. The library resources can be put to maximum use by the provision of information literacy.

Digital Library:

A digital library is a library consisting of digital material and services. Digital materials are items that are stored, processed and transferred via digital devices and networks. Digital services are delivered digitally over computer networks. It maintains all or substantial part of its collection in computer accessible form as an alternative, supplement or complement to conventional printed and microform materials that currently dominate library collection.

Need for Digital Libraries:

There are number of reasons for building up digital libraries such as

- A) The need of information.
- B) The overcome financial constrain of the library.
- C) Availability of information in digital form.
- D) To reduce space problem.
- E) Management problem of existing libraries.
- F) Availability of Technology.
- G) Digitization is a tool for preservation.

Function of Digital library:

Provide access to very large information collection.

- A) Support multi-media content.
- B) Provide user friendly interface.
- C) Support advanced search and retrieval.
- D) Information available for a very long time.
- E) It also supports traditional library mission of collection development, organization, access and preservation of information.

Process of Digitization:

Manual data entry

- 1) The scanning process.
- 2) Optical character recognition

There after some processes must be carried out in steps as follows.

- a) Clean up b) Page analysis c) Recognition d) Checking e) Saving

Information Literacy:

Information Literacy as an instruction given to readers to help them to make the best use of the library. According to Fjall & Mally user education is concern with the whole information and communication process and our part of this involves the total interaction of the user with library. In short Information Literacy nothing but education the library user regarding the use of library resources.

E-Information Literacy:

Librarian should skill required for handling IT products, such as computer operating, software, telecommunication products, data file management, DTP, Word Processing etc. The next level of e-information literacy include skill requires to apply information technology for service management and information processing search and retrieval. This involves collection and organization of data in electronic form indexing techniques searching as well as CD-ROM databases. So, nowadays librarianship requires a number of skills, tools and techniques, which are also required to manage traditional librarianship.

Need of Information Literacy in Digital Library:

- 1) The need of Information Library is essential due to Growth of literature.
- 2) Number of information sources.
- 3) Advantage of information and communication technology.
- 4) Wide dispersal of information.
- 5) Emergence of interdisciplinary subjects
- 6) Media and internet development.
- 7) Quality of information.
- 8) Complexity of search tools
- 9) Rapid charge in Information Technology sources
- 10) Emergence of E learning
- 11) Time distance and barrier of communication.
- 12) To create knowledge society innovation and E governance
- 13) Need for lifelong learning.

Objective of the Study:

- 1) Objective of College library is to provide reading material as per curriculum and encourage
- 2) Students in widening the area of knowledge.
- 3) To find whether the students are aware about information services provided by the library.
- 4) To find out which information services can be provided by the college librarian.
- 5) To know which information literacy programmes can run from the college library
- 6) To know the role of college librarian play in the information literacy programme for the all types of users.
- 7) When we think of college library in relation to Information Literacy there are four types of readers i.e. Students, teachers, Non teaching staff and other users.

For the Students:

Aim of college librarian is to build up balanced collection in the light of objective levels of education curriculum and the need of students. Students are the important factor of the education so the library plays an important role for the students.

- 1) Orientation Programme The library should offer orientation programme to the users. The main idea behind this is that the users should know all the details about the library and the information

sources and materials in order to use of library efficiently. It also sets up a channel of communication between the libraries the students and the faculty. Information literacy programme should takes place at the beginning of the year. The basic information about the library should be given including introduction to the library timings, layout of library building, rules, introduction to the staff, membership procedures, introduction to the library catalogue, arrangement of the books ect. and facilities available borrowing of library material, Photocopying, interlibrary loan, audio video room, reading hall, internet, online database, CD Rom database, information retrieval and using various search engine.

for the post graduate students subject wise instruction can be given at the beginning of each academic year. The instruction should be based on pre biography path finders. The pathfinder should be updated at the time of orientation programme students should also teach to use electronic products and services. Thus the orientation programme and the continuing programmed in laying the foundations at lifelong information literacy.

- 2) Library Brochures Publication of library handbook brochures which includes detailed information regarding library. Sometime library have to publish library manual such as ‘Know Your Library’. ‘Our Library’ etc distributing among the users. On regarding procedure, process, collection, services, rules and regulation about the library facilities etc. in college prospectus which is updated yearly.
- 3) College prospectus responsibility of librarian to inclusion of detailed information regarding procedure, process, collection, services, rules and regulation about the library facilities etc. in college prospectus.
- 4) Book Talk – On a particular book or regarding particular authors collection of books can be selected and take discussion in between selected 10 to15 students and script reading session can be arrange on a specific book.
- 5) Best Reader Award Practice can be offered to the readers. This activity helps the reader to develop their interest in reading maximum number of books.
- 6) E- Information literacy – To give the information about the network technology with multimedia, digital storage, digital delivery and also opac, online sources etc.
- 7) Provision of Extension Services – Librarian should constantly keep in touch with changes in curriculum and in other educational environment and design services which will ensures libraries contribution in the activities in the college. There are number of extension services which will help for information literacy programmed. i. e.
 - a) Arranging Book Exhibition for more aware and familiar with the books.
 - b) Display service whenever an opportunity arises such as national event, local event special courses lectures of special subject, the relevant book gathered together kept on display or the focal point in the library.
 - c) To render service such as providing vital items of information which will be useful for student in building up the general knowledge?
 - d) Information about the scholarship and free ship to the students.
 - e) Display an advertisement for recruitment and career guidance information in the library.
 - f) Exhibition or display collection of local interest including document written by local person.
 - g) To give internet connectivity facility to the student.
 - h) To give computer training programmed in the library for the students.
 - i) Helping the student for completion of their project work.
 - j) Prepare bibliographic either asked or unasked.
 - k) Helping the students for preparation of talks on radio, television, public speaking, debating essay competition.
 - l) Display of writings appeared in periodicals, newspapers, written by the students.
 - m) Library facility given to the external students for examination and also pass out students.
 - n) Reprography or Xeroxing facility made available.
 - o) Library should made its own selective abstracting service if not acquire abstracting journals.
 - p) College librarian to takes interests in establishment of bookshop in the campus.
 - q) Inter library loan facility from other colleges and university library should be provides.
 - r) College library imply modern technology and device in the library operation and service to save the time of the library.

- s) Library should open for maximum hours and holidays sufficient reading hall made available.
- t) Book bank facility should be provided to the students
- u) Selected groups of the students may be given short intensive courses and literature searching in their chosen subject.
- v) Back dated question paper set and syllabus made available for the students.
- w) Introducing non book material e.g. CD Rom, maps, charts.
- x) Provision of update edition of journals, volume of newspapers and stress the importance of the latest information.
- y) To keep suggestion box or note books in the library to expecting more information.

For the Teachers:

Teachers are the important factor and responsible person so that it is the responsibility of the library to give perfect and latest information to the teachers. For that there are various services which are important in the point of view of the librarian.

- 1) Provision of to give list of the new arrivals in the library.
- 2) Purchasing reading materials like books, periodicals, journals, Audio Video materials, discussion made available.
- 3) Display new issues of related subject of the teachers.
- 4) Provision of information on in what way library is ready to help in their research work.
- 5) Inspiring towards more use of library resources and services by stress the importance of usefulness of it.
- 6) Provision of latest information.
- 7) Provision of separate reading hall.
- 8) Provision of internet and audio video room facility.
- 9) Provision of online journals and OPAC.
- 10) Provision of indexing and abstracting services.
- 11) To understand the information need of the teacher organize conference, workshop, seminar which is improving the knowledge of the teachers and the produce educational reports articles etc. through the library.
- 12) To make available syllabus of curriculum.
- 13) List of books related syllabus made available.
- 14) Question paper set of university exam made available of last 5 years.
- 15) Give information service, SDI service, CAS etc to the teachers.

For Non Teaching Staff:

The third category of the users of the college library are non teaching staff which includes Registrar, O.S., Clerks, Attendants, Peon etc.

- 1) Provision of reading material which are interested in the point of view of the non teaching staff.
- 2) Educational law books, Govt. circulars, Prospects or list of the same material made available to the staff.
- 3) List of websites of Govt. rules and regulations made available.
- 4) Providing some extension services which are helping to increase reading habits.

For Other Users:

It includes pass out students, external students and members of institution. For this category of the user librarian can give those services of their interest. In the academic institutions library user is considered as a 'Prince' around whom all the services of the library revolve. Information literacy programme helps use to guide and intimate the user towards the effective use of the library resources. College librarians are competent in house experts for creating awareness in both students and faculty colleagues and other users evaluate use and communicate information effectively.

Conclusion:

The role of college librarian is the important factor of library. So that the role and responsibility is important. In the system of education there are tremendous development in the various subjects, simultaneously knowledge also increasing for that satisfaction of the users is the responsibility of the librarian. With the co operation of the Principal, Teachers, students and staff Information Literacy is possible to all. The above services are provided in the college library, definitely increases number of users and automatically increases status of college librarian.

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Use of Internet by the Fashion Designing Students: A Case Study

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Abstract :

The Internet is becoming more widely used by academic institutions to support the teaching, learning and research activities of the user. Though technology is a very important, useful and indispensable part of the life, effective and appropriate usage of it still needs to be improved in education. The main aim of this study is to examine the impact of Internet on the UG students of Institute of Fashion Designing. The present study demonstrates and elaborates the various aspects of internet use, such as frequency of Internet use, place of access, purposes for Internet access, motivating factors to access Internet and most preferred search engines.

Introduction :

The Internet plays an important role in teaching, learning and research processes. The present paper reflects that, frequency of use of internet, time spent on internet, learning methods, purpose of use of internet, quality of information on internet, kind of information & problems faced while using internet etc... The Internet or the Net, as it is better known has been perceived to be of several dimensions to its users, a medium of intercommunication between remote users, a mechanism to share information and work collaboratively, a means of publishing globally and a near exhaustive repository of information.

Keyword:

Internet, learning method, net,

Objectives of the study

1. To find out the frequency of use of internet.
2. To find out the time spent on internet.
3. To find out the purpose of using Internet.
4. To find out the learning methods used.
5. To find out the internet based services accessed by users.
6. To find out satisfaction of source of information.
7. To find out the problems faced by the users while accessing the internet.

Review of Literature

Chen & Pen (2008) in their study, examined the basic relationship between the internet use of university students and their academic performance, interpersonal relationships, psychosocial adjustment and self-evaluations. They equipped a questionnaire and collected 49,609 university juniors' comments about the questions. The results show that non-substantial internet users have better relationship with administrative staff, academic grades and learning satisfaction than heavy users. They claimed that the substantial internet users were likely than non-heavy users to be depressed. This study incited us to search the raising trends in use trap sites among university students.

Darries (2004) discusses issues related to Internet-based reference. An electronic survey was conducted using the web and e-mail to distribute the questionnaire. The target area has been covered to reference services at large libraries and the directors at smaller libraries of the 36 higher education institutions in South Africa. The response rate to the questionnaire was 28 (30.4 %); two returned questionnaires were spoilt. The result shows that, all libraries measured have Internet access, and all but one provided access to their users. Librarians has an access to the Internet for a longer period than their users. User Internet training inclined to be on a one-to-one basis at the point-of-use.

Jay and Webber (2005) accompanied a research study which investigated the impact of the Internet on reference services in public libraries in England. A questionnaire was overseen in 2003 to a sample of the public library authorities in England, investigating the use of the Internet for receiving or answering reference enquiries, the use of electronic reference sources, and the nature of public library web sites. The paper concludes by identifying the need for public library managers to assess the changing role of professionals and Para-professionals in delivering reference services, and to provide appropriate training. It has been noted that, despite the discussion of real-time reference, asynchronous digital reference is still more common in England.

Surwade, YP. and Patil, H.J. (2019) examine the impact of Internet on the UG students of KNP

college of Veterinary science. The Study presented by various aspects of internet use, such as frequency of Internet use, place of access, purposes for Internet access, motivating factors to access Internet and most preferred search engines The questionnaires have been distributed among 70 UG students of KNP COVS out of which 56 respondents responded. The result shows that Students satisfied with the internet services & they said while accessing internet the quality of information is good and said internet cannot replace the library services, also they are satisfied with the provided result of search engine. Students prefer to access the articles over the internet but it is in PDF format only, & they faced slow internet connection problem while accessing the internet.

Scope and Limitation of the study

The scope of the study is limited to the UG students of Institute of Fashion designing, Aurangabad. The questionnaires have been distributed among 50 UG students of Institute of Fashion designing out of which only 36 respondents favourably responded whereas 14 UG students not responded to it in the process of collection of primary data for the present study.

Methodology:

Descriptive research method has been applied for the present study. The questionnaire has been distributed to the UG students Institute of Fashion Designing, Aurangabad to receive their habit to use of Internet. The data has been collected through the questionnaire as a tool for data collection. Collected primary data has been analysed and interpreted under various headings

Data Analysis

1. Age Group:

To get the Information about the age group of the respondents. The question has been asked and collected information is in table no.1

Table No.1 Age Group

Sr. No.	Responses	Percentage	
1	20-25	25	44.64285714
2	15-20	10	17.85714286
3	Other	1	1.785714286
4	25-30	0	0
		36	64.28571429

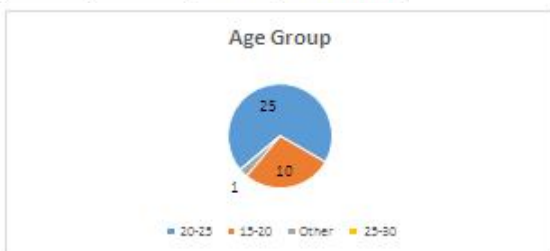


Table No.1 shows that, Majority of respondents were between 20-25 years, 25 i.e. (44.65%) respondents between 20-25 age, 10i.e. (17.86%) respondents between 15-20 years, 1 i.e. (1.78%) respondents did not mention their age

2. Frequency of use of Internet:

To get the Information about the frequency of use of internet of the respondents. The question has been asked and collected information is in table no.2

Frequency of use of Internet

Frequency of use of Internet			
Sr. No.	Responses	Percentage	
1	Daily	24	42.8571429
2	Once in a month	8	14.2857143
3	2-3 times in a week	3	5.35714286
4	2-3 times in a month	1	1.78571429
		36	64.2857143

Table No. 2 Frequency of use of Internet

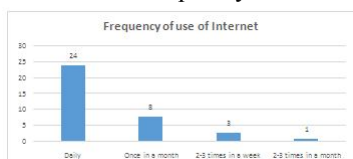


Figure No. 2 Frequency of use of Internet
Reinventing Academic Libraries Vol. II

Table no.2 shows the result that, 24 i.e. (42.86%) respondents Daily use internet, 8 i.e. (14.29%) respondents use internet once in a month, 3 i.e. (5.36%) respondents use internet 2-3 times in a week & only 1 i.e. (1.79%) respondents use internet 2-3 times in a month.

3. Time spent on Internet:

Table no. 3 shows that time spent on Internet
How much time do you spent on Internet?

How much time do you spent on Internet?			
Sr. No.		Responses	Percentage
1	Less than 1 hr a week	6	10.7142857
2	2-4 hrs a week	8	14.2857143
3	5-6 Hrs a week	6	10.7142857
4	7-9 hrs a week	1	1.78571429
5	More than that	15	26.7857143
		36	64.2857143

Table No. 3 Time spent on Internet

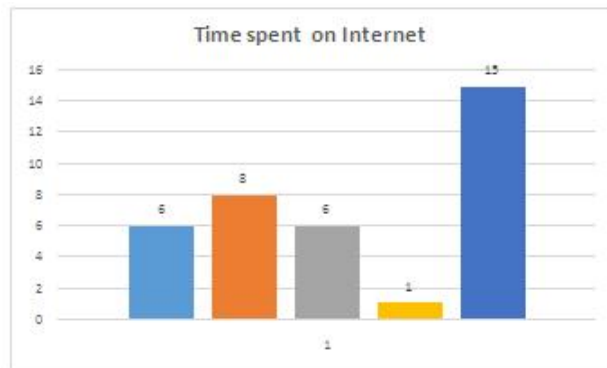


Table no.3 & figure no.3 shows that, 6 i.e. (10.72%) respondents spent less than 1 hour in a week, 8 i.e. (14.29%) respondents spent 2-4 hours in a week, 15 i.e. (26.79%) respondents spent more than that means (10-15 hrs in a week they have spent on Internet, 1 i.e. (1.79%) respondents spent 7-9 hours in a week whereas only 6 i.e. (10.72%) respondents spent 5-6 hrs in a week.

4. Learning Method

To get the Information about the learning methods of Internet. The question has been asked and collected information is in table no.4

Sr. No.		Responses	Percentage
1	Self-instruction	26	46.42857143
2	Trial and Error	6	10.71428571
3	External courses	2	3.571428571
4	Guidance form colleagues	1	1.785714286
5	Training from college	1	1.785714286
		36	64.28571429

Table No. 4 Learning methods on Internet

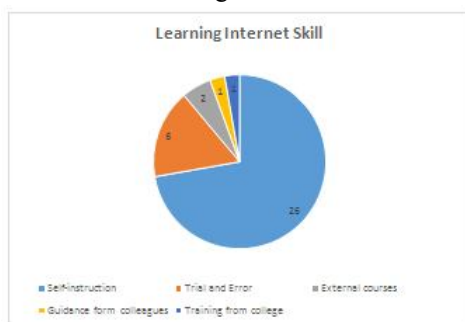


Figure No. 4 Learning methods on Internet

Table no.4 & figure no.4 shows that, 26 i.e. (46.43%) respondents use self-instruction for learning internet skill, 6 i.e. (10.72%) respondents use Trial and error methods for learning internet skill, 2 i.e. (3.58%) respondents use external courses for learning internet skills, 1 i.e. (1.79%) respondents take guidance from colleagues whereas 1 i.e. (1.79%) respondents take training from colleges.

5. Purpose for using Internet

To get the Information about the purpose of using Internet. The question has been asked and collected information is in table no.5

Sr. No.		Responses	Percentage
1	Education	23	41.07142857
2	Communication	6	10.71428571
3	Entertainment	17	30.35714286
4	Research	10	17.85714286
5	Job searching	8	14.28571429
N=56			

Table No. 5 Purpose for using Internet

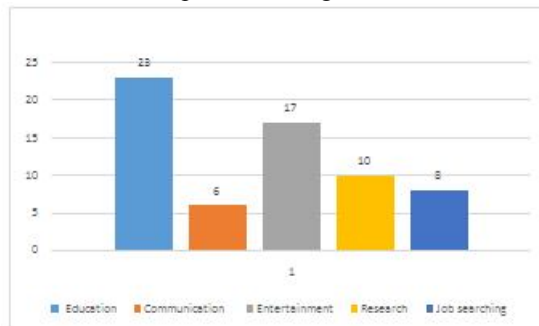


Figure No. 5 Purpose for using Internet

Table no.5& figure no.5 shows that, 23 i.e. (41.08%) respondents use internet for education purpose, 6 i.e. (10.72%) respondents use internet for communication purpose, 17 i.e. (30.35%) respondents use internet for entertainment purpose, 10 i.e. (17.85%) respondents use internet for research purpose whereas only 8 i.e. (14.29%) respondents use internet for searching the job.

6. Satisfaction of internet services:

Table no. 6 shows that satisfaction of Internet services

Sr. No.		Responses	Percentage
1	Partially satisfied	16	28.57142857
2	Fully Satisfied	18	32.14285714
3	Least satisfied	2	3.571428571
		36	100

Table No. 6 Satisfaction of internet services

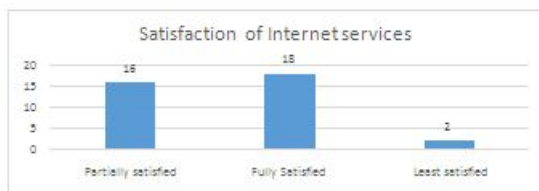


Figure No. 6 Satisfaction of internet services

Table no.6&figure no.6 shows that, 16 i.e. (28.58%) respondents partially satisfied for the internet services, 18 i.e. (32.15%) respondents fully satisfied with the internet services whereas 2 i.e. (3.58%) respondents least satisfied with the internet services.

7. Quality of information on Internet: -

Table no. 7 shows that quality of information on Internet:

Sr.No.		Responses	Percentage
1	Good	18	32.14285714
2	Very Good	10	17.85714286
3	Excellent	6	10.71428571
4	Poor	2	3.571428571
		36	64.28571429

Table No. 7 Quality of information on Internet

Table no.7& figure no.7 shows that, 18 i.e. (32.15%) respondent says the quality of information on internet is Good, 10 i.e. (17.86%) respondents says the quality of information on internet is very good, 6 i.e. (10.72%) respondents said the quality of information on internet is excellent whereas only 2 i.e. (3.57%) respondents said the quality of information on internet is poor.

8. Replacing Library services: -

Table no. 8 shows that replacing Library services

Sr. No.		Responses	Percentage
1	No	22	39.2857143
2	Yes	14	25
	N=56	36	64.2857143

Table No. 8 Replacing Library Services

Table no.8 shows that, 14 i.e. (25%) respondents said “No” internet cannot replace the Library services whereas 22i.e. (39.29%) respondents said “Yes” internet can replace the Library services.

9. Search Engine

A question was asked to the respondents that do you satisfied with the provided result by the search engine & level of satisfaction. The responses were coded & analysed in table no.9.

Sr. No.		Responses	Percentage
1	Yes	27	48.21428571
2	No	9	16.07142857
	N=56	36	64.28571429

Table No. 9 Search engine result

Sr. No.		Responses	Percentage
1	Sometimes satisfied	21	37.5
2	Always satisfied	11	19.64285714
3	Can't Say	4	7.142857143
	N=56	36	100

Table No. 9.1 satisfaction level of Search engine result

Table no.9 & 9.1 shows that, 27 i.e. (48.22%) respondents said they are satisfied with the provided result of search engine whereas 9 i.e. (16.08%) respondents said they are not satisfied with the provided result of search engine. Also 21i.e. (37.5%) respondents said they are sometimes satisfied with the provided result of search engine, 11 i.e. (19.64%) respondents said they are Always satisfied with the provided result of search engine & 4 i.e. (7.14%) respondents said Can’t say with the provided result of search engine.

10. Kind of information accessed on Internet:

Table no. 10 shows that Kind of information accessed on Internet

Sr. No.		Responses	Percentage
1	Article	30	53.5714286
2	Books	19	33.9285714
3	Abstract	17	30.3571429
4	Homepages	13	23.2142857
5	Conferences	1	1.78571429
6	Theses & Dissertation	3	5.35714286
7	Patents	0	0
8	Library websites	3	5.35714286
9	Reviews	0	0

Table No.10 Kind of information accessed on Internet

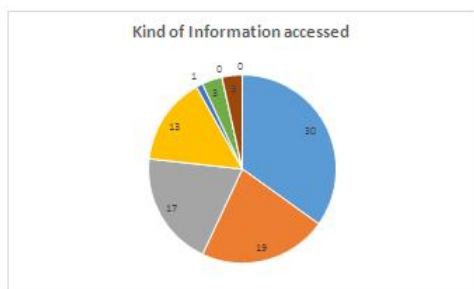


Figure No. 7 Kind of information accessed on Internet

Table no. 10 & figure no. 7 shows that, 30 i.e. (53.57%) respondents accessed articles on Internet, 19 i.e. (33.92%) respondents access books on Internet, 17 i.e. (30.35%) respondents access abstract, 13 i.e.

(23.21%) respondents access Homepages, 1 i.e. (1.79%) respondents access conferences proceedings, 3 i.e. (5.36%) respondents access Thesis and dissertation, whereas only 3 i.e. (5.35%) respondents access Library websites and no one will access patents and reviews.

11. File format.

Table no. 10 shows that file format prefer while accessing internet

Sr. No.		Responses	Percentage
1	PDF	22	39.28571429
2	Any of the above	26	46.42857143
3	PPT	10	17.85714286
4	DOC	17	30.35714286
5	HTML	5	8.928571429

Table No.11 File format for accessing Internet

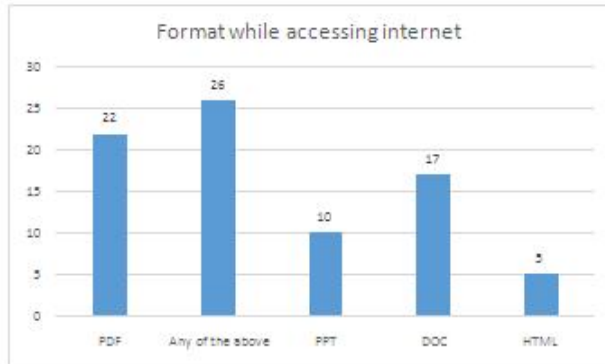


Figure No. 8 File format for accessing Internet

Table no. 11 & figure no. 8 shows that, 22 i.e. (39.29%) respondents prefer to access PDF files, 26 i.e. (46.43%) respondents prefer any format for accessing the internet, 10 i.e. (17.86%) respondents prefer to access PPT, 17 i.e. (30.35%) respondents prefer DOC & 5 i.e. (8.93%) respondents prefer HTML files

12 Kind of problem faced.

Table no. 12 shows that kind of problem faced while using internet.

Sr. No.		Responses	Percentage
1	Slow Internet connection	22	39.28571429
2	Difficulty in finding relevant information	13	23.21428571
3	Low configuration of computer	0	0
4	Lack of proper training	1	1.785714286
		36	100

Table no. 12 shows that, 22 i.e. (39.29%) respondents faced slow internet connection problem while accessing the internet, 13 i.e. (23.21%) respondents faced difficulty in finding relevant information, and 1 i.e. (1.79%) respondents faced lack of proper training problem.

Findings:

1. It is found that, 25 i.e. (44.65%) respondents between 20-25 years whereas 1 i.e. (1.79%) respondents did not mention their age.
2. It is found that, 24 i.e. (42.86%) respondents Daily use internet, & only 1 i.e. (1.79%) respondents use internet 2-3 times in a month.
3. It is observed that, 6 i.e. (10.72%) respondents spent less than 1 hour in a week, whereas only 6 i.e. (10.72%) respondents spent 5-6 hrs in a week.
4. It is found that, 26 i.e. (46.43%) respondents use self-instruction for learning internet skill whereas 1 i.e. (1.79%) respondents take training from colleges
5. It states that, 23 i.e. (41.08%) respondents use internet for education purpose, whereas only 8 i.e. (14.29%) respondents use internet for searching the job.
6. It is observed that, 16 i.e. (28.58%) respondents partially satisfied for the internet services, whereas 2 i.e. (3.58%) respondents least satisfied with the internet services.
7. It depicts that, 18 i.e. (32.15%) respondent says the quality of information on internet is Good, whereas only 2 i.e. (3.57%) respondents said the quality of information on internet is poor.
8. It is found that, 14 i.e. (25%) respondents said “No” internet cannot replace the Library services whereas 22 i.e. (39.29%) respondents said “Yes” internet can replace the Library services.

9. It is observed that, 27 i.e. (48.22%) respondents said they are satisfied with the provided result of search engine whereas 9 i.e. (16.08%) respondents said they are not satisfied with the provided result of search engine.
10. It depicts that, 30 i.e. (53.57%) respondents accessed articles on Internet, 19 i.e. (33.92%) respondents access books on Internet, whereas no one will access patents and reviews.
11. It is found that, 22 i.e. (39.29%) respondents prefer to access PDF files, 5 i.e. (8.93%) respondents prefer HTML files.
12. It is observed that, 22 i.e. (39.29%) respondents faced slow internet connection problem while accessing the internet, 1 i.e. (1.78%) respondents faced lack of proper training problem.

Conclusion:

It is found that, majority of the respondents were between 20-25 years, they use daily internet, they spent less than 1 hour in a week for using internet also they prefer to learn self- instruction method for learning internet skills they prefer internet for education purpose & they are partially satisfied with the internet services & they said while accessing internet the quality of information is good and said internet cannot replace the library services, also they are satisfied with the provided result of search engine. They prefer to access the articles over the internet but it is in PDF format only, & they faced slow internet connection problem while accessing the internet.

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Mobile Cloud Computing: Characteristic Advantages and Benefits

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Abstract :

Mobile Cloud Computing (MCC) is a combination of mobile computing and cloud computing. It has become one of the Major Research issue in the industry. Although there are so, many research studies in mobile computing and cloud computing, convergence of these two areas grant further academic efforts towards flourishing MCC2.

KEYWORDS : Mobile Cloud Computing; Mobile Computing; Cloud Computing; Research Directions

INTRODUCTION

As inventions of devices like smart phones, tablets, PDAs, etc, which are becoming an essential part of today's human lifestyle and with this world is moving towards Mobile-world. These devices are get even more important since the usage of mobile internet, leading to convenient communication tools. As the word mobile it by itself suggest that they are not bounded by time and place, which is the need of today's busy person. Users of Mobile can get rich experience of various services from their own mobile applications e.g., iPhone apps, Google apps, etc. that run on the remote servers via wireless networks. This is the reason behind making it essential to the progress of mobile computing (MC). It becomes a powerful trend in the development of different fields like IT technology, commerce, business industry and many fields of the life fields. But at the same time, the mobile devices are facing many challenges in their resources containing battery life, storage capacity, bandwidth and communications containing mobility and security issues. So, as the use of the smart phones and mobile devices their available mobile services performing much useful task, there is need to address the challenges facing by these devices. Over the past few years, advances in the field of network based computing and applications has shown that there is a high demand for mobile applications. However some common problem that all those devices share, still needs to be addressed: the limited capabilities of the devices regarding available resources like processor power, available memory and energy consumption. Commonly, cloud computing (CC) gives us a range of services which are provided by an Internet-based cluster system. Such cluster systems consist of a group of low-cost servers or Personal Computers (PCs), organizing the various resources of the computers.

They offers safe, reliable, fast, convenient and transparent services such as data storage, accessing and computing to clients. A technology of Cloud computing (CC) gives its users the possibility to host and deliver services over the internet by dynamically providing computing resources on demand basis in mobile nature from any remote distance. With this Cloud computing (CC) has been recognized as the next generation's computing infrastructure. Cloud Computing offers many advantages by allowing users to use infrastructure like servers, networks, and storages, platforms containing middleware services, operating systems and software's for application programs eliminating the requirement for users to plan ahead for acquiring different resources for storage and computing power. Particularly, resources can be dynamically added and released depending on service demand and with minimal management effort. As a result, the availability of cloud computing services in a mobile environment, also called mobile cloud computing. The increasing scenario towards Mobile Cloud Computing With the explosion of mobile applications and the support of CC for different variety of services for mobile users, mobile cloud computing (MCC) is introduced as an integration of cloud computing with the mobile computing and mobile devices. However, along with the usefulness of this topic of mobile cloud computing research still needs to be done on several issues as well as possible frameworks to support cloud computing on mobile devices. So that this much important topic can gain its advantage easily2.

OVERVIEW OF THE TECHNIQUES

CLOUD COMPUTING

Cloud computing is the delivery of computing services over the Internet on the pay-per-use basis. The cloud-computing model allows access to information and resources on anytime and anywhere basis. Cloud services are very useful as it includes online file storage, social networking, webmail, and online business applications etc. By using these services, businesspersons can use software and hardware that

are managed by third parties at remote locations. Cloud computing provides a shared pool of resources, including data storage space, networks, specialized corporate and user applications also. Cloud computing related to computer science services and describes a type of outsourcing the computer services, without worrying about from where it is? And from how it is? One has to only pay for what they consumed. The idea behind cloud computing is similar: The user can simply use storage, computing power, or specially crafted development environments, without worrying about its internal working. Cloud computing is usually Internet-based computing which hides complex infrastructure of the internet. It is a style of computing in which IT-related capabilities and services are provided “as a service”, allowing users to access their needed technology or services from the Internet without gaining knowledge of it, or control over the technologies behind servers providing services. Cloud computing delivers computing resources over the Internet, instead of keeping data on your own hard drive and offers us freedom to use a service over the Internet, at another location, to store your information or for using its it’s applications².

MOBILE COMPUTING

Mobility has become a very popular word and rapidly increasing part in today’s computing area. An incredible growth has appeared in the development of mobile devices such as, smart phone, PDA, and laptops with a variety of mobile computing, networking and security technologies. In addition, with the development of wireless technology and internet it becomes much easier and not limited by the particular office or home or organizations. Thus, more and more people have accepted those mobile devices and gives support to rise in the technology of mobile computing. Mobile computing is described as a form of human-computer interaction by which a computer is expected to be transported during normal usage. Mobile computing can be said as the collection of three major concepts: hardware, software and communication. The concepts of hardware is dependent on mobile devices, such as smart phone and laptop, or their mobile components. The second concept of Software in mobile computing is the numerous mobile applications in the particular hardware devices, such as the mobile browser, anti-virus software and games stored at remote distance on some other servers. Finally, the communication issue includes the infrastructure of mobile networks, protocols and data delivery in their use, which must be transparent to end users. With the use of the cloud-computing concept, it is easier to develop mobile computation somewhat easier.

MOBILE CLOUD COMPUTING

Mobile cloud computing is the advanced version or it’s the combination of the two most important practical computing paradigm describe above i.e. cloud computing and mobile computing. MCC defines by Aepona as a new distributed computing paradigm for mobile applications whereby the storage and the data processing are migrated from the Smart mobile devices to resources rich and powerful centralized computing data centers in computational clouds. As MCC is based on the cloud concept the centralized applications, services and resources are accessed over the wireless network technologies based on web browser of the smart phones. Many of the business persons are attracted by MCC as a profitable business option since reduces the development, execution cost of mobile applications, and mobile users are enabled to acquire new technology as on-demand basis. It enables to achieve rich experience of a variety of cloud services for SMDs at low cost. The objective of MCC is to use the computing potentials of SMDs by employing resources and services of computational clouds. Mobile cloud computing technique try to focus on alleviating resources limitations in SMDs by employing different strategies of augmentation; such as screen augmentation, energy augmentation, storage augmentation and application processing of SMD. There are number of approaches and argue that MCC handles that are needed to high-end hardware, reduces ownership and maintenance cost, and alleviates data safety and user privacy. The MCC model is composed of three major components consisting of smart phones, PDAs, etc., wireless internet technology and computational cloud. This is done as these Devices use wireless network technology protocols or Wi-Fi to access the services of computational cloud in mobile environment. If SMD inherit its nature of mobility, it needs to execute location aware services which consume resources and then turned as a low-powered client.

ARCHITECTURES AND PRINCIPAL OF MCC

Mobile cloud computing is a combination of mobile computing, cloud computing and mobile Internet. It can be stated as availability of cloud computing facilities in the mobile environment. It integrates the advantages of all the three technologies and can thus be called as cloud computing for mobiles. These platforms can then be accessed through wireless connections via web browsers on the mobile devices. This is similar to cloud computing, but the client side has changed to make it viable for mobile phones, but the main concept behind it is still cloud computing.

CHALLENGES AND SOLUTIONS

The main objective of mobile cloud computing is to provide a convenient and rapid method for users to access and receive data from the cloud, such convenient and rapid method means accessing cloud computing resources effectively by using mobile devices. The major challenge of mobile cloud computing comes from the characters of mobile devices and wireless networks, as well as their own restriction and limitation, and such challenge makes application designing, programming and deploying on mobile and distributed devices more complicated than on the fixed cloud devices.

1) LIMITATIONS OF MOBILE DEVICES

While discussing mobile devices in cloud the first thing is resource-constrain. Though smart phones have been improved obviously in various aspects such as capability of CPU and memory, storage, size of screen, wireless communication, sensing technology, and operation systems, still have serious limitations such as limited computing capability and energy resource, to deploy complicated applications. By contrast with PCs and Laptops in a given condition, these smart phones like I-Phone 4S, Android serials, Windows Mobile serials decrease 3 times in processing capacity, 8 times in memory, 5 to 10 times in storage capacity and 10 times in network bandwidth

TABLE I: Challenges and Solutions of Mobile Cloud Computing

Challenges	Solutions
Limitations of mobile devices	Virtualization and Image, Task migration
Quality of communication	Bandwidth upgrading, Data delivery time reducing
Division of applications services	Elastic application division mechanism

2) QUALITY OF COMMUNICATION

In contrast with wired network uses physical connection to ensure bandwidth consistency, the data transfer rate in mobile cloud computing environment is constantly changing and the connection is discontinuous due to the existing clearance in network overlay. Furthermore, data centre in large enterprise and resource in Internet service provider normally is far away to end users, especially to mobile device users. In wireless network, the network latency delay may 200 ms in last mile but only 50 ms in traditional wired network.

3) DIVISION OF APPLICATION SERVICES

In mobile cloud computing environment, due to the issue of limited resources, some applications of compute intensive and data-intensive cannot be deployed in mobile devices, or they may consume massive energy resources. Therefore, we have to divide the applications and use the capacity of cloud computing to achieve those purposes, which is: the core computing task is processed by cloud, and those mobile devices are responsible for some simple tasks only. In this processing, the major issues affecting performance of mobile cloud computing are: data processing in data centre and mobile device, network handover delay, and data delivery time.

BENEFITS OF MOBILE CLOUD COMPUTING

Mobile cloud applications move the computing power and data storage away from mobile phones and into the cloud, bringing apps and mobile computing to not just smart phone users but a much broader range of mobile subscribers. In this section, we enlist the possible benefits of Mobile Cloud Computing.

- Mobile Cloud Computing will help to overcome limitations of mobile devices in particular of the processing power and data storage.
- It also might help to extend the battery life by moving the execution of commutation-intensive application to the cloud.
- Mobile Cloud Computing is also seen as a potential solution for the fragmented market of mobile operating systems with currently eight major operating systems.
- Mobile Cloud Computing can increase security level for mobile devices achieved by a centralized monitoring and maintenance of software, It can also become a one-stop shopping option for users of mobile devices since Mobile Cloud Operators can simultaneously act as virtual network operators, provide e-payment services, and provide software, data storage, etc. as a service.
- A number of new technical functionalities might be provided by mobile clouds. In particular,

provisioning of context- and location-awareness enables personalization of services is an attractive functionality.

- Mobile Cloud Computing might open the cloud computing business that is currently almost exclusively addressing businesses to consumers since they will significantly benefit from the above described options³.

MOBILE CLOUD COMPUTING CHARACTERISTIC

The major characteristics of mobile clouds computing are listed below:

- 1 Flexibility/Elasticity Users can rapidly access provision computing resources without human interaction. User Capabilities can be rapidly and elastically provisioned, in some cases dynamically, to quickly scale out or up.
- 2 Scalability of Infrastructure In the physical servers new nodes can be added or dropped from the network with limited modifications to infrastructure set up and software. According to demand mobile cloud architecture can scale horizontally or vertically easily.
- 3 Broad Network Access User capabilities and ability are available over the network and can be accessed through standard mechanisms that promote use by heterogeneous platforms like mobile phones, laptops, and PDAs etc.
- 4 Location Independence Location independence is another characteristic of mobile cloud computing. There is a sense of different location independence where customer generally has no control or knowledge over the exact location of the provided resources. But it may be able to specify location at a higher level of abstraction from country, state, or datacenter.
- 5 Reliability Through the use of multiple redundant site reliability can be improved and this makes cloud computing more worthy for disaster recovery applications and business continuity.
- 6 Economies of Scale and Cost Effectiveness In order to take advantage of economies of scale mobile cloud implementations, regardless of the deployment model, tend to be as large as possible. Large number of mobile cloud deployments may be located close to cheap power stations and low-priced real estate, for lower costs.

MOBILE CLOUD COMPUTING ADVANTAGE

There are many reasons including mobility, communication, and portability cloud computing is known to be a promising solution for mobile computing. Advantages of the consolidation of both mobile computing and cloud computing are combined by mobile cloud computing, thereby providing mobile user the optimal services.

These advantages are:

- 1 Extending Battery Lifetime There are several solutions have been proposed to increase the CPU performance and organizes the disk and screen in an intelligent manner to reduce power consumption. In order to fulfill these solutions may require changes in the structure of mobile devices or require advance hardware that results in an increase of cost. But these changes may not be feasible for all mobile devices. In order to execute the large computations and complex processing from resource-limited devices like mobile devices to resourceful machines such as servers in clouds several computations offloading technique is proposed. Mobile cloud computing avoids taking a long application execution time on mobile devices which may results in large amount of power consumption.
- 2 Improving Reliability By storing data or information on clouds is an effective way to increase the reliability whereby the data and application are stored and backed up on a number of computers. Hence the chance of data and application lost on mobile devices is reduced and ultimately reliability is increased. Moreover mobile cloud computing can be designed as a significance and compressive data security model for both service providers and users.
- 3 Improving Data Storage Capacity and Processing Power Data storage capacity is also an important constraint for mobile devices. Mobile cloud computing is developed to enhance the mobile users to store/access the large data on the cloud network through wireless networks. There are several examples which are mostly used i.e. Amazon Simple Storage Service (Amazon S3) to provide file storage on the cloud network.
- 4 Dynamic Provisioning Dynamic provisioning of resources is a flexible way for service providers and mobile users to run their various applications without advanced reservation of resources. Without storing data in mobile device it be stored in cloud and can be accessed dynamically.
- 5 Scalability Due to flexible resource provisioning deployment of mobile applications can be performed. Internet Service providers can easily increase and expand an application and service without or with small constraint on the resource usage.

- 6 Multi-tenancy Internet Service providers i.e. network operator or data center owner can share the resources and costs to provide variety of applications and for large number of users.
- 7 Ease of Integration Multiple types of services from different service providers can be integrated easily through the cloud and Internet to meet the user's requirement.

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Use of Social Media Networking in Academic Libraries

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Abstract

This paper focuses on the past history of social medial, services and advantages of modifying libraries into modern social networking platform based academic libraries. The present-day use of internet era social media networking sites is very easy and useful in any library. Social networking sites allow the user to shares ideas, digital photos and videos, posts, and to inform others about online or real-world activities. It provides an innovative and effective way of connecting to users all over the world. Academic libraries apply theses practice through social media tools. Today facebook twitter, Linked In, Flickr, etc. few of the networking sites options available on the internet.

Keywords: Social Media, Social networking, Academic libraries, library services.

1. Introduction

The term social media network introduced by Mr. John Arundel Barnes to be the first to use the concept of social networks in 1954, became a buzz world through popular websites such as Facebook, MySpace, and Orkut. Now a day social media sites are a term that everyone knows, even the farthest area of the world. Social media networking becomes more popular among adults and the younger generation. WWW has changed the whole globe and presents a new way of communication. As per Wikipedia “Social networking is primarily internet-based tools for sharing and discussing information of human beings.”

A library is a collection of sources of information and related resources made accessible to the deferent community for references. It provides physical or digital access to material and may be physical or virtual space. The library is about connecting people and sharing resources. The essence of social networking sites to build social relations amongst peoples. It helps people to share their varied interests, activities, ideas, events and real-life connections. Hence we can say that social media sites can be used as an effective’s tool in improving libraries’ collection services as well as the quality of libraries efficiently.

2. History of Social Media

- In 1978, the first social media was produced. Bulletin Board System (BBS) was created by Ward Christensen and Randy uses used to announce the meeting and sharing information by posting it on BBS. It was the beginning of the virtual community and the first dial-up in history.
- 1995 was a year for a personal website. After the internet launched and loved by many people, Geocities was launched by Beverly Hills Internet. Geocities’ service was web hosting. It allowed internet users to make simple websites for themselves
- Near the beginning, social media service that appeared in 1997 was Six Degrees. Let its users create a profile and list of friends. It was used by 1 million users
- 1999 was a year for online journals and Blogs. Users could write, share and communicate with friends by using their own blog or journal.
- Friendster was launched in 2002. It could be included in the social networking group. It consents to users to create a profile and virtual connection with the community around the world. Now, Friendster has become social media for games. As follows ...



History of Social Media

3. What is social media?

Social media is the collective of online communication channels dedicated to community-based input interaction counting sharing online communication used by people to create networks, communities, and collectives to share information, ideas, messages, and other content, such as videos, and application dedicated to forums, blogs, social networking, social bookmark are among the different type of social media.

Social media is attractive an integral part of life online as social websites and applications proliferate. Most traditional online media include social components, such as comment filed for users. In business, social media is used comment fields for users. In social media is used to mark products promote brands, connect to current customers and foster new business.



Social media and networking

4. Definition

- Social Networking: Accounting to computing dictionary (2011) social networking site as any websites designed to allow multiple users to publish content of them the information may be on any subject and maybe for consumption by fronds, mates, employers just to mention a few.
- Social Networking: Accounting to Merriam webster dictionary “forms of electronic communication such as websites for social networking and microblogging through which users create online communities to share information, ideas, personal messages, and other contents.

5. Importance of Social media networking in academic libraries

- Social media play an important role in all users career. It is easier and convenient to access information to provide and communicate vis social media. Users are connected to each other and make good use of theses platforms for the working of the education fields
- Social medial help teachers to be connected to their students off campus as well as ex-students. Teachers use social media as a way of teaching by creating groups and accounts for students’ information can be accessed. Teachers can share thoughts, notes with each other and point out students to tag their academic posts and view submissions to see collective has curatively produced.
- Now a day social media is growing very fast and still social media is considered to be a weakening agent in academics by users. A social is here to stay the problem of web usages can be turned into an opportunity for the good.

6. Social networking site and academic libraries

- The most popular social networking site used inactivates like book acquisition request form and borrowers’ acres request overdue charges add new title in library collection suggestion request.
- References service can be provided to using a social networking site
- Social networking site allows the library staff to get feedback, suggestions
- To help the uses to introduces subject-specific information available in libraries
- Frequently ask questions through social networking sites will allow users and find out the answers and solutions for common problem ms encountered in the using thesis services.
- Libraries can render SDI services by providing information and useful links on their specialization.
- social networking site allows users to get links to online resources, subject getaways, and digital repositories, etc.
- To discuss with the users online chatting services for helping the reading online materials
- To provide information about new arrivals of new books, journals, e-collection links newspaper clipping to the library.
- Social networking site information disseminated such as a cleaner of events list of holidays

working hours during the holiday or exam time.

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8. **Advantages of the social network in academic libraries**

Social media networking's are very useful and quick and speedily communicate with users' community to provide effective libraries services as following issues

- For the most important point is financially the cost of the use of social media is low
- Social media promotes library services and disseminates news quickly
- To increases a strong bond of interaction with library users.
- Social media helps students to locate library resources
- Social media facilitate knowledge sharing
- To marketing of various library services to each and every users in less time.
- It helps to promote distance learning education.
- It is perfect for patron interaction with patron feedback and patron support. New business contacts can be obtained for networking purposes etc.

9. **Disadvantages of a social network in academic libraries**

As two parts of coin advantages and disadvantages are affected in each and every area.

There are many aspects affecting social media library services as following.

- There are too many social media tools to learn so the user should be confused.
- Lack of time to use social media.
- Lack of awareness on how to use social media.
- To inadequate funding for libraries.
- Low interest of librarians in knowledge and utilize social media.
- To some time electricity failures and the internet speed down.
- Less information technology knowledge library staff.
- Some users are not aware of the proper use of social media sites.

10. **Application for Social networking sites**

- **Facebook:** to defined as an online social networking website where people can create profiles shares information such as photos, comments, link to the information posted by other online social networking sites. In December 2019 more than 2 billion users connect.
- **WhatsApp:** Librarians can make library users groups and share libraries' information and activities through Whatsapp. It is direct and user-friendly services for library users to use WhatsApp to connect to the librarian.
- **Instagram:** it is an online mobile photo-sharing, video-sharing, chatting and social networking service the enablers in public or in private on the app as well as through a variety of other social networking platforms.
- **Twitter:** a microblogging application to keep staff and patrons updated on daily activities, like the frequently updated collection. Users can utilize the platforms to type in shorty messages or status updates. Users can send instant messages on the complaint or ask questions on a particular issue and get facebook on the



- spot using twitter.
- **YouTube** Now day institutional events such as important highlight of inaugural lecture conferences, workshops, and other institution programs are disseminated via youtube.
- **LibraryThing:** Its a social cataloging web application for the store and sharing book catalogs and various types of book metadata. It is used by authors, individuals, libraries, and publishers.



11. Challenges for Social media Networking

- **Lack of Awareness:** most of librarian developing countries are not aware of social networking services
- **Bandwidth problem:** most of the institutions have limited bandwidth to support and poor connectivity.
- **Lack of maintenance culture:** maintenances culture is seriously lacking in most institutions in developing countries that may not support remote access to information
- **Copyright Issue:** the free access to information where people copy past and editing without and authority for the copyright issue etc.
- **User orientation:** Developing web based communication needs orientation. Blogs are totally different from of workflow-based internet

12. Conclusion

Social media play a vital role in every user's study. It's faster and convenient to access information, provide information communication sites via social media. Teachers and students are connected to each other's make good use of these platforms for the working of their education. The librarian should play an important role in educating users about new technologies and social networking abilities.

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Role of Consortia in Resource Sharing among Libraries.

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Abstract :

Resource sharing and library consortia ideas have become prime factor and assuming crucial role in libraries because of innovative improvements in Information, Communication and Technology (ICT). ICT has made simple to set up systems among libraries and offer their data resource instantly. This paper for the most part features for Resource Sharing methods what, Objectives of the Resource Sharing, Needs for Resource Sharing, Areas for Resource Sharing, what is Library Consortia, Silent Features of Library Consortia, Some Important Consortia assume indispensable role in Libraries in which talk about Types of Consortia and elements of consortia, Advantages and weaknesses Library Consortia.

1. Introduction : Nobody libraries are huge or wealthy in the period of data blast. Nobody libraries ready to fulfill every one of the requirements of its clients because of huge number record just as data distributed each minute. The requests and needs of library clients additionally changes every once in a while, so the library get inconvenience to meet their users needs To tackle the issue data blast, the idea of asset sharing has been created Library Resource Sharing is only sharing of library resources with other taking part libraries who need it. It is a kind of library collaboration, Where each taking an interest libraries share their unused and at some point their important library resources with other library. As per it won't just mean common sharing of data sources accessible in various libraries, it will mean using the data wellsprings of one library for producing administrations by another library. The objective of resources sharing is to expand the accessibility of materials and administrations at the base cost. Library resources involve labor, materials. capacities, strategies and administrations. This new innovation approaches for items and administrations of the library that have changed the conventional library targets and activity which might be known as the progressive changes to the data field. These advancements are called PC innovation and media transmission innovation. Library can without much of a stretch perform resources sharing Program and administrations to the users rapidly and opportune with exceptionally lost expense. Emergence of library consortia may be a very promising development during this direction.

2. Resource Sharing :

The term "Resource" is used to designate any or all of the functions, materials, expertise and the services of the professional and non-professional staff. Kent & Galwin (1977) defines a resource as a thing/ person/ action to which one turns for and in time of need.

The American Library Association Seminar on Network and Multi-type Library Co-operation defines the term resource sharing as "The co-operative structures, which cross jurisdictional, institutional, and often political boundaries to join in a common enterprise, several sorts of libraries academic, special, and public".

According to John Fetterman, "any and every one of the materials, functions, and services which constitute a contemporary library system it's amalgamation of individuals (manpower), processes, ideas, materials, and money which form the substance of a library and may be described as its resources".

3. Objectives of the Resource Sharing:

Allen Kent, Bhargava (1986) stated the objectives of resource sharing networks as: "Library user should have access to more materials or services providing level service at less cost, increased service at level cost, or far more service at less cost."

- To provide better services
- To avoid duplication
- To provide more coverage of collections and facilities
- To promote interaction
- To share experiences
- To face financial crunch
- To provide top quality library and knowledge support services
- To provide wider access to users

4. Needs for Resource Sharing:

- Information Explosion & No library is self-sufficient
- Language barrier & Limitation in fund
- Diversity in users need
- Inflation & Acquisition, Universal bibliographic control
- Growth of data in several subjects
- Increase in user population & Quality of library service
- Rapid increase of literature and growth of publication, cost of publications
- Increase within the number of members of user community teachers, scholars and students in universities.
- Increasing trend of latest born subjects and specialization.

5. Areas for Resource Sharing:

The following areas for resource sharing are identified and these may certainly be beneficial to the

- Reference Services
- Inter Library Loan
- Centralized Processing
- Documentation centers & Document procurement
- Membership
- Centralized acquisition of periodicals
- Expertise and Facilities
- Data base creation
- Union Catalogue
- Software
- Training

6. Library Consortia :

A Library Consortium formation are often local, regional, state, national and inter institutional level. Library Consortia development processes were examined from an ecological approach, combining historical perspective, dynamic developmental approach and social organization , stressing the problems of permeable boundaries in Library Consortia and the manifestation of inter-organization relationships.

According to Allen and Hirshon (1998), “the most vital development for tutorial libraries during the present decade has been the move towards growth from organizational self sufficiency to a collaborative survival mode as epitomized by the expansion of Library Consortia”.

Oxford English Dictionary defined “Consortium as an association typically of several companies for a standard purpose, it’s an association of comparable sort of organization who are engaged for producing and servicing the common things for providing services for a selected purpose of its users”.

7. Silent Features of Library Consortia:

- **Patents:**
- Library Consortia gives nonstop accessibility of information and assets to the clients.
- Library Consortia advances e-Publishing of information differently.
- Library Consortia assists in direct purchasing from publisher. it’s the cooperative task to scale back the value of purchase. As a result end users can take benefits of more resources than would be available through one library.
- Library Consortia aids direct obtaining from distributor. it’s the agreeable undertaking to downsize the estimation of procurement. Thus end clients can take advantages of a larger number of resources than would be accessible through one library.
- To gather every one of the reports distributed at the national and universal level because of the library budgetary point of confinement.
- Library Consortia bolsters innovative work exercises and demonstrates extremely accommodating in development of research related exercises.
- Library Consortia demonstrates accommodating and supporting in giving back volume of information .
- Sharing is a vital undertaking for utilizing assets at various organizations for different purposes. Library Consortia advances sharing of resources which make it simple to deal with data in a few stage.
- It avoids space problem as using Library Consortia one don’t found a workable pace secure each asset inside the library.

- It helps being developed of ICT condition which make of getting best perusing for the most significant number per institution.

8. Some Important Consortia assume fundamental job for Libraries:

These are numerous consortia running effectively in various fields, however some significant consortia play vital role in Library. These some significant consortia for instance given beneath in subtleties;

Types of Consortia:

Many types of Consortia in world-wide such as:

National Consortia: National consortia provide service at national level, examples include:

- N-LIST in India (National Library and Information Services Infrastructure for Scholarly Content)
- INDEST (Indian National Digital Library in Engineering Sciences & Technology)

Regional Consortia: A regional consortium is providing particular regional level services, examples include:

- SPOR-Asia consortium (International society for Pharmacoeconomics and Outcomes Research)

International Consortia: An international consortium is providing international level services, examples include:

- INFOSEC Consortium
- ICICI knowledge park (IKP- Innovation Knowledge Progress)
- TIMC (The Indian Mathematics Consortium)

Subject based Consortia: Subject base consortia provide particular subject related information resources, examples include:

- FORSA (Forum for Resource Sharing in Astronomy and Astrophysics)
- CeRA (Consortium e-resource in Agriculture)
- HELINET (Health Sciences Library & Information Networks)
- NML-ERMED Consortium (electronic information resources in the field of medicine for delivering effective health.

9. Functions of Consortia:

Clearly the predominant consortia are fundamentally filling in as purchasing clubs than consortia inside the genuine sense. Be that as it may, with little activities these are regularly formed into stages for sharing significant resources accessible in a few libraries of the nation, both in print and non-print media. Not just along these lines, these consortia additionally can take up a few different exercises for the common preferred position of the partaking libraries.

- Avoid duplication inside the field
- Solved upkeep issue
- Utilization of assets appropriately
- To help with giving better library administrations.
- Enhance Library Services like Current mindfulness administration (CAS), Selective dispersal of information (SDI), ordering and abstracting administrations. and so forth.
- Cost sharing for specialized and preparing Support and value decrease through gathering buying.
- Consortium gives increasingly proficient administrations to its customer for develop research movement in related fields. Promoting of Library Resources.

10. Advantages of Library Consortia:

- Facilities to make up advanced libraries and Helpful to supply better library administrations like CAS and SDI.
- The consortium are chronicled access and safeguarding of bought in electronic assets, which may not are feasible for any single establishment
- Cost sharing for specialized and preparing support and Electronic diaries request neither library space nor racking expenses nor would they be able to be taken from the library
- Available 24 hours every day , 7 days consistently and Economy in keep up
- Consortia likewise influence the issues related with valuing approaches and copyright laws.

11. Disadvantages of Library consortia:

- Consortia require high beginning interests in licensees and data and correspondence innovation and Copyright issues
- Absence of a printed duplicate of diaries and Require preparing of staff in dealing with electronic reports and so forth.

- Internet get to id important and Users are not tolerating e-Journalss according to with the printed Journals
- Unreliable media transmission joins and inadequate transfer speed and Lack of filing and back documents accessibility

12. Conclusion :

The new mechanical advancements helped in creating systems among libraries to share data resources in fast way. In the present Information correspondence Technology time, libraries are bit by bit setting up resource sharing systems to decrease their money related weight, time and so forth and meet the prerequisites of client requests. Additionally ICT has assisted with disposing of the land boundaries over the world and made feasible for prompt access to the resources and administrations. It additionally diminished the issues related with space, effective staff, and new mechanical difficulties that has been existed inside the framework. At present situation scholarly society is data desiring society, and he needs data on any structure, cost, and spot so library consortia are best answer for everybody. Library consortia serves to library to accomplish library objective, each library have regular goal “right data to right client, at perfect time” for fulfill our users.

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The Role of Digital Library in Present Era: An Overview

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Abstract:-

Library is keep centre point of the education system. Knowledge is spread through libraries. But today in 21st century the print media is back foot & the electronic media strongly recommended through world. Everyone wants to use electronic media and Digital library is one of the example of it and None, In the present age, Digital Libraries are the emerging concept of modern age. The world is nearer to everyone because of visualization and digitalization. Digital Libraries are playing a vital role in online learning education system. Most of the digital libraries are dedicated to support higher education & research.

Hence, Digital libraries calls for advanced digital technologies. Digital libraries are large organized collections of information objects. Digital libraries build information resources in digital manner. Digital library provides a user friendly interface, user will get required information. In short, we can say that, “the future of the digital library will be a library without wall”.

Keywords: - Digital library, visualization, digitalization, concept, Advantages & disadvantages etc.

Introduction:-

Today's age is the age of information technology. It has changed the modern day library as compared to traditional libraries.

Digital library is the emerging concept of the modern age. It is easily accessible in comparison with traditional library. For, example, at the time examination, when there arise a problem in reading at that time references are helpful for the student. So, First of all students have to go towards library but how a day's because of the digital technology in library, it came towards the students. The advancement of information technology has brought changes in the concept of traditional library & its work.

Digital library has got its own importance it has changed our life completely by availing us the books anywhere anytime. Everything is just a click away and in the present Day. Now days, Libraries are using various types of tools for the process of digitization. Because of digitization user can find best information in the library, including advanced search tools resources at any time.

Definition of Digital Library :-

According to, Bawden & Rowlands (1999) defined digital library as, 'A Library information, space or communication of a combination of both, in which a significant proportion of the resources or a combination of both in which a proportion of the user of resources available to user of that service exist in digital form.

American digital library federation organization that provides resources to the special staff, choose, structure intellectual access, define, dispense maintain honestly & secure consistent timing of digital work, so that it can be set up by a defined community.

Borgman 1992. Digital libraries shouldn't be viewed only as a print of access to digital information but a combination of a services an architecture, a set of information resources databases of text, number of graphics, sound, music, or animation & a set of tools & capabilities to locate retrieve & utilize the information resources available.

Dow Walter' "defined digital libraries are organization that provides including the specialized staff to select, structure offer intellectual access to interpret distribute, presence the integrity of and ensure the persistence the integrity of and ensure the persistence time of collection of digital work so, that they are readily of economically available for the use by a defined community or set of community.

Need for Digital Library :-

S. R. Rangnathan's 5th law "Library is growing organism". There are many new concept arrived & the involved in library. Today digital library in essential.

- i) It is needed for the information available to unlimited people.
- ii) To preserve the unique collection through digitization.
- iii) Access information 24/7 at any time at any place by anyone.
- iv) To increase advanced search, access, & retrieval of information.

- v) Better delivery of the current & quick information according to user's need.
- vi) To provides friendly interface of users.

Characteristic of Digital Libraries:

Digital Libraries assures that a large number of resources in sharing mode. It is the improvement over the traditional libraries connected/associated with barriers of time & space.

- 1) The information is stored in digital form.
- 2) Provides user friendly interface
- 3) No physical boundary
- 4) Easily accessible
- 5) 24*7 available

Advantages:

- 1) Digital Library brings the library to the user.
- 2) Availability of information 24*7 and 365 days
- 3) information can be stored
- 4) Computer power and mobile internet is used to search and brows the information.
- 5) It is much lower than traditional library.
- 6) Multiple users can access at the same time.

Disadvantages:-

- 1) Speed of access
- 2) Initial cost is high.
- 3) Security problem
- 4) law effect
- 5) cannot possibly replace the environment of physical library
- 6) Data from the old system to new system would also needs additional cost

Conclusion:

Today, new methods and technology are applying in library for future generation. So, that they can enable to see the past history. Every feature of the library management is covered in the interest of service to the reader. The future of any country is depended on its education system. In 21st century we want development and acceptance of the digitalized books of library. There are need to digitalization and investment into the library modernization and development, because libraries are the primary source of knowledge.

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Resource Sharing in Libraries Role of Consortia

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RESOURCE SHARING IN LIBRARIES ROLE OF CONSORTIA

INTRODUCTION

At the global level Internet and at the national and local level several library networks came in vogue and databases created for information sharing. In recent years availability of information resources in digital or electronic medium has further facilitated exchange of information resources among libraries, thus creating favorable condition for increased resource sharing. Emergence of library consortia is a very promising development in this direction.

KEY NOTES: Resources, Information Resources, Mobilisation Library, Community,

Defination

Before taking up various issues relating to resource sharing in digital era and the role of consortia in this sphere, it is necessary to briefly define the concepts of 'information resource', and 'resource sharing'.

Information Resource The concept of information resource is often not defined properly. The documents held by a library provide information sought by users and hence called information sources and more precisely documentary information sources. But such documents are also referred to as information resources. That is, the terms 'information sources' and 'information resources' are used interchangeably. But it is to be noted that an information source only provides information, but a resource is one, which like capital or labour, gives rise to something new. As a library generates all its services on the basis of the information sources available with it, such sources are called information resources.

Libraries have so long been procuring information resources in traditional printed format. But today these resources are available in various other formats, such as audio-visual, digital, etc. However, resources in electronic format i.e. e-resources have become more popular these days, because of their distinct advantages.

Resource Sharing Keeping the above in view, if we now try to define resource sharing, it will not merely mean mutual sharing of information sources available in different libraries, it will mean utilizing the information sources of one library for generating services by another library.

View However, information resources and library resources may not be taken as synonymous terms. Information resources are only one type of library resources. A library has other resources too, which together with the information resources enable it to serve its users, such as library staff and library equipment. Thus in a broader perspective resource sharing may involve sharing of these resources too. In this sense connotation of the terms 'library Cooperation' and 'Resource Sharing' will be almost same.

Development of Consortia

The term 'consortium' literally means "temporary cooperation of several powers or large interests to effect some common purpose" [1]. A library consortium is "a community (acooperative) of two or more information agencies which have formally agreed to coordinate, cooperate in, or consolidate certain functions to achieve mutual objectives"[5]. More specifically, it is "a group of libraries that agree to pool their resources by allowing the users of each institution some type of access to the resources of all other institutions, either through inter-library loan or borrowing privileges" [4]. In fact "library consortium is a community of value creating entities, generating value through an aggregation of library units within and across organizations. The value creation could be enhanced through resource sharing processes, products and service offerings of the participating library units in a consortium" [2]. As indicated, the idea of consortium is not new. There were instances of several libraries coming together voluntarily for the mutual benefit of the respective users just like cooperatives. It was the earliest stage of library cooperation. In the second stage computerized networks came into vogue for sharing of resources. Till this period the library resources were mainly in traditional printed format. The networks created their bibliographical databases. The users of the participating libraries could get the required documents from other libraries through document delivery service. With the advent of e-resources, the concept of consortia has been mooted mainly for acquisition of e-journals. The term was originally being used in commercial and

political worlds, which has now been imported in our field. As the resources that are procured today through a consortium are mainly e-resources, it has become possible for the users to access and download the required materials remotely without even going through the elaborate process of inter-library lending. Though library consortia have been created with a narrow purpose, these can be turned into efficient instruments for sharing all types of library resources.

3.1 Types of Consortia

Library consortia function in different ways. During the last three decades, libraries have developed a variety of organizational models. At one end of the spectrum are the loosely affiliated buying clubs where libraries come together primarily to share a discounted rate on electronic journals and databases, while on the other end are consortia that are tightly integrated organizations sharing a variety of resources which require a long term commitment and collaborative decision making at all levels. [3]. Theoretically, consortia may be of following types depending on their characteristics.

From the point of view of type of libraries forming the consortium there can be two types of consortia:

- 1) *Consortia of multi-type libraries* : In this type of consortium participating libraries are of different types, such as public, academic and special.
- 2) *Consortia of same type of libraries* : The members of such a consortium are of same type, such as consortium of public libraries, consortium of academic libraries, etc. CSIR E- Journals Consortium is such a consortium.

From the point of view of geographical region of coverage, the consortia may be of following types:

- 1) *Local level consortia* : This consists of libraries situated in a particular city, town or district, e.g. BOSLA (Bombay Science Librarians' Association), which was possibly the first library consortium of the country.
- 2) *State level consortia* : In such a consortium libraries of one particular state participate. There is perhaps no such consortium in the country at present.

National level consortia : Libraries belonging to a country are its members. INDEST is a national level consortium, but covering only libraries of scientific and technical institutions.

Regional level consortia : In such a consortium libraries of a particular region participate.

International level consortia : In this consortium libraries belonging to different countries participate. This may be formed either by individual libraries, such as OCLC, or by bringing different national consortia under one umbrella. Such federation of consortia is known as Meta Consortia, such as International Coalition of Library Consortia, which comprises of nearly 150 library consortia from around the world [6].

From the point of view of subject or area of coverage there can be two types of consortia: *Single discipline oriented consortia* : In such a consortium organizations dealing with same or similar disciplines join hand, such as FORSA (Forum for Resource Sharing in Astronomy and Astrophysics).

Multi-discipline oriented consortia : Such a consortium deals with resources in multiple disciplines. UGC sponsored INFONET is such a consortium, which deals with multiple subjects.

Again from the organizational point of view, there can be two types of consortia:

Loosely knit federation : In such a consortium there is no central body of dedicated staff to look after the consortium activities. Some libraries join hand for some immediate gain for a particular purpose. It is often not of permanent nature.

Tightly knit organization : Such a consortium is of permanent type, having a central body with membership of participating libraries for guiding the activities of the consortium and also some dedicated staff for performing the consortium activities. Further, from the point of view of basis of formation there are two types of consortia:

Non-sponsored consortia : Such a consortium is formed voluntarily by participating libraries by sharing the expenses. FORSA again is such a consortium.

Sponsored consortia : This type of consortium is sponsored by a central organization and the major expenses are borne by it. Here sometimes the sponsoring body itself carries out the major activities of the consortium. UGC-INFONET is such a consortium.

Obviously, the above categories are not mutually exclusive. Most of the existing consortia naturally fall in more than one category.

4. In India :

Library consortia have come up in many countries of the world. In India too several consortia have been developed such as Forum for Resource Sharing in Astronomy and Astrophysics (FORSA), Indian National Digital Library in Science & Technology (INDEST), INFONET project of UGC, Health Sciences

Library & Information Network (HELINET), CSIR E-Journals Consortium, Department of Atomic Energy Libraries Consortium and Indian Institutes of Management Library Consortium. Besides, efforts are on to develop consortia by ICAR, ICMR, ICSSR and other government agencies. However, if we look into their functioning it is clear that most of them have been set up with the aim of procuring e-journals at competitive prices and sometimes sharing the ejournal resources. No consortium aims at sharing other resources, specially print resources, which still form the major part of Indian libraries. Thus their functioning is limited.

5. Use of Consortia

It is obvious that the existing consortia are basically serving as buying clubs than consortia in the real sense. But with little initiatives these can be developed into platforms for sharing valuable resources available in different libraries of the country, both in print and non-print media. Not only so, these consortia can also take up several other activities for the mutual benefit of the participating libraries.

5.1 Information Resource Sharing

A consortium can undertake the following activities for promoting information resource sharing:

- Cooperative collection development among the member libraries
- Cooperative processing of information resources acquired through the consortium
- Creation of virtual digital library covering all the e-information resources available in member libraries by networking of those libraries
- Compilation of bibliographical and/or full-text database of the holdings of the member libraries, both print and non-print
- Sharing of information resources, both traditional and digital, of member libraries through network or document delivery service as the case may be
- Allowing reciprocal borrowing by the members of all libraries of the consortium
- Digitization of valuable and rare collections of member libraries available in printed format and providing access to such materials to the members of all the libraries of the consortium
- Supporting member libraries for setting up institutional repositories, e-print archives, electronic theses collection, etc.
- Developing common interface to catalogues, databases and e-collection by creating portals
- Creating interoperability among the member systems, databases and services

5.2 Other Resource Sharing

A consortium may also share other resources in the following manner for their mutual benefit of the participating libraries [3]:

- Sharing the storage facilities, thereby minimizing expenditure on space
- Sharing of human resources at local, regional and national levels
- Pooling of expert manpower and promoting professional development
- Assist member libraries in creating information technology infrastructure
- Facilitating joint preservation and archiving activities for print and digital materials
- Initiating and supporting research projects of common interest
- Collectively promoting, marketing and publicizing the library services

6. In Mobilisation Age

Though consortia approach is beneficial for both the libraries and the users, it is unfortunate that the library community in general is not actively coming forward to adopt this method in this country. Only a handful of libraries have come forward to form consortia voluntarily, while a few have been induced in joining consortia by the sponsors of the consortia concerned.

- Lack of awareness among the libraries and/or library authorities about the ultimate benefits of consortia
- Conservative mentality of the library authorities with regard to e-information resources, specially online resources
- Unwillingness of some libraries to share their resources
- Unwillingness of some libraries to share the burden of resource sharing i.e. serving users of libraries other than their own
- Uneven development of libraries of different sectors and slow progress of library automation
- Inability of many libraries in meeting the minimum commitment required to join a consortium due to financial and other infrastructural constraints
- Lack of demand for resource sharing on the part of users
- Poor bibliographical control of the holdings of the libraries
- Lack of sufficient information resources to be shared

7 Conclusion

In India, resource sharing, in true sense of the term, has not yet developed in a big way. Only DELNET and INFLIBNET have a better record, but still they will have to go a long way to be worthy of the tasks assigned to them. Happily now some consortia have started functioning. These consortia have started sharing of e-journals. To boost resource sharing activities in the country it is necessary to take up three pronged approach:

- 1) Strengthening and reengineering of existing consortia to make them true vehicles of resource sharing and not merely sharing of e-journals
- 2) Starting of new consortia and networks for resource sharing on suitable basis
- 3) Linking of the consortia based networks to achieve nationwide network of libraries
Implementation of these steps will require some time and many hurdles are to be crossed. But once done, it will be possible to have effective nation wide resource sharing.

This will ensure maximum saving with regard to money spent on acquisition of information resources throughout the country and will help expedite research at all levels thereby contributing greatly in national development.

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Trends of Content Management Systems In Library Management: An Overview

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Abstract:

A Content Management System is a combination of large database and file system which are used to store and later retrieve huge amounts of data. At the college level, the Library Content Management System stores and manages the college's electronic documents, journals, magazines, books, news papers and other resources so that the students and faculty members of the college can reuse the information across different applications. It is used to organize and facilitate collaborative content creation. The basic idea behind a Library Content Management System is to separate the content management from design. Web Page designs are stored in templates while the content may be stored in a database or separate files in hyperlinks. The benefits of Library Content Management System are offer for website administrators and authors. A Library Content Management System allows users to easily and quickly access the resources.

Key Words : Content, Content management system, Library and Library management system, Website

Introduction

The Library Content Management software will allow for the digitalization and archiving of magazines, digital video and audio materials so that the users may annotate, analyze, evaluate and share materials. And as it a Web content management system thus it have an online interface and thus can be accessed anytime and anywhere in a system that have internet connection.

This Library Content Management System project is exclusively designed for a university or college library wherein the main objective is storing of the scanned copies of all the magazines, journals, video tutorials, etc. which are subscribed by the library and then these scanned copies of the magazines will be made available to the students for accessing and reading, online on a dedicated Library Website for this known as Library Content Management System website.

This Library Content Management System project is based on the management of the contents and resources of a library. This Library Content Management System Software has been designed and developed to fulfill all the requirements and needs for archiving the resources of a library. This Library content management system is used to run the official Library Content Management System website which will contain the articles, news, blogs and notifications about the library and its resources. It will enable the preservation of books and resources, provides security in case of disaster, as well as includes functions such as Web Based Publishing, Format Management, Revision and Version Control, indexing, searching and retrieval. The Library Content Management software, as a final product, will allow for the digitalization and archiving of magazines, digital video and audio materials so that the users may annotate, analyze, evaluate and share materials. It can be accessed 24/7 hours anytime and anywhere.

Over the decades, the Content Management System has seen an unprecedented growth from static web pages built on HTML to customized sites developed using PHP to give personalized experience. Initially, in the 1990's, we had flat HTML files. Then there was Dynamic HTML to create inter active and animated websites by using a combination of a static markup language. Apple.com at the very birth of the World-Wide-Web in 1992. Then there was GeoCities, a webhosting service, later acquired by Yahoo in 1999. During this time, GeoCities was the third-most-visited site on the World Wide Web. It was the first kind of web-based content management system that allows users to manage their website. This is a concise history of content management system in the 1990s. On contrary to this, 2000's seen the massive development from basic HTML & DHTML web pages to proprietary and open source content management systems.

What is Content?

Content is a necessary part of business and consumer communications. It is through content that the people we're interested in discover, consume and act on brand information. Content leads consumers to brand experiences and are often the experience itself.

Definition of Content Management System

A content management system is a software application that can be used to manage the creation and modification of digital content. Content management systems are typically used for enterprise content management and web content management.

What is a Content Management System?

A content management system is a software application or set of related programs that are used to create and manage digital content. Content management systems are typically used for enterprise content management and web content management. An enterprise content management facilitates collaboration in the workplace by integrating document management, digital asset management and records retention functionalities, and providing end users with role-based access to the organization's digital assets. A web content management facilitates collaborative authoring for websites. Enterprise content management software often includes a web content management publishing functionality, but enterprise content management webpages typically remain behind the organization's firewall.

Content Management System is an application software that provides you an easy environment to manage your digital content data such as text, images, music, documents etc.

Types of Content Management Systems

1. Web Content Management System.
2. Enterprise Content Management System.
3. Digital Asset Management system.
4. Component Content Management System.
5. Document Management System.

Features of Content Management System

- The most important features of Content Management System are that you can create a dynamic website without any programming and design knowledge.
- Content Management System is theme based which provides you options for various open source and premium design themes, which can be integrated easily without any designing knowledge.
- Plugins extend the functionality of Content Management System, which can be used to add new required modules.
- Content Management System sites are search engine optimization friendly, it means sites built in Content Management System can be easily optimized for search engine listings.
- Content Management System support Multilingual, which allow users to translate content in their language.
- Content Management System has in built Media Management System which is used to manage images, music, documents etc. and can be used with text content.

Advantages of Content Management System

- Content Management Software is free and an open source platform under the GNU General Public License.
- Modular development - Content Management System allows flexibility, which can add features and modules as per the needs which makes the websites highly scalable.
- Content Look Fresh - Content Management System website that are updated on a regular basis, such as content and design keep the website highly scalable and better search engine optimization ranking in reference to the freshness of the content.
- Keep Control Intact - Content Management System tools provide over the website content and design written in the site. The changes can be at any time without the need of a developer.
- Design themes customization in Content Management System is very easy.
- It allows you to manage users with different roles and permissions.
- Content Management System media management is quick and easy to use.
- Content Management System provides WYSIWYG editor to manage your text content which is very useful for manipulating the layout of the document.

Popular Content Management System

Sr.No.	Open Source CMS	Proprietary CMS
1	Word press	Microsoft Share point
2	Joomla	IBM Enterprise Content management
3	Drupal	Pules CMS
4	TYPO3	Sitecore
5	Concrete5	Shopify
6	Django CMS	Kentico
7	Grav CMS	
8	Open CMS	
9	C1 CMS	
10	Magento for e-commerce	
11	Prestashop for e-commerce	

Evaluation of Content Management System

Content Management

- Does it have a flexible rich text editor (RTE) which enables formatting options as well as an HTML view for more complex tasks?
- Can we quickly and easily upload images and organize them?
- Does the system allow in-app resizing/cropping of uploaded images?
- Can videos from video services (like YouTube, Bright Cove and Vidyard) be embedded into pages?
- How is frequently updated content (e.g. Events and News articles) handled? Do these require custom code or are there templating issues which support these types of content?
- How easy is it to update content models for particular site items? For example, adding a new field to a page. Do you need developer support or can this be handled by expert CMS users?

Integrations

- Does the Content Management System allow for integration with the corporate Marketing management? Automation platform? If so, how easy is it?
- Does the system allow for integration with the corporate Content Management System application? If so, how easy is it?
- Does the system allow for integration with the corporate Digital Asset Management application? If so, how easy is it?
- Does the Content Management System integrate with the corporate Single Sign-On mechanic?
- Can we integrate with the corporate Social Media channels? Are there any channels which aren't supported without bespoke development?
- Does the system integrate easily with 3rd party translation services for multi-lingual content.
- Can we integrate the Content Management System with corporate back-office systems (e.g. payroll, ERP etc.) if required?

Publishing

- Does the system allow to configure publishing pages to multiple environments (e.g. Staging, QA/Test, Production)
- Can we save drafts of page updates without publishing?
- Can we publish across multiple channels e.g. social media as well as web?
- Can you schedule the publish/unpublish of pages?
- Can we roll-back published pages?
- What impact does unpublishing a page have on dependency pages? Is there reporting in place to mitigate the impact of unpublishing?

Permissioning/ User Management

- Does the Content Management System allow granular configuration of user permissions? Can these permissions be set at both global and function level?
- Does the Content Management System allow configuration of user roles based on the permissions set?
- Can users be assigned to multiple roles if required?
- Is the on-boarding of new users easy?
- Do reviewers/editors have access to the Content Management System? If so, can they comment directly on the page?
- Can we do bulk updates on user permissions and roles?

Workflow

- Do the built-in workflow management tools allow us to easily configure to comply with corporate editorial processes?
- Can workflows be amended/created to reflect internal changes without development support?
- Can translation workflows (with possible 3rd parties) be configured to comply with corporate editorial processes?

Versioning

- Do all elements of the Content Management System have a versioning mechanism? (all elements include pages, images, blog articles etc.)
- Are all versions tagged by user and date modified?
- Can a side-by-side comparison of versions be viewed?
- Can the system rollback to a previous version of an asset simply?
- Does the system report on dependencies affected by a rollback?

Taxonomy

- How does the Content Management System allow you to categorize your content?
- Can you easily update/add/delete taxonomical items?
- What does this implementation allow you to do with regards managing content in the back-and/or front-end?
- Can the taxonomy be localized (if needed)?

Built-in Apps

- What built-in apps come as-standard with the Content Management System? Do these offer value and justify the license fee?
- What built-in apps are available with in the system but require extensions to the license fee? Do these offer new functionality which may change the scope of possibilities on offer to support the marketing strategy?

Infrastructure

- Are there any restrictions from corporate IT around what types of Content Management System will be supported e.g. Windows/.NET versus LAMP versus Java/Others?
- Does the vendors system conform to these restrictions of they exist?
- Are the terms of the corporate information security policy upheld?
- If corporate IT requires to set up multiple environments, are there any implications from the vendor to work across multiple environments?
- Does the Content Management System have a backup function? Does this conform to the corporate IT team's requirements?
- Does the Content Management System have security protocols in place to fend off brute force attacks?
- If required ,is the Content Management System impacted by any auto-scaling requirements?

Analytics

- Does the application come with an Analytics package as standard?
- If Analytics is an add-on module/service, does this offer any enhancements/insights/data that other Analytics packages we use (e.g. Google Analytics)don't have?
- Does the Analytics offering provide insights across all channels being used to publish to? E.g. can we get in sights from Social Media as well as standard web pages?
- Does the Analytics dash board/front-end require special training for users are simple and effective but allow scaling for more in-depth data analytics requirements?
- Does the Analytics offering allow export, in various formats, of raw data to allow for further non-standard data modeling?
- Can we create our own reports and/or dash boards with in the Analytics package?

Support

- Is there suitable documentation for all user type sand levels to support internal requirements?
- Does the vendor offer 24/7 support?
- Do they have a development roadmap for future releases?
- Does this fit with the corporate marketing strategy?
- Do future releases look like strong feature enhancements or does it look like feature bloat?
- Does the vendor have a proven track record of fixing bugs/issues quickly, securely and in a timely fashion?
- Does the system have an on line user community? Are the users highly engaged?
- Does the vendors support staff get involve d with the user community and provide guidance and in sight?
- Do we need specialist developer skills to be able to support and enhance the application? If so, does the vend or offer developer support/courses?

Conclusion

- Some form of content management (CM) process or system is becoming essential for all organizations with a significant Web presence as the amount of digital content continues to proliferate.
- As the Web moves from small, informally designed Web sites in to large, rapidly changing sites, the need for strong management tools has become pressing.
- Content is in essence, any type or 'unit' of digital information.
- It can be text, images, graphics, video, sound, documents, records etc.
- Content Management System (CMS) is an application software that provides you an easy

environment to manage your digital content data such as text, images, music, documents etc.

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Social Media Awareness & Use by College Librarians Affiliated to Dr. Babasaheb Ambedkar Marathwada University L A Case Study

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Abstract :

Current research focuses on examining how much, why and how LIS Professionals use Facebook, one of the most popular social networking site, and understanding its impact on education and social interaction. The aim of this study is to examine the purposes of Facebook use in Library and Information Science (LIS) Professionals sample and explore time investment of the professionals to Facebook social network site. The study was focus on to explore Social Media (Facebook) to work as an effective tool for imparting information or knowledge and prove helpful in making awareness among College Librarians Affiliated to Dr. Babasaheb Ambedkar Marathwada University (BAMU), Aurangabad. Data was collected by means of a questionnaire that was circulated among the LIS Professionals randomly. Present article reports the survey of social networking site, Facebook in making awareness among LIS Professionals. Analysis will help the LIS professionals in deriving the benefits of Facebook.

Keywords- Facebook, College, College Librarian, Social Networking, Social Networking Sites, BAMU, Marathwada, Maharashtra and Internet

Introduction :

Social Networking Sites (SNS) such as such as Friendster, CyWorld, and MySpace allow individuals to present themselves, articulate their social networks, and establish or maintain connections with others. These sites can be oriented towards work-related contexts (e.g., LinkedIn.com), romantic relationship initiation (the original goal of Friendster.com), connecting those with shared interests such as music or politics (e.g., MySpace.com), or the college student population (the original incarnation of Facebook.com). Participants may use the sites to interact with people they already know offline or to meet new people. The online social network application analyzed in this article, Facebook, enables its users to present themselves in an online profile, accumulate “friends” who can post comments on each other’s pages, and view each other’s profiles. Facebook members can also join virtual groups based on common interests, see what classes they have in common, and learn each others’ hobbies, interests, musical tastes, and romantic relationship status through the profiles.

Facebook constitutes a rich site for researchers interested in the affordances of social networks due to its heavy usage patterns and technological capacities that bridge online and offline connections. We believe that Facebook represents an understudied offline to online trend in that it originally primarily served a geographically-bound community (the campus). When data were collected for this study, membership was restricted to people with a specific host institution email address, further tying offline networks to online membership. In this sense, the original incarnation of Facebook was similar to the wired Toronto neighborhood studied by Hampton and Wellman (e.g., Hampton, 2002; Hampton & Wellman, 2003), who suggest that information technology may enhance place-based community and facilitate the generation of social capital. Previous research suggests that Facebook users engage in “searching” for people with whom they have an offline connection more than they “browse” for complete strangers to meet (Lampe, Ellison, & Steinfield, 2006).

Benefits of Social Network Sites / Social Media

We use people to find content, but we also use content to find people. If they are understood better relationships and knowledge flows can be measured, monitored, and evaluated, perhaps (for instance) to enhance organizational performance. The results of a social network analysis might be used to:

- Identify the individuals, teams, and units who play central roles.
- Discern information breakdowns, bottlenecks, structural holes, as well as isolated individuals, teams, and units.
- Make out opportunities to accelerate knowledge flows across functional and organizational boundaries.
- Strengthen the efficiency and effectiveness of existing, formal communication channels.
- Raise awareness of and reflection on the importance of informal networks and ways to enhance

- their organizational performance.
- Leverage peer support.
- Improve innovation and learning.
- Refine strategies.

Development work, for one, is more often than not about social relationships. Hence, the social network representation of a development assistance project or program would enable attention to be quickly focused (to whatever level of complexity is required) on who is influencing whom (both directly and indirectly). (Outcome mapping is another method that attempts to shift the focus from changes in state, viz., reduced poverty, to changes in behaviors, relationships, actions, and activities.) Since a social network perspective is, inherently, a multi-actor perspective, social network analysis can also offset the limitations of logic models (results frameworks).

3. An Overview of Facebook

Created in 2004, by 2007 Facebook was reported to have more than 21 million registered members generating 1.6 billion page views each day. The site is tightly integrated into the daily media practices of its users: The typical user spends about 20 minutes a day on the site, and two-thirds of users log in at least once a day (Cassidy, 2006; Needham and Company, 2007). Capitalizing on its success among college students, Facebook launched a high school version in early September 2005. In 2006, the company introduced communities for commercial organizations; as of November 2006, almost 22,000 organizations had Facebook directories (Smith, 2006). In 2006, Facebook was used at over 2,000 United States colleges and was the seventh most popular site on the World Wide Web with respect to total page views (Cassidy, 2006).

Much of the existing academic research on Facebook has focused on identity presentation and privacy concerns. Looking at the amount of information Facebook participants provide about themselves, the relatively open nature of the information, and the lack of privacy controls enacted by the users, Gross and Acquisti (2005) argue that users may be putting themselves at risk both offline (e.g., stalking) and online (e.g., identity theft). Other recent Facebook research examines student perceptions of instructor presence and self disclosure (Hewitt and Forte, 2006), temporal patterns of use (Golder, Wilkinson, and Huberman, 2007), and the relationship between profile structure and friendship articulation (Lampe, Ellison, and Steinfield, 2007).

In contrast to popular press coverage which has primarily focused on negative outcomes of Facebook use stemming from users' misconceptions about the nature of their online audience, we are interested in situations in which the intended audience for the profile (such as well-meaning peers and friends) and the actual audience are aligned. We use Facebook as a research context in order to determine whether offline social capital can be generated by online tools. The results of our study show that Facebook use among college-age respondents was significantly associated with measures of social capital.

4. College Librarians Affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Generally all the people who are engaged with library and information science subject either as a Librarian or Lecturer or Research Scholar or Technical Assistant or Student are called LIS Professionals. But In LIS Professionals we have taken here the College Librarian who was working in Marathwada Region.

The name Marathwada identifies one of the five regions in Maharashtra state of India. The region coincides with the Aurangabad Division. There are 8 districts in Marathwada region i.e. Aurangabad, Jalna, Beed, Parbhani, Nanded, Latur, Hingoli and Osmanabad. Marathwada is one of six administrative divisions in India's Maharashtra state. Aurangabad division coincides almost perfectly with the Marathwada region of Maharashtra.

The population of the study mainly comprised Arts Commerce & Science Colleges affiliated to Dr. Babasaheb Ambedkar Marathwada University (BAMU) Aurangabad Under the jurisdiction of BAMU, Aurangabad. BAMU having jurisdiction spread over 4 districts of Marathwada. Under the Jurisdiction of BAMU, Aurangabad having total 404 affiliated colleges at various places under the jurisdiction area. Present study is limited to 120 affiliated colleges (Government & Aided) out of them Seven (07) was Government Colleges while other 113 Colleges were Private aided located in rural and urban areas of Aurangabad, Jalna, Beed and Osmanabad district and affiliated to BAMU, Aurangabad.

Eight questions were asked to them and we have received answers of all of them. We have taken five social networking sites – Facebook, Google+, Twitter, Orkut and Yahoo to conduct our study and to reveal LIS Professional's view about them as whether these sites are helpful in making awareness among them or not.

5. Problem Statement

There are many studies conducted to find out the impact of social networks on young generation. But the present work is conducted among the LIS Professionals to explore how social networking site Facebook proves helpful in generating awareness.

6. Rreview of Literature

Online social network tools may be of particular utility for individuals who otherwise have difficulties forming and maintaining both strong and weak ties. Some research has shown, for example, that the Internet might help individuals with low psychological well-being due to few ties to friends and neighbors (Bargh and McKenna, 2004). Some forms of computer-mediated communication can lower barriers to interaction and encourage more self-disclosure (Bargh, McKenna, & Fitzsimons, 2002; Tidwell & Walther, 2002); hence, these tools may enable connections and interactions that would not otherwise occur. For this reason, we explore whether the relationship between Facebook use and social capital is different for individuals with varying degrees of self-esteem (Rosenberg, 1989) and satisfaction with life (Diener, Suh, and Oishi, 1997; Pavot and Diener, 1993), two well-known and validated measures of subjective well-being. This leads to the two following pairs of hypotheses:

Social media, social networking, online communication words used parallely. Zakaria et al (2010) believes that social media applications have already being accepted by young generations as a platform to socialize, collaborate and learn in an informal and flexible manner although their level of involvement and contribution varies significantly. Al- Daihani's study (2010) explores that the majority of MLIS students are aware of social software applications and they make moderate use of blogs, communication tools and social networking sites. Sheens study among students of the Pakistan reveals that the use of social networking site indicates popularity of facebook.com among these youth more often. The survey of Pew Internet (2010) says that Facebook is the most commonly used social network among adults. Subramanian, et al (2008) reported the findings of study conducted to understand the role of SNS in college student's lives. The figure and statistics shows how Facebook has a very influential role in the lives of young adults. In present paper the investigator has the aim of exploring how LIS Professionals integrated Facebook as a tool helpful in generating awareness.

7. Objectives of the Study

- To explore LIS Professionals view about its uses and services.
- To identify potential contribution of Facebook to fill the gaps among LIS Professionals.
- To explore how to retrieve the relevant information with the use of Facebook by LIS Professionals.
- To reveal Problems in the use Facebook.

8. Limitations:

The study is limited to LIS Professionals as we want to reveal uses of Facebook in developing awareness about current happenings, professional information, job opportunities and educational development.

9. Methodology

The study was based on survey as were administered among College Librarians Affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad working as Librarian of randomly. The collected data were analyzed using statistical tools.

10. Major Findings

- The result of this study shows that out of 184 respondents 125 (68%) were male and 59 (32%) were female.
- It is clear from the above table that Facebook was the most often used Social networking site among LIS Professionals with 164 (89%)%, Google+ was the second most used SNS with 107 (57%) respondents respectively, Yahoo was in fourth position with 49 (27%), Twitter was in sixth position with 28 (15%) and other for exe, LinkedIn, Ning, Grouply, Blog, Flickr, Photo bucket, Net log, with 11 (6%) of respondents respectively. Respondents may select more than one checkbox, so percentages may add up to more than 100%.
- It is observed in the study the out of 184 respondents 112 (61%) of LIS Professionals were use Facebook every day, 62(34%) used it sometimes, and 10 (5%) rarely used of Facebook respectively.
- It is revealed from the above table that 122 (66%) LIS Professionals were use Facebook to interact professionally, 110 (60%) to use keep abreast of latest news and commentaries, 87(47%) of users to use to participating in discussions of the LIS field, 82 (45%) used to Express Creativity and 11 (6%) used to other for example to connect LIS Professionals all over the World somebody have says it's very best platform in LIS field, for time pass, To build a strong

library network across world with new people and distant friends. Respondents may select more than one checkbox, so percentages may add up to more than 100%.

- It is founded that the out of 184 respondents the 126 (69%) LIS Professionals were agree that Facebook proved helpful in making awareness, 43 (8%) have the neutral opinion and 15 (23%) were disagree with it.
- In response to the above question it is founded that 142 (78%) LIS Professionals were of the view that Facebook actual works as a platform to interact beyond barrier, 35 (18%) were neutral and 8(4%) were disagree with it.
- The result of the study shows that majority of the respondents were satisfied in the use of Facebook with 108(58%), 16 (9%) were neutral and 60 (33%) were not satisfied with it.
- Various problems have been mentioned by the respondents among them 123 (67%) LIS Professionals were of the view that they lacks time to use Facebook, 85 (46%) thought that no privacy secured in the use of Facebook, 33(18%) have the opinion that it was not useful for educational purpose, 56 (30%) were suffer from technical problem and 20 (11%) were founded that it plays nor role in making awareness and 3(2%) LIS professionals founded that other problems of using Facebook for example No Permission to use Facebook on duty, it gives information transfer to both parties. Respondents may select more than one checkbox, so percentages may add up to more than 100%.
- The majority of the all respondents are satisfied of the use of Facebook to making awareness among the LIS professionals.

11. Conclusion

It is observed that most LIS Professionals are connected to each other by Facebook to share experiences, views and participated in creating awareness. It has become one of the largest platforms in the world for sharing real time information. Facebook allows users to interact and collaborate with each other in a social media dialogue as creators of user generated content in a virtual community, in contrast to websites where users are limited to the passive viewing of content that was created for them. The conducted study is an attempt to give an overview of social networking site Facebook and its possible uses for LIS Professionals and to assess how much real transformation this technology can deliver, while deflating reaffirmation and singling out the real value of these innovations.

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Digital Library: An overview

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Abstract :

We discuss in the present paper about the digital library. The Information Technology explosion and its applications in every aspect of life have changed the concept of Libraries. Each and every library is going to be digitalized step by step. Digital Libraries are rapidly developing. These Libraries are moving towards smaller and smaller but with rich potential of information. The Digital libraries are based on digitized data of information which has gradually replaced paper based records. A digital library comprises digital collections, services and infrastructure to support lifelong learning, research, scholarly communication and preservation and conservation. It is a process of democratization of information. Digital library motivation is anything, anywhere access to large document collections.

Keywords- Digital Library; Information Technology; digitization; Internet

Introduction :

Today, the advent of information technology has paved the way of reducing the size of the libraries from biggest to the small. Visual information systems are getting more popular these days in comparison to text based information systems, therefore Digital libraries, now a day, are becoming popular and more graphical in nature. Digital Libraries have reduced the space problems in them.

Digital libraries are the outcome of information explosion. Developed countries recognized the use of digital libraries quite early. In 1990s Libraries in the developed countries began to connect remote hosts to conduct online searches for commercial digital bibliographic databases. The invention of CD-ROM in 1980s was a turning point in the digitization of information. In 1990s marked a progressive move towards digitization due to networking, electronic document delivery services, online services, electronic journals etc. major advance in this field has been the document delivery service, which transmits by fax the full text of documents.

There are number of terms which are used to present

Concept of Digital Libraries:

These terms which have been in vogue at different times include paperless library, virtual library, polyglot library, Electronic Library, desktop library, online Library, Library without walls (boundaries) and more recently digital libraries. The term Digital library in broad sense is a computerized system that allows users to obtain a coherent means of access to an organized electronically stored repository of information and data.

Majority the term digital Library is commonly used. Digital libraries are heterogeneous in nature. These include work related to information and how to digitize, store, find, link, visualize, use, publish, manage and share the information. These libraries provide instant access to digitized information by utilizing the avenues of information technology.

Definition of Digital Library:-

- The term digital Library is now widely accepted to mean the use of digital technology in the provision of library services and operations, which include acquisition, organization, storage conservation and dissemination of information to users.
- Borgeman (1999) defines "Digital libraries are a set of electronic resources and associated technical capabilities for creating searching and using information."
- Digital libraries are organizations that provide the resources, including the specialized staff to select structure, offer intellectual access to interpret, distribute preserve the integrity of and insure the existence over time of connections of digital works so that they are readily and economically available for use by a defined community or set of communities.
- Digital library is a collection of documents in organized electronic form available on the Internet or on CD-ROM (Compact disk read only memory) disks. Depending on the specific library a user may be able to access magazine articles, books, papers, Images, sound files and Video's. On the internet the use of a Digital Library is enhanced by a broadband connection

such as cable Modem or DSL.

- A digital library is a special library with a focused collection of digital objects that can include text, visual material, audio material, video material stored as electronic media formats (as opposed to print, microform or other media) along with means for organizing, storing and retrieving the files and media contained in the library collection.

Types of Digital Library:

- Institutional Repositories
- Digital Archives
- Software
- Meta-data
- Searching
- Digital Preservation
- Copyright And Licensing
- Recommendation System

Need of Digital Library:

To save the time of each modern user of the library digitization is the only solution to the problem. Digital libraries are needed to provide quality based service to the users. It includes both better access to traditional materials, easier preservation and extension of library collections.

In general digital libraries are needed for the following reason...

- Easy to Understand: The visual or graphical information system of digital libraries is more popular as compared to text based information system.
- Information Explosion: Digital library is expected to be able to handle the problem of information explosion somehow. It will be able to handle and manage large amount of digital content by simple providing link, without actually procuring the document.
- Shifting of the Environment: The new generation user become only happy when they will be also to read from the computer screen. The new generation whose demand for information is never met demands that traditional libraries should be developed as well equipped.
- Multiple Function of Same Information: Incase of digital library by using hypertext it is possible to structure and organize the same digital information in a variety of ways which serve multiple functions.
- Information Retrieval: By using digital library one will be able to retrieved information specifically for example particular image, photo, a definition, etc.
- Distance Learning: Time is major factor for each modern user of the library which is otherwise spent incoming and going to the library, but digitization will facilitate learning from home, office or other places which are convenient to users. Means the digital libraries are user friendly.

Problem in Traditional Libraries:

- Digitization hopes to overcome this; Digital Medias comes with a huge storage capacity.
- To procure online publication: more and more information are going to published over internet, digital libraries needed to procure the online publication and to provide link to important sources of information.

Collection of Digital Library:

Collection of digital library refers to the digital document such as e-books, e-Journals, e-clipping, e-content pages, e-Report, conference paper, painting, song, journal articles, etc.

It is divided into two types.

1) Born Digital :-

Documents which are created or generated in digital form are born digital. Born digital objects are available in the following form.

- e-Database,
- e-Books,
- e-Periodicals,
- Software,
- Movies,
- Audio and Video,
- Art,
- Photograph
- Other born digital Materials

2) **Converted or digitalized :-**

Documents those are converted from printed to digital objects are known as converted digitalized. These documents are available in following forms.

e-Books

e-Periodicals (e-Journal, e-News Paper, etc.)

Other digitalized materials.

Components of digital library:-

Hardware

- Computer servers with 24 hours internet connectivity
- LAN or WAN
- Storage media: high power hard disk with high quality Scanners
- Wi-Fi tower
- Digital camera
- Converters
- Networks with high power UPS
- Multimedia Interfaces

Software

- Greenhouse digital Library software
This software firstly developed by “waikato” university from Newzealand. Afterward this software developed by UNESCO. Using this software Digital Library collection will be developed. This is one of the multilingual software. In the software use the Dublin core metadata standards.
- Dspace: This software is developed by Hewlett Packard and Massachusetts Institute of Technology Research Institute. Based on Java Language. Metada ,user interface and workflow are the features of Dspace.
- Eprints:- The GNU eprint software is free software which creates online archives.
- FEDORA Digital Library Software: Flexible Extensible digital object Repository Architecture
- Vriddhi software: Malegaon
- LIBMAN: Develop by Datapro consultancy services Pune
- LIBSYS: Develop by Libsys Corporation, New Delhi
- SANJAY: Develop by Desidoc matcalf house New Delhi
- SOUL: Develop by INFLIBNET Centre Ahmedabad
- SLIM: Develop by Algorithms, Pune.
- GRANTHALAYA: Develop by NISCAIR, NEWDELHI

Features of Digital Libraries:

- It provides access to very large collection of information.
- Its supports multimedia content.
- It focuses on providing access to primary or complete information, not merely surrogates of indexes.
- It uses declarative representation of documents.
- It provides user-friendly interface.
- Networking accessible.
- Unique referencing of digital objects.
- Enables link representation to local external objects.
- Clearly separates the user interface by employing client server architecture.
- It supports advanced search and retrieval.
- It available for a very long time i.e. should not be dependent on specific hardware and software.
- It supports traditional library missions of collection development, organization access and preservations.
- It integrates personal group enterprise, public digital libraries
- It supports publishing annotation and integration of new information.

Advantage of Digital Library:

- A digital library is not confined to a particular location or so called building, it is virtually distributed all over the world.
- The user can get his information on his computer screen by using Internet.
- All required material can be stored digitally.
- It saves the library manpower and funds.

- It minimizes the duplication of new invention.
- User will get information within minimum time.

Disadvantage of Digital Library:

- Initial cost is high: to establish a digital system in the traditional library system is costlier in initial stage. Cost of hardware, software is high.
- Lack of information policy and information culture. Lack of indigenous, efficient and effective library software packages.
- Copyright: Digitization violates the copyright law as the thought content of one author can be freely transfer by other without his acknowledgement.
- Environment: Digital libraries can not reproduce the environment of a traditional library.
- Preservation: Due to technological developments, a digital library can rapidly become out of date and its data may become inaccessible.
- Band width: Digital library will need high band width for transfer of multimedia resources but the bandwidth is decreasing day by day due to its over utilization.
- Speed of access: more computer are connected to the internet its speed of access will decreasing. Slow
- Skill person: if we want to work in digital system we need skill person.
- Security Problem: when digital system is connected to internet major problem is the security to prevent unauthorized access.
- Effect of technology: Digital library wholly dependent on telecommunication and computer.

Conclusion:-

Digital Library plays an important role in promoting the use of information. The establishment of Digital library is a complicated task. It is costly & cannot be done easily. Digital library's reflects the strengths and weaknesses of the libraries very effectively. Due to Digital library use of library increased. Time saved, because users are searching information on their own. It is available for 24 hours of a day and save the space. The Initial cost of digitization is high but once digitization is introduced then cost to manage this collection will be cheaper than any traditional library. Proper budget provision is essential for digital library. The information explosion, searching problem in traditional libraries, low cost of technology environment factor and new generation needs are the factors that show the need of the digitalization. In the future digital libraries will be common in every College and Universities.

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Information Access Management and Data Security Services

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Abstract :

Present paper deals with access management identity and fundamental policies. It also explains data security, its solutions, its types and their importance. Discussion is also done on method of access control system, essential data security methods and conclusion is drawn.

Keywords- Access, Management, data, security.

1. Introduction :

By most accounts, the proliferation of the Internet and other computer technologies has been highly beneficial to libraries. Investment in everything from online databases and computing equipment to personnel and training is significant. Libraries need to have policies; protection measures and trained staff in place in order to safe guard their investments in computer and computer-related technologies, personnel and services.

Historically, formal training for librarians' use of information technology was in the relatively narrow specializations of library automation and online searching. Library automation training was for library staff that would manage, evaluate, and sometimes design and implement technology systems in libraries. Today, library environments are increasingly reliant on computer technology. Many libraries of all sizes have discontinued use of card catalogs in favour of electronic versions – and many of the electronic versions previously accessible only via terminals within library buildings are now Web-accessible. Access to general purpose microcomputers and software, as well as to the Internet, is offered nearly in all libraries.

2. Access Management

Access Management also called identity management, refers to the IT security discipline, framework, and solutions for managing digital identities. Identity management encompasses the provisioning and de-provisioning of identities, securing and authentication of identities, and the authorization to access resources and/or perform certain actions. While a person (user) has only one singular digital identity, they may have many different accounts representing them. Each account can have different access controls, both per resource and per context.

3. Identity and Access Management Fundamentals

Identity management is a foundational security component to help ensure users have the access they need, and that systems, data, and applications are inaccessible to unauthorized users.

3.1. Identity and access management organizational policies define:

- How users are identified and the roles they are then assigned
- The systems, information, and other areas protected by IAM
- The correct levels of protection and access for sensitive data, systems, information, and locations
- Adding, removing, and amending individuals in the IAM system
- Adding, removing, and amending a role's access rights in the IAM system

4. What is Data Security?

The terminology “Data security” refers to the protective measures of securing data from unapproved access and data corruption throughout the data lifecycle. Today, data security is an important aspect of IT companies of every size and type. In the process, they deploy data security solutions which include tokenization, data encryption, and key management practices that protect data.

- Data security is also known as System Data Security, Information Security or Computer security.

5. Why Data Security Solutions?

- Data is an important asset to any organization and thereby, it is essential to safeguard it from online criminals. Organizations across the globe are investing heavily in information technology (IT) to deploy the best of cyber defense capabilities.
- Basically, organizations are focused on protecting three common elements namely people,

processes, and technology. This inwardly protects intellectual capital, critical infrastructure, customer information, brand and much more. Data security is not just important for organizations. Data protection comes into play on the personal computer, tablet, and mobile devices which could be the next target of cybercriminals.

- Normally, remote devices that connect with an organization get targeted by attackers to tap the sensitive information. This is where the endpoint protection, endpoint security comes into play, it helps to protect and maintain the devices connecting the network.
- Data breaches and cyber-attacks are anticipated to increase in the due course of time as the computer networks expand. It is important to have the right Data Security Solutions in place to meet the challenging threats.

6. Types of Data Security and their Importance

Data security software protects a computer/network from online threats when connected to the internet. The data security software may also protect other areas such as programs or operating-system for an entire application. Its goal is to recognize rules and actions to apply against strikes on internet security. There are several types of security, and they are:

6.1. Network Layer Security

The cryptographic techniques also protect TCP/IP (Internet protocol) alongside other internet protocols that have been designed for protecting emails on the internet. The techniques include SSL and TLS for the traffic of the website, PGP for email and for network security it's backed by IPsec.

6.2. IPsec Protocol

The IPsec Protocol was initially developed for guarding interaction using TCP/IP. It was designed by the IETF, and it provides security and verification by using the method of cryptography, the data is modified using security methods. The two main aspects of modification that form the reasons for IPsec are Authentication Header (AH) and Encapsulating Security Payload (ESP).

6.3. Email Security

The protective measures employed to safeguard the access and content of an email account or service is called Email Security. Basically, the electronic mail is composed, saved, and delivered in multiple step-by-step procedures that start with the message's structure. Email security software is implemented by the service provider to secure subscriber email accounts and data from hackers.

6.4. Data Security vs. System Security

Data security refers to the efforts that an organization takes to guarantee that the information stored isn't deliberately accessed or accidentally deleted or modified, manipulated or otherwise abused for illegal money-making. System security works closely associating with data security. System security protects everything that an organization wants to ensure in its networks and resources. Simply put, data security is meant to protect the information and system security is what protects the information containing the devices and network. Comodo offers one of the best 360 degree protections for data and resources.

7. The Three Methods of Access Control Systems

In brief, access control is used to identify an individual who does a specific job, authenticate them, and then proceed to give that individual only the key to the door or workstation that they need access to and nothing more. Access control systems come in three variations: Discretionary Access Control (DAC), Mandatory Access Control (MAC), and Role Based Access Control (RBAC).

1. Discretionary Access Control (DAC)

Discretionary Access Control is a type of access control system that holds the business owner responsible for deciding which people are allowed in a specific location, physically or digitally. DAC is the least restrictive compared to the other systems, as it essentially allows an individual complete control over any objects they own, as well as the programs associated with those objects. The drawback to Discretionary Access Control is the fact that it gives the end user complete control to set security level settings for other users and the permissions given to the end user are inherited into other programs they use which could potentially lead to malware being executed without the end user being aware of it.

2. Mandatory Access Control (MAC)

Mandatory Access Control is more commonly utilized in organizations that require an elevated emphasis on the confidentiality and classification of data (ie. military institutions). MAC doesn't permit owners to have a say in the entities having access in a unit or facility, instead, only the owner and custodian have the management of the access controls. MAC will typically classify all end users and provide them with labels which permit them to gain access through security with established security guidelines.

3. Role-Based Access Control (RBAC)

Also known as Rule-Based Access Control, RBAC is the most demanded in regard to access control systems. Not only is it in high demand among households, RBAC has also become highly sought-after in the business world. In RBAC systems, access is assigned by the system administrator and is stringently based on the subject's role within the household or organization and most privileges are based on the limitations defined by their job responsibilities. So, rather than assigning an individual as a security manager, the security manager position already has access control permissions assigned to it. RBAC makes life much easier because rather than assigning multiple individuals particular access, the system administrator only has to assign access to specific job titles.

8. Essential Data Security Methods

Data Security and safety is one of the most important things you can do for your company if you regularly process personal data. If it is not already, data protection should be an integral part of your process to ensure compliance with the GDPR as well.

Many provisions and stipulations of the GDPR boil down to a simple requirement: ensure the data is safe. If you manage to do that, you have much less to worry about and all other issues that may arise become a lot easier to solve. That is why we have decided to compile a list of the most commonly employed data protection methods that will help you stay GDPR compliant – some have even been enshrined in the regulation itself.

1. Risk Assessments

The riskier the data, the more protection it has to be afforded. Sensitive data should be closely guarded, whereas low-risk data can be afforded less protection. The major reason for these assessments is the cost benefit, as better data security equals greater expense. However, it is a good test to determine what data needs to be guarded more closely and makes the whole data processing.

There are two axes upon which your risk assessment should be based: the potential severity in case of a data breach and the probability of a breach. The higher the risk on each of these axes, the more sensitive the data is. These assessments will often require the assistance of a data protection officer (privacy officer) who will help you establish valid ground rules. Avoid doing it on your own unless you are absolutely certain you know what you are doing. Mischaracterized data, if lost, could prove disastrous.

2. Backups

Backups are a method of preventing data loss that can often occur either due to user error or technical malfunction. Backups should be regularly made and updated. Regular backups will impose an additional cost to your company, but potential interruptions to your normal business operations will cost even more. Time is money!

Backups should be performed in accordance with the principle explained above – data of low-importance does not have to be backed up as often, but sensitive data does. Such backups should be stored in a safe place, and possibly encrypted. Never store sensitive data in the cloud. Periodically check storage media for deterioration, as per the manufacturer guidelines, and make sure to store them according to official recommendations (check for humidity, temperature, etc.)

3. Encryption

High-risk data is the prime candidate for encryption every step on the way. This includes during acquisition (online cryptographic protocols), processing (full memory encryption) and subsequent storage (RSA or AES). Well-encrypted data is inherently safe; even in cases of a data breach; the data will be useless and irrecoverable to attackers.

For that reason, encryption is even explicitly mentioned as a method of data protection in the GDPR, meaning its proper use will certainly bring you favors in the eyes of the regulators. For example, if you experience a breach that affects encrypted data, you do not even have to report it to the supervisory authorities, since the data is considered adequately protected! For this reason alone, you should consider encryption as your #1 data security method.

5. Access Controls

The introduction of access control to your company's workflow is a very efficient risk reduction method. The fewer people have access to the data, the lesser the risk of (inadvertent) data breach or loss.

You should ensure that you give access to sensitive data only to trustworthy employees who have a valid reason to access it. We recommend you hold regular prior data handling education courses and refreshers, especially after hiring new employees.

With help of your data protection officer, draft a clear and concise data protection policy outlining the methods, roles and responsibilities of each employee (or a group of employees).

6. Destruction

There may come a time where the data you have will need to be destroyed. Data destruction might

not seem like a protection method at a first glance, but in fact it is. The data is being protected this way against unauthorized recovery and access. Under the GDPR, you have the obligation to delete the data you don't need, and sensitive data warrants more comprehensive methods of destruction.

9. Conclusion

In today's complex IT environments, access control must be regarded as a living technology infrastructure that uses the most sophisticated tools, reflects changes in the work environment such as increased mobility, recognizes the changes in the devices we use and their inherent risks, and takes into account the growing movement toward the cloud.

Data security is not, however, limited to data confidentiality and privacy. As data is often used for critical decision making, data trustworthiness is a crucial requirement. Data needs to be protected from unauthorized modifications. Its provenance must be available and certified. Data must be accurate, complete and up-to-date. Comprehensive data trustworthiness solutions are difficult to achieve as they need to combine different techniques, such as digital signatures, semantic integrity, data quality techniques, as well taking into account data semantics. Notice also that assuring data trustworthiness may require a tight control on data management processes which has privacy implications.

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Digital Libraries : Definition and Characteristic

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Abstract :

A digital library is nothing but the transformation from traditional library. The digital libraries concept comes into existence in the 21st century. Virtual library, electronic library, library without walls and digital library are synonymous to each other. In this study, we have to discuss about the definition of digital library, its challenges and characteristic, etc.

Introduction :

Digital age has brought a tremendous change in the way information is stored and accessed. It is marked by three distinct features: abundance, currency and easy access of information. This has brought about a change in the concept of libraries, their collection and services. Many new terms viz., 'digital libraries', libraries without walls', 'virtual libraries' are emerging to describe the libraries of present day age. Digital libraries will start gaining ground in India in the present century. We are heading toward an environment in which digital information may substitute for much print-based information.

Digital libraries in future will not be a standalone version. The explosive growth in networked connectivity and rapid advances in computing power are replacing the older notions of standalone information utilities with newer notions of integrated digital libraries. The integrated digital library creates a shared environment linking everything from personal collection, collection of conventional libraries and large databases spread all over the world. Digital libraries come in many forms. They attempt to provide instant access to digitized information and consist of a variety of information, including multimedia

Definition:-

A digital library is a library in which collections are stored in digital formats (as opposed to print, microform, or other media) and accessible by computers. The content may be stored locally, or accessed remotely. Digital Library Federation:- Digital libraries are organizations that provide the resources, including the specialized staff, to select structure, other intellectual access to interpret, distribute, preserve the integrity of and ensure the persistence over time of collection of digital works so that they are readily and economically available for use by a defined community or set of communities.

Digital libraries consist of a collection of digital resources that may have existed only in digital form, or have been converted from another form to digital. These resources are generally stored in a broad range of formats and can be accessed by users over a computer network. Such libraries have many advantages in that they can be updated on a daily basis and can be accessed instantly by users. Additionally, they do not have a physical boundary, can store more information, and offer access to multiple resources simultaneously.

According to the American Digital Library Federation, digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collection of digital works so that they are readily and economically available for use by a defined community or set of communities.

The definition of a digital library can be given as a set of characteristics are as follows. The digital library is a collection of services, collection of information objects, supporting users with information objects, organization and preservation of those objects, availability directly or indirectly, and electronic/digital availability. The primary objective of digital library is to improve the access as well as it also includes the cost saving, preservation, keeping peace with technology and information sharing.

Characteristics of Digital Libraries :-

Cleveland (1998) describes some characteristics of digital libraries that have been gleaned from various discussions about digital libraries (DLs), both online and in print:

- 1) Digital library are the digital face of traditional libraries that include both digital collections and traditional, fixed media collections. So they encompass both electronic and paper materials.
- 2) Digital library will also include digital materials that exist outside the physical and administrative bounds of any one digital library
- 3) Digital library will include all the processes and services that are the backbone and nervous

system of libraries. However, such traditional processes, though forming the basis digital library work, will have to be revised and enhanced to accommodate the differences between new digital media and traditional fixed media.

- 4) Digital library ideally provide a coherent view of all of the information contained within a library, no matter its form or format
- 5) Digital library will serve particular communities or constituencies, as traditional libraries do now, though those communities may be widely dispersed throughout the network.
- 6) Digital library will require both the skills of librarians and well as those of computer scientists to be viable.

Function of Digital Library:-

Digital libraries promise new societal benefits, starting with the elimination of the time and space constraints of traditional bricks-and-mortar libraries. Unlike libraries that occupy buildings accessible only to those who walk through their doors, digital libraries reside on inter-networked data storage and computing systems that can be accessed by people located anywhere. At their full potential digital libraries will enable any citizen to access a considerable proportion of all human knowledge from any location. From an access vantage the Internet provides a preview of the possibilities. The role of a Digital Library is essentially to collect, manage, preserve and make accessible digital objects. The following are some of the function of digital library:

- 1) To provide friendly interface to users.
- 2) To avail network facilities.
- 3) To support library functions.
- 4) To enhance advanced search, access and retrieval of information.
- 5) To improve the library operations.
- 6) To enable one to perform searches that is not practical manually.
- 7) To protect owners of information. (8) To preserve unique collection through digitization.

Purpose of Digital Library

- Expedite the systematic development of procedures to collect, store, and organize, information in digital form.
- Promote efficient delivery of information economically to all users.
- Encourage co-operative efforts in research resource, computing, and communication networks.
- Strengthen communication and collaboration between and among educational institutions.
- Take leadership role in the generation and dissemination of knowledge

Planning For Digital Library:-

Digital libraries serve communities of people and are created and maintained by and for people. People and their information needs are central to all libraries, digital or otherwise. All efforts to design, implement, and evaluate digital libraries must be rooted in the Planning For Digital Library.

- IT Infrastructure
- Digitization
- Access
- Staffing
- Furniture, equipment, and space
- Services
- Funding

Advantages of a Digital Library:-

Traditional libraries are limited by storage space; digital libraries have the potential to store much more information, simply because digital information requires very little physical space to contain it. As such, the cost of maintaining a digital library is much lower than that of a traditional library. A traditional library must spend large sums of money paying for staff, book maintenance, rent, and additional books. Digital libraries do away with these fees.

- No physical boundary
- Round the clock availability
- Multiple accesses
- Information retrieval
- Preservation and conservation
- Space.
- Networking
- Cost

Disadvantages of digital library:-

- Costly affair.
- Technology obsolescence
- Hardware & Software.
- Storage media relate.
- Dominance of data creators and publishers.
- Trained manpower.
- User education and training.
- Security against hacking & sabotage.

Digital Library Initiatives

- The British Library's Digital Libraries Programme:- The Digital Libraries Research Programme at British Library Research and Innovation Centre (BLRIC) is establishing a digital library information service based on the British library collections
- California Digital Library (<http://www.cdlib.org/>):- The California Digital Library was established in 1997 at the University of California. It supports the University of California libraries in their mission of providing access to the world's knowledge for the UC campuses and the communities they serve. The CDL also maintains its own distinctive programs emphasizing the development and management of digital collections, innovation in scholarly publishing, and the long-term preservation of digital information.
- The IEEE Electronic Library:- The IEEE digital library is the gateway to valuable, cutting-edge research, standards and educational courses with more than two million articles. It offers 100% full-text searchable content with full-page PDF images of all IEEE articles, papers and standards.
- Digital Library Initiatives in India

In India digital library projects were initiated by the Department of Scientific and industrial research (DSIR), the department of information technology(DIT) and the department of culture (DOC), DSIR funded project on digital library of Traditional heritage knowledge. Some of the major initiatives on digital Libraries in India are below.

- Digital Library of India (<http://www.dli.ernet.in/>)
- VigyanPrasar Digital Library (<http://www.vigyanprasar.gov.in/digilib/>)
- NCERT Online Text Books (<http://www.ncert.nic.in/textbooks/testing/Index.htm>)
- National Digital Library (<https://ndl.iitkgp.ac.in/>)
- Indian Institute of Science NNCISI(<http://vidya-mapak.ncsi.iisc.ernet.in/cgi-bin/library>)
- Kalasampada: Digital Library Resources for Indian Cultural Heritage. (<http://www.ignca.nic.in/dlrich.html>)

Digital Library Projects in India

- Establishment of Digital Library of India by ERNET India (Education and Research Network). ERNET India is serving more than 1300 institutions in various sectors, namely, health, agriculture, higher education, schools and science & technology. ERNET was also identified by Govt. of India as the nodal network for India and was connected through high-speed link to the pan-European Education and Research Network
- Advaita Sharada Project:- Digitization of ancient manuscripts
- CDAC (Center for Development of Advanced Computing)

Conclusion

There will be continuing expansion of digital library activities. LIS professionals face challenges that will lead to improved systems. More and more libraries will have departments and programs in the digital library arena. Digital libraries will build upon work being done in the information and data management area. Digital libraries provide an effective means to distribute learning resources to students and other users.

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Digital Libraries and e-Learning

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Abstract :

Digital libraries offer opportunities for e-Learning that are not available in their physical counterparts. Digital libraries complement other learning environments, such as those provided in distance education and courses offered online. Like e-Learning environments, they provide flexibility of time and place. Digital libraries have the potential to offer unprecedented resources to support e-Learning. This paper discusses what is e-Learning, need of e-Learning, how it can be supported by the library environment and the role of digital library in e-Learning.

Brief history of e-Learning :

Use of technology in learning, in the true sense, started around the beginning of this century with the invention of films and motion pictures. During World War II, the world witnessed real use of technology in learning when U.S. Army used training films to educate their army-men and to maintain consistency in U.S. based training. Since then large scale developments have taken place at different fronts like academic, government and corporate. In the sixties, early “teaching machines” and “programmed texts” paved the way for embryonic computer-based training. Instructional films became more creative and educational film business catered to both public and private sectors.

Next era of e-Learning started when television was invented. But television did not become everyone’s teacher due to lack of interactivity with the learner. The necessity of interactivity renewed efforts in the area of computer-based training (CBT). In the seventies and eighties tremendous efforts were put in this field. The real revolution in the field of e-Learning started with the coming up of Internet. As quoted by Nobel laureate Gary S. Becker in 1992, “The Internet has begun to radically change the teaching of adults in the U.S. who want to improve their skills or further their general education.” Today’s Internet (Web) is like a universal library which is anyway easy to manage and update with worldwide accessibility. Actually Internet is the perfect E-Learning tool available to all and sundry.

E-Learning Definition:-

1. It refers to learning and other supportive resources that are available through computer. E-Learning is developed to apply information technology applications to education.
2. According to Kaplan-Leiserson (2001): The term E-Learning covers a wide set of applications and processes, such as web based learning, computer based learning and virtual classrooms. It includes the delivery of content via internet, Intranet, Extranet (LAN/WAN), audio and video tapes, Satellite broadcast, CD ROM etc.
3. The Department of Education and Skills, UK (2002): E-Learning includes “a range of activities, from the effective use of electronic resources and learning technologies in the classroom, through to a personal learning experience enabled through individual access at home or elsewhere”.

Need for e-Learning

1. Learning is self-directed, allowing students to choose content appropriate to their differing interests, needs and skills levels.
2. Accommodates multiple learning styles using a variety of delivery methods geared to different learners, more effective to entrain learners.
3. It is designed around the learner.
4. Geographical barriers are eliminated, opening up broader education options.
5. Accessibility makes scheduling easy and allows a greater number of people to attend classes. On demand access means learning can happen precisely when needed. Travel-time is reduced or eliminated.
6. It has potentially lower costs for companies needing training and for the providers.
7. It offers faster and greater students’ interaction and collaboration.
8. It also facilitates faster and greater student/instructor contact.
9. Students can enhance computer and internet skills.

10. The curriculum draws upon hundreds of established pedagogical principles.
11. It has the attention of every major university in the world, most with their own online degrees, certificate and individual courses.

Role of Digital Libraries in E – Learning

According to Gary Marchionini (1995), libraries serve three roles in the learning process-

1. Sharing valuable resources-

Digital library plays a vital role here by allowing several information seekers to access materials simultaneously, regardless of their physical location.

2. Preserving and organizing artifacts and ideas-

Million books project is a live example of a digital library striving for preservation of old artifacts of intellectual importance by archiving their soft copies. The material is digitized with the help of scanning devices.

3. Bringing people and ideas together-

Digital libraries offer diverse information resources shared by groups of learners, irrespective of physical space and time. Digital libraries bring people together with different learning missions.

The main features of a digital library are as follows:

1. Information is stored in digital form;
2. Information sources are amenable to computer access;
3. Facility for multi-user search;
4. Offers network accessibility;
5. Provides user-friendly interface;
6. Facility to browse, select, retrieve, and download on the user computer;
7. Facility to have any number of copies, if required;
8. Sometimes, rare and expensive material is available.

Digital libraries are a set of electronic resources and associated technical capabilities for creating, storing, searching and dissemination of information. Digital libraries are playing a vital role in online learning education system. Most of the digital libraries are dedicated to supporting higher education and research, and they justify their investment in digital development as a powerful means of realizing the larger institutional goals of the academic community they serve. One reason for using digital libraries in e-learning is that it can store and manage large amounts of digital content such as full text, course materials, bibliographic databases, library catalogues, image and audio clips etc. Thus it provides an environment to bring together collections, services and people in support of the full life cycle of creation, dissemination and preservation of data, information and knowledge. Another reason to use digital libraries is that using various electronic tools, learners can search text materials and images easily and quickly, which can be applied broadly across all kinds of institutions. Advanced intercommunication technology, sophisticated search engines, affordable cost and large storage of digital content are the other reasons to implement a digital library in modern education.

Other advantages of digital libraries in e-Learning are:

- Digital library allows the learner to use electronic resources from anywhere, without even knowing where it is stored geographically.
- One copy of the documents could be viewed by any number of users simultaneously.
- It can be used for increasing course delivery for a large number of clients at a particular point of time. Study materials need never go out of print, and new editions can easily be created. One can carry several titles at once on a portable reader and, over time, build a personal library.
- It would be easy for non-specialists to use due to simplicity of operation.
- Links to publisher's sites for full text journals.
- It provides and facilitates online and on demand enrolment, study and examinations.
- Search results will be delivered to an e-mail box as per the user's choice.
- Protects rare books that are rapidly deteriorating due to over use and poor storage conditions.
- It is cost-effective and cost-efficient for its ability of reuse.
- It provides faster learning, increased access, clear accountability and equal education for everybody; the web is available on the desktop.
- It provides current information and helps in research work. To cope up with the advancements in technology, production of information in multidimensional forms, it becomes essential for a person to pursue additional knowledge at all times to keep him/her up-to-date in his/her field of interest. These factors are leading to the learning. Virtual conferences, collaborative work

on projects which are shared among institutions, exchange of useful material and experience among teachers provide up to date information for research.

Conclusion-

In conclusion, digital library services are an essential component of quality e-Learning system. As access to internet-based course grows, an increasing number of e-learners are dispersed around the globe, often in parts of the world where physical access to the collections of large academic and research libraries is impossible. These learners are largely dependent on the quality and usefulness of services that the digital library can offer electronically.

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Role of Social Media in Digital Era

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Abstract :

The role of traditional media has changed dramatically in the age of the internet-driven, 24-hour news cycle and the proliferation of social media. Today, the term "media" is used and abused, and it can mean different things to different people. To paint a picture of the new media landscape, I talked to my colleague at Pepperdine Graziadio Business School, Melva Benoit, executive professor of digital media and entertainment. Benoit has over two decades of television and media experience as a research executive at FOX Broadcasting, NBCU, MTV Networks, Disney/ABC TV Networks and Turner Broadcasting.

The phenomenal growth of Social Media ultimately reflects people's compelling desire to connect with other people who share the same interests. This new behavior of consumers is a whole new paradigm that businesses need to communicate and sell online. Having a website is not enough. Social Media play an important role in the Digital World. The secret to success is to have a Full Digital Strategy plan for your company.

Introduction :

Social media refers to websites and applications that are designed to allow people to share content quickly, efficiently, and in real-time. Many people define social media as apps on their Smartphone or tablet, but the truth is, this communication tool started with computers. This misconception stems from the fact that most social media users access their tools via apps.

The ability to share photos, opinions, events, etc in real-time has transformed the way we live and, also, the way we do business. Retailers who use social media as an integral part of their marketing strategy usually see measurable results. But the key to successful social media is to not treat it as an extra appendage but to treat it with the same care, respect, and attention you do all of your marketing efforts.

Social media are interactive computer-mediated technologies that facilitate the creation or sharing of information, ideas, career interests and other forms of expression via virtual communities and networks. The variety of stand-alone and built-in social media services currently available introduces challenges of definition; however, there are some common features:

1. Social media are interactive Web 2.0 Internet-based applications
2. User-generated content, such as text posts or comments, digital photos or videos, and data generated through all online interactions, is the lifeblood of social media.
3. Users create service-specific profiles and identities for the website or app that are designed and maintained by the social media organization.
4. Social media facilitate the development of online social networks by connecting a user's profile with those of other individuals or groups.

Users usually access social media services via web-based technologies on desktops and laptops, or download services that offer social media functionality to their mobile devices. As users engage with these electronic services, they create highly interactive platforms through which individuals, communities, and organizations can share, co-create, discuss, participate and modify user-generated content or self-curated content posted online.

Networks formed through social media change the way groups of people interact and communicate or stand with the votes. They "introduce substantial and pervasive changes to communication between organizations, communities, and individuals." These changes are the focus of the emerging fields of techno self studies. Social media differ from paper-based media and traditional electronic media such as TV broadcasting, Radio broadcasting in many ways, including quality, reach, frequency, interactivity, usability, immediacy, and performance. Social media outlets operate in a dialogic transmission system. This is in contrast to traditional media which operates under a mono-logic transmission model, such as a newspaper which is delivered to many subscribers, or a radio station which broadcasts the same programs to an entire city. Some of the most popular social media websites, with over 100 million registered users, include Facebook YouTube, WeChat, Instagram, QQ, QZone, Weibo, Twitter, Tumblr, Telegra, Baidu

Tieba, LinkedIn, LINE, Snapchat, Pinterest, Viber and VK, reddit, BBM and more.

2. Definition :

"Social Media" as "forms of electronic communication (such as websites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (such as videos)"

Merriam-Webster

3. Types of Social Media :

The variety of evolving stand-alone and built-in social media services makes it challenging to define them. However, marketing and social media experts broadly agree that social media includes the following 13 types of social media:

- Blogs,
- Business networks,
- Collaborative projects
- Enterprise social networks
- Forums,
- Micro blogs
- Photo sharing
- Products/services review
- Social bookmarking
- Social gaming
- Social networks
- Video sharing, and
- Virtual worlds.

The idea that social media are defined simply by their ability to bring people together has been seen as too broad, as this would suggest that fundamentally different technologies like the telegraph and telephone are also social media. The terminology is unclear, with some early researchers referring to social media as social networks or social networking services in the mid 2000s. A more recent paper from 2015 reviewed the prominent literature in the area and identified four common features unique to then-current social media services:

- Social media are Web 2.0 Internet-based applications.
- User-generated content (UGC) is the lifeblood of the social media organism.
- Users create service-specific profiles for the site or app that are designed and maintained by the social media organization.
- Social media facilitate the development of online social networks by connecting a user's profile with those of other individuals or groups.

4. Mobile Social Media :

Mobile social media refer to the use of social media on mobile devices such as smart phones and tablet computers. Mobile social media are a useful application of mobile marketing because the creation, exchange, and circulation of user-generated content can assist companies with marketing research, communication, and relationship development. Mobile social media differ from others because they incorporate the current location of the user or the time delay between sending and receiving messages. According to Andreas Kaplan, mobile social media applications can be differentiated among four types:

- Space-timers : Exchange of messages with relevance mostly for one specific location at one specific point in time.
- Space-locators Exchange of messages, with relevance for one specific location, which is tagged to a certain place and read later by others.
- Quick-timers : Transfer of traditional social media mobile apps to increase immediacy.
- Slow-timers : Transfer of traditional social media applications to mobile devices

5. The Trade of Global Social Network

Sr. No.	Network Name	Number of Users (in millions)	Country of Origin
1.	Facebook	2,375	United States
2.	YouTube	2,000	United States
3.	WhatsApp	1,600	United States
4.	Facebook Messenger	1,300	United States
5.	WeChat	1,112	China
6.	Instagram	1,000	United States
7.	TikTok	500	China
8.	Twitter	330	United States
9.	LinkedIn	310	United States
10.	Viber	260	Israel
11.	Discord	250	United States

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Social Networking for Academic Libraries

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Abstract :

Social media is the future of communication, a countless array of internet based tools and platforms that increase and enhance the sharing of information. This new form of media makes the transfer of text, photos, audio, video, and information in general increasingly fluid among internet users. Social Media has relevance not only for regular internet users, but business as well. Social media icons Platforms like twitter, Face book, and LinkedIn have created online communities where people can share as much or as little personal information as they desire with other members. The result is an enormous amount of information that can be easily shared, searched, promoted, disputed, and created. Social Bookmarking tools and news sites such as Digg, Delicious, reedit, and countless others make finding specific information, images, or websites increasingly simple by assigning or “tagging” individual sites with searchable key words. The electronic extension of functions users typically perform and the resources they access in a traditional library’

Keywords- Academic Library, Social Networks, Face book and Twitter, Social media.

Introduction :

Libraries are important part of the national information infrastructure, which provide people with access and opportunities for participation in the digital arena. A Library is a collection of sources. It provides physical and digital access to material and may be a physical building or room or virtual space or both. The libraries have changed the automated concepts of preserving a large number of reading materials for the sake of preservation only. The aim of the library is to ensure maximum use of its reading materials by maximum number of persons. The development of library from ancient 20th century can be measured in just two words ‘paperless to paperless’. Due to explosion of information it is very difficult to change their attitude towards handling. The user community also expected to changed their methodology, attitude and approach to information searching. Today libraries are recognized as “learning resources centers, it is a meeting point of sectors of knowledge and the resources available”. In higher education field digital library environment will subscription services and other libraries.

Social Networking sites are changing Library Environment:

Academic library and information centers are applying the new technology and trends to build their library services popular and user friendly. The present idea of a library as substantial place where users can visit to get information is quickly changing to a social cyberspace where users contract, communicate and contribute to existing information. The potentials of the new technology offers the open access protocols which present the opening for free access, free interaction, free communication and contribution to knowledge. Library services through modern technology are making new instinctive tools, continuous change, flexibility and evaluation while encouraging user positing, sharing, cooperation, communication, and personalization. Skewered (2009) defines that social networking sites hard works are a successful and new technique of student outreach; others argue that social networking by academic librarians is an effective use of librarian time and effort. Social network provide enhanced right to use information. It puts the library where the users are. It enables users to share their knowledge and in turn, helps bring others into the library. It helps simply to post future events or book exhibition. These types of postings rapidly increase when users share the information with their friends through their social networking sites channels. This opportunity helps to promoting library services and activities. A social network has several ways to invite user group to present feedback and to engage with others in online area. This research paper focuses on the changes in the library environment through Face book and Twitter.

Face book in Academic Libraries:

Social Networking Community engaged for college and university students from 2004, Face book has surpassed all other social networking opportunities in attractiveness while reaching out to a seemingly never ending user-base. And Students, Teachers and parents are using Face book. Libraries have contain certainly taken notice and deemed face book resource worthy of attention. Library face book pages are used to exposes library events, news updates and encouraging library services. Information

and resources. In the present environment, any study of the possible impact of social networks on academic libraries must essentially focus on face book to be appropriate. Academic librarians have been aware of face book for some time, although it seems that the early reaction to it was indifferent. Face book publicized that it now has 845 million monthly active users. As well, it reported that over half of these users (425 million) using the social network every day. Charnigo and Barnett-Ellis (2007) define that approach of academic librarians towards face book, and created that most described as being indifferent and friendly to the use of social networks within libraries and promote library services. Hendrix et al. (2009) defined that the use of face book in academic health science libraries, concluding that a small number of libraries use face book. Those libraries that do use face book do so mainly for marketing the library: they deliver announcements to library users, post photos and provide chat reference. These librarians have positive perceptions about their libraries presence on face book.

Academic libraries are trying with implanting library services contained by the Face book page itself for a true outreach program. Using Face book applications, a few Academic libraries implanting the library catalogue to permit students to access the inside of the library catalogue without visiting the library's web site (Farkas, 2007). Face book encourages helpfulness by signifying existing social connections in a virtual space. Face book is an extension of co-operation in the public Section - individual profile information is accessible by users has added as friends. Face book encourages sociability by creating a comfortable, private and familiar social environment. Face book's establishment for a social network is the friend system. To view a user's profile, that user must grant you access. This access makes you a friend of the user. Current alteration to the Face book border is predominantly the big switch to pages and group pages sharing the same appearance as individual profiles provide even greater functionality for creating a presence as an institution. The library creates a Face book page'; it is a permanent, customizable profile. Users can decide to become 'fans' of the library by representing users can 'like; its page. After liking the page, fans and user will begin to receive updates posted by the library to their News Feed, a core Face book feature. This is essential to understand, as it has been asserted that Face book users rarely go out and seek information on Face book. Rather they browse those items that come into their News feed.

Advantages of Face book in Academic Library:

Now day information can be shared on worldwide basis, Face book includes many advantages, we can stay in contact with our library relations or friend's circle that lives for away, users can easily find out new arrivals on library Face book home page. Users are capable to post everything from everywhere. If librarians post any library news or events on library Face book homepage message will distributed to all library users and anybody can see that message. Ellison et al. (2007) recognized the advantages of Face book for college students. They use Face book as a research background in order to decide whether offline social capital can be created by online tools. The consequences of their study explained that Face book use among college-age respondents was significantly associated with events of social capital. The major advantage of Face book is that millions of people are registered from all over the world and Face book provided feedback through 'comment' 'like and 'dislike' key. The Face book has many advantages to students and staff and also it is really very useful in library. Here are some most important advantages of Face book as follows;

- A. Face book presented free service to users and now a day's several libraries are adopted Face book through library services and Face book given paid services but it does not compulsory on users they give freedom to users to choice services.
- B. The Face book site permitted us to sharing information with others, ask library users feedback or opinion, ask question etc. Librarians can share library news, events, photos and videos etc... Librarians can use Face book as news and information source.
- C. Face book offer the 'chatting' options with friend's circle, and it presents as easy chatting application with friends who are online. Many people particularly student's use Face book chat for group discussions.
- D. Present-day almost all internet users are using Face book and using Face book you can discover your old friends and colleagues whom you have lost contact and connect with them online again.
- E. Face book has good privacy setting it gives the option to customize according to your wish. Face book provided Fan page, group's page, event page etc these all are getting very popular day by day. If librarian uses these Fan pages & groups it focusing library promotion activities.
- F. Librarian can use Face book as a social bookmarking site so librarians can share their blogs, most important articles to students and faculty members in fractions of second.

- G Face book has given very well security to users account and provide extremely secure service with very high level privacy policies. Face book for all time try to keep privacy setting as simple as possible to users can secure their account easily.
- H. Face book is a 'one-stop shop' because it provides specifically entertainment,. Communication and sharing of information with friends and users. It is a right place for solving problems with friends or others through cat options, and sharing new ideas with public, as questions, comment on people's status, add your status etc. So Face book is 'one-stop shop' of this kind on the internet.

Twitter in Academic Libraries:

Twitter offers quick and efficient tools for information sharing; information professionals should also think about implementation of Twitter in library. Twitter is social networking site which provides users to make an individual account and leave short public messages. Now a day several libraries have already adopted and started experimenting with experimenting with Twitter profile as an outreach tool to share library information, library events, and resources links with their users. Users can also commonly use Twitter as an exact platform to ask a query about a library service, request, or technical problem, and practically expect a sequence of answers in reply. Twitter entered the social networking world in 2006 and Twitter is the one of the fastest developing social network in the world information dissemination is the primary goal of Twitter program run by the library. According to Twitter's home page – 'Twitter is a service for friends, family and co-workers to communicate and stay connected through the exchange of quick, frequent answers to one simple question: What are you doing?' This highly efficient social web site focuses entirely on quick updates. Twitter is a most popular and rapidly growing 'micro blogging' service where users can post quick and frequent short messages (up to 140 characters) called Tweets' Which may contain links to other online material such as photos and websites, to their followers' who have subscribed to their Twitter account Users subscribe to other user's 'tweet' feeds to receive their updates. Other users or friends are added either by email or by invite.

'Tweets', which may contain links to other online material such as photos and websites, to their followers who have subscribed to their Twitter account Users subscribe to other user's 'tweet' feeds to receive their updates. Other users or friends are added either by email or by invite.

Twitter can check your web email accounts to see if any of your current contacts are Twitter users. Before becoming friends with another Twitter user and subscribing to their feed, you must receive their permission. From a privacy perspective, Twitter has variable privacy options. In a current study of the use of Twitter among libraries a strong conclusion was that librarians are more likely to take benefit of the tool for personal professional use and their own training and development functions, than for direct library services delivery to end-users these activities all contribute to librarians' professional development which, it would be expected feeds into their daily work practice. However, less prevalent are examples of instances where librarians and users work collaboratively with these tools to develop service innovations together, Milstein (2009) presents the excellent point that Twitter is developed for "exchanging information" and supports libraries to treat Twitter as a conversation rather than a broadcast medium.' Of all the options discussed so far, The outlook of using Twitter for reference is actually by far the simplest. The primary difficulty may be the potential learning curve of becoming familiar with the language of Twitter, which is used in symbols (most prominently, '@' it indicates that you are directing a tweet at another user and prompts it to show up in their 'replies' tab and unique verbiage, such as RT which indicates a "re-tweet" of a statement from another user.

Present day, Twitter is commonly using in all types of libraries for different purposes. According to Del Bosque, Leif, and Skarl (2012) academic libraries and in this study authors recognized seven content types in the libraries' Twitter streams: campus events, community events, hours, library events, responses to reference questions, links to outside sites, and resources. This beautiful research study presents the implementation of a Twitter-based information service in a health Sciences library. Stuart (2010) defines in his study that Twitter is used in libraries for a many purposes in this study. 433 libraries are having Twitter accounts to identify how Twitter is being used in academic, public, state, and national libraries. The author identified the 44% were using Twitter account to 'broadcast' library news/information.

Advantages of Twitter in Academic Library:

Social Networks has made accomplishment for library fans and building library outputs brands a far easier and straighter process. Twitter is a powerful tool that benefits of many library users. If librarians use the Twitter it increases library functions and focuses to attract the students and staff members,. Twitter has free an account, making it easy to get started tweeting to promote library work or sharing library news events photos, ideas and thoughts and other information. Tweeter intended to spread easily

and tweets can be made a user's favorite. Tweeter provides such as photos and videos automatically embedded in the tweet, so users can see the content exclusive of leaving the site.

- a. Twitter given posting a 140 character tweets. Library would be transferring more information than it can do everywhere else and this is cost less.
- b. Library related news, photos and videos post frequency requires careful alteration. If librarian post occasionally, library users are less likely to see library related posts compared to other feeds. So librarian should update everyday new information to the users.
- c. Twitter subsists for Smartphone's and tablets as well, it provides users to an opening to library users across multiple platforms.
- d. Twitter presents handy way to quickly address clients concerns. Librarian can answer tweets from followers who ask about library related news and functions or a particular issue. Twitter presents a useful way to alert clients to changes in policies, upcoming events and other important notices.
- e. Twitter is social assembly for the producing library functions and events advertising in the virtual world. This is the main advantages and every library and librarians should try to make use Twitter because if libraries are not using twitter advertising, then librarians are missing a large support.
- f. The library uses twitter to express short messages regarding library resources and other information for example new book alerts, books due date information, library holidays and other services. Several students connected to the Twitter network become followers. The library also follows helpful tweets from others.
- g. There are many people on the virtual world and this is in fact one of the major advantage of using Twitter for library.

Conclusion:

Present day we are living in virtual world. In the 21st century Library and information science professional's necessity to use of social networking sites and this new technology offering outreach technical options for academic librarians. This study is a new platform for reaching students and staff members. Social networking sites allowing users to access the library's resources without leaving. The main advantages of using social networking sites are effectively utilize library services and promotions of libraries. If the library provides a Face book and Twitter through library services, it always helpful to the staff and students to discussing problems, query, asking questions, library holidays, new book posters, new book lists, reserving book facility due date extensions, instruction sessions or classes etc., in several ways these social net works are very useful to the users.

The literature review explains that several authors have conducted many studies on influence to social networking sites on library and information centre and their students / staff members. Different types of academic libraries are discussed. Some articles studies school libraries and university libraries in the centre of their interest and those all libraries are.

Influence s Face book and twitter through library services. According to the above mentioned advantages of Face book and Twitter, librarians should think Face book and twitter are most important social networking sites tools for new platform to communication with their users. Library staff members should encourage interaction by posting library news, library new book photos, announcing library functions or writing notes. The number of library fans, as well as numbers of likes or followers to library pages, it shows that users following their library activities on Face book and Twitter. Finally Academic librarians should consider using Face book and Twitter applications to focus and attract more users to the libraries.

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Digital Resources

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Abstract :

Paper deals with digital or electronic resources in library. Further paper deals with definition of digital resources, types of digital resources, advantages and disadvantages and characteristics of digital resources. Evaluation of digital resources is also explained in this paper followed with conclusion.

Keywords- digital, resources, electronic, services.

Introduction :

Over the last few decades, there have been significant efforts to provide digital library services. These efforts, however, largely focused on the building digital collection and technical infrastructure, including intuitive interfaces to support search and browsing, networks and telecommunication, computing infrastructure, digital rights management, standards and protocols, metadata schema, etc. that enabled digital libraries to function effectively and efficiently. The digital resources and associated technical infrastructure is only a means to generate services keeping its potential users in mind. Like printed resources are used in traditional libraries to generate services by the library staff, the digital resources are used to generate services using software driven web-based interfaces.

The library research and development in digital libraries, in the beginning, was focused mainly towards providing search and browsing interface to its collection. However, providing access to its resources is only one of the several services offered by a traditional library to its users include reference services, services, acquisition, cataloguing and classification, circulation of physical documents, document delivery services, inter library loans, Current awareness services, Selective dissemination of Information, bibliographic services and reprographic services. We are living in the digital era; the digital or electronic resources (e-resources) have great importance in digital libraries and amongst the academic library users. Due to the information revolution, digital libraries are developing all over world to collect, store and communicate the information through electronic media.

In digital library the electronic recourses are becoming more and more important. The printed resources are now being digitized, which has given rise in increase of the availability of books and journals in electronic format. The electronic books are helpful because of their easy portability and its features of incorporation more than one book in a single hand held device. Among all academic electronic resources, the advent of electronic journal has been called the greatest revolution in the capture and dissemination of emerging academic knowledge. Today electronic resources are in abundance, available individually or package deals from the various publishers. It is the contribution of information and communication technology and impact of internet that information processing, storing, searching, dissemination and use has become expeditious, easy and user friendly. Today digital technology is available at our doorstep, capable of effectively creating and capturing information in various formats, making these available to others. Digital or Electronic resources are available with increase accessibility beyond time and space, restriction information users to visit physical libraries.

2. Definition of Digital or Electronic Resources

An electronic or digital resources is defined which requires access on any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journal, image collection, other multimedia products and numerical, graphical or time based , as a commercially available title that has been published with an aim to being marketed. These many be delivered on CD-ROM, on tape, via interest and so on.

Over the past few years, a numbers of techniques and related standard have been developed which allows documents to be created and distributed in electric form. Hence to cope up with the present situation, libraries are shifting towards new media, namely electronic resources for their collection development that the demand is better fulfilled.

According to Sukula “A Digital resources are electronic information resources that can be accessed on the web, on or off campus. User can get the information what him or her want, when it is needed”.

3. What are digital resources?

1. Databases, books, journals, newspapers, magazines, archives, theses, conference papers, government papers, research reports, scripts, and monographs in a digital form.
2. Information available in electronic format.

3.1. Types of Digital Resources

- E- Books: An electronic book is a book publication made available in digital form, consisting of text, images or both, readable on the flat panel display of computers or other electronic devices. It's an electron version of printed book.
- E-Journal: An electronic journal is a periodical publication which is published in electronic format, usually on internet.
- E-Newspaper: An E-newspaper is also known as online newspaper or web newspaper that exists on the World Wide Web or internet.
- E-Magazines: An online magazine is a magazine published on the Internet, through bulletin board systems and other forms of public computer networks.
- Indexing and Abstracting Databases: These are the reference sources which provide bibliographic information about journals including abstracts of the articles.
- Full text database: A full text database or complete-text database is a database that contains the complete text of books, dissertations, journals, magazines, newspaper, or other kind of textual document.
- Reference Database: These are many dictionaries, Almanacs, and encyclopaedias, which are available on internet in electronic form.
- Statistical Database: This database contains the numerical data useful for the mass community.
- Image collection: Due to advent of e-image facility this type of databases is developed.
- Multimedia products: This type of database includes images, videos, audios and text etc.
- E- Theses: These database contained PhD thesis and dissertation published through e-format.
- E- Clippings: The main objectives of e-clipping are retrospective search and comprehensive analysis of new items.
- E-Patents: E-patents are the exclusive right granted by the government to make use of an invention for a specific period of time.
- E- Standards: Written definition, limit rules, approved and monitored for compliance by authoritative agency.

3.2. Advantages of Digital or Electronic Resources

- Electronic resources user friendly interface.
- 24*7 library users don't have to wait for the library e information e information to open to access them.
- E- Resources can be accessed by several users simultaneously.
- E- Resources are huge reservoirs.
- E-Resources save physical storage space. A single CD-ROM can contain many volumes of a particular journal and thousand of full text articles with graphics.
- Articles/ issues appeared online before printed version is available.
- E-Resources provide access to literally thousands of e-journals, e-books, etc. than the library could possibly subscribe in paper format.
- Users can search e-resources to find articles on a particular subject from many different publications at the same time without having to search each publication separately.
- Multiple and remote access makes it available at ones desk. This is a boon for a huge campus where there are hundreds of readers with many departments available.
- E-Resources interactive rapid turnaround time means articles can be read, commented by the readers, amended quickly and greater feedback through the web.
- Electronic journals do not required more timing for publishing and distributing process, therefore save time of the users.

3.3. Disadvantages of Electronic Resources

- Difficulty in reading computer screens: Electronic journal is the limitation of the computer monitor, this lead to problem with reading and long reading from screen can cause eyestrain.
- Less permanent: electronic version of online journal is easy to lose and their reliance on software's and hardware's makes them impermanent.
- Higher Cost: Retrieve some electronic articles need more cost.
- License/ Copyright issues: Issues regarding revision of the licenses and copying and

distributing of resources.

4. Characteristics of Digital resources

- Access to every document by any one from anywhere.
- Retrieval of digital resources is quicker than print resources.
- The users can be guided to the document by providing a link.
- Easy to search text.
- The collection available in digital format can be of any media.
- Ownership not that important.
- In digital environment the interaction between the users and librarians is frequent.
- No defined user group
- The software can help the users in retrieving the desired information, hardly intermediate can help users.

5. Evaluation of Digital or Electronic Resources

According to Devi & Devi the following points should be considered while evaluating electronic resources.

- To identify the electronic version have the retrospective data.
- To check the content of the e-resources with relevant to the users as well as to collection as a whole.
- To check the information is often updated or not.
- To identify the method of accessing of e-resources available.
- To identify the e-resource needed to maintain and redesign the library web site identified.
- To check the staffing needs for training of recruiting with the existing technology.
- To determine the e-resources have affordable price.

6. Conclusion

Electronic resources represent many challenges at every level of their selection, acquisition, preservation, maintenance and management. At the same time the e-resources have advantages giving solution to many professional problems like space, providing remote access, convenience in use, increased readership with improved services, leading to more opportunities for productive research output and academic excellence with in shortest possible time. Recent studies also proved that in researcher's opinion, improved access to e-journals has positively influenced their research activities by saving time. Technology has been behind the evolution and development of e-resources, and the same technology may be able to provide better solution and more opportunities to have complete bibliographical control over world literature which is impossible in case of printed resources. It is being predicted by 2020 more than 90% of the material would be in digital form. In such situation and future trend, library professionals shall have to cope up with new emerging digital environment and devise best possible techniques and method of managing these resources efficiently and effectively for their improved availability and accessibility.

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Maintenance of collection in Digital Library

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Abstract :

The paper examines collection maintenance from several vantage points, including software architecture and the type of collection, arguing that digital libraries that contain informal and dynamic material will have substantially greater maintenance problems. Maintenance will be critical to digital libraries, especially those that promote broad access to diverse, informal materials. If ignored, maintenance issues within the digital library -- especially those relating to its materials -- will threaten its usefulness and even its long-term viability. The paper ends with an examination of potential technical solutions.

Keywords- digital library, collection, maintenance, World Wide Web, organizational memory, usability

Introduction :

As with any new technology-based idea, there has been considerable controversy over the definition and possibilities of the term "digital library." To the computer science community, the new technical possibilities beckon enticingly. However, as traditionalists in the library community might point out, important issues are being ignored. This paper promotes a view of collections and the long-term consequences of their operation, based in a consideration of digital libraries as social institutions. This runs contrary to the substantial body of digital library research that focuses on creating the initial collections and providing access mechanisms. We believe that the problematic must be recast to include long-term issues. By centralizing those issues surrounding the maintenance of institutions and their artifacts -- especially the library collection -- important considerations for the long-term success of digital libraries emerge.

To distinguish our concerns from traditional collection management, we call these concerns collection maintenance. We use "maintenance" to deliberately invoke "software maintenance" and its often ignored importance for software systems.[1] As will be discussed below, collection maintenance is likely to be a significant problem in the digital library -- more so than in traditional libraries or current organizational memory repositories.

The conception of collection advocated here includes access to informal and dynamic information, albeit with a strong caveat. In our view, informality and dynamism materially increase accessibility and content issues over the long run. Collection maintenance for this expanded notion of collection will be difficult, but absolutely critical since:

The necessities and problems of collection maintenance are intertwined with institutional viability over the long-run.

The traditional, or paper-based, library has established methods of maintaining access over the long-run. However, we do not yet have maintenance methods for the digital library, especially within the conception that includes informal and dynamic materials.

This paper begins by discussing the differing notions of the digital library, anchoring the issues in an analysis of institutional needs and practices. We then examine the various types of collections, including those that include dynamic and informal materials. This consideration of collection types and their control lends itself to analyzing the institutional arrangements and resulting maintenance issues for digital libraries.

This analysis proffers two conclusions. First, maintaining collections that are extensions of traditional collections (with delineated boundaries) not surprisingly requires only extensions of traditional methods. Existing institutional arrangements and resources can be modified to handle these requirements. Second, maintaining collections that include dynamic and informal information will be possible only with new technical solutions. We therefore end the paper with some prototypical software tools, using the World Wide Web as an example. One, called MOMspider, checks links within a defined area of the Web. The other, called Web:Lookout, checks for new links and information in previously viewed Web pages.

The "Library" & its boundaries

In this paper, we wish to discuss the long-term issues in maintaining a digital library as both technology and as institution. However, before doing that, we need to decide which conception of the

term "digital library" to consider. This issue, one of social construction, has implications for the types of maintenance technologies that will be necessary and useful.

The Broadly -Construed Library

As Levy and Marshall [17] note, there is the "digital library" narrowly-construed and more broadly-construed. In their paper, they argue for the broadly-construed digital library. Their vision argues for rich access to a variety of materials, all of which can be used in an interpretive and collaborative manner:

We argue ... that the design of digital libraries must take into account a broader range of materials, technologies, and practices -- transient as well as permanent documents, fluid as well as fixed materials, paper as well as digital technologies, and collaborative as well as individual practices. (p. 163)

In a related paper, Marshall, Shipman, and McCall [20] argue for fluid access and integration among many disparate sources. They further offer an idealistic conception of what technology could allow. On the other hand, the narrowly-construed library is a single collection, defined sharply from materials not in the collection. As opposed to the broadly-construed library, the narrowly-construed library lacks integration with other information sources and community practices. It presumably does include new possibilities of access, but perhaps only those pre-defined by the library designers.

Miksa and Doty [21] argue for the narrowly-construed digital library. This view idealizes the role of the collection and the additional indexing above the raw material:

...the idea of the library includes the construction of a set of arrangements that overcomes the disparateness of the individual sources by relating them to one another in terms of a single, operational, intellectually structured whole. (p. 4)

Both of these papers attempt to confront the boundaries of the collection, and those boundaries are in different places for the two papers. Miksa and Doty emphasize the collection and intellectual access to it. Levy and Marshall's emphasis is on access and use of the collection by a community, and since their emphasis is on practice, the collection is used in conjunction with other information sources. These Digital Library '94 papers offer visions of what is important in a digital library, and as such, offer considerable insight into two sets of important core beliefs. These two sets of beliefs are not completely separate; we tease them apart here because of their subtle implications for maintenance and the kinds of institutional arrangements required for that maintenance in the long-run. One view, more intrinsic to the library community, has found it important to consider collections, the intellectual access to them, and classification (e.g., [12, 16, 24]). Another view, held more strongly by the hypertext community, has an interest in direct-manipulation access and integration issues among heterogeneous materials (e.g., [22]). Although not completely separable, these views point to different emphases on what is important to maintain. One emphasizes selection from a bibliographic universe; the other, interaction among materials.

Multiple Libraries and Multiple Collections

The apparently dichotomous nature of the digital library architecture has broad consequences for its maintenance. However, most technical architectures will be some combination; it will be argued below that this is likely for institutional reasons. In this section, we show that some technical architectures muddy the question of broad versus narrow. It is entirely possible to have both types of libraries simultaneously. Figure 1 shows some possibilities; we mean for these to be illustrative rather than definitive examples of technical possibilities. Figure 1(a) is the library narrowly-construed with an application that serves as a personal client. This client would function in much the same way as a Z39.50 (information retrieval) client, providing a satisfactory user interface and user functionalities. Figure 1(b) shows that there could be organizational memories or other information repositories serving as group collections [2, 3]. Finally, Figure 1(c) shows the range of possible information sources. Here, the personal client interacts with organizational memories, group or intermediate information repositories, multiple digital libraries, and informal sources of information (such as the Web or Usenet).

These architectures suggest that by extending other metaphors, we can find other results. For example, if we extend "personal library", we find a need for integrating information sources, not for all of society but for an individual. We can also extend "corporate library" or "organizational memory" to consider information repositories for groups or organizations, intermediate groupings between society and the individual.

Such architectures provide not just intriguing technical possibilities for computer scientists. They also provide ways for the narrowly-construed digital library to be incorporated within personal, group, and organizational information repositories. These intermediate architectures suggest that the idea of collection will be much more porous in the digital library: The intermediaries that are only implicit in the traditional library will be much more tightly tied into the digital library. However, the linking in and arrangement for multiple collections, intermediate layers, and informal materials makes some current

institutional practices difficult, especially those related to the maintenance of the library over time.

Institutions and Their Practices over Time

The library community has been very successful in maintaining traditional libraries and has developed many practices and ideals to do so. Among them are the ideas of unified collections and access methods (including organized indices and catalogs). In fact, one could argue that many core library activities, such as circulation, technical services, and even shelving, were created by the library to maintain access to its collection over time.

Collections in the Digital Library

In the management of most resources, managerial control can play many roles. In the digital library, different control mechanisms over the collection are possible, and these control mechanisms will influence the possibilities and necessities for maintenance. These control mechanisms are influenced by collection types, as an examination of different collection types demonstrates.

Collection Types and Control

Libraries have always managed their collections, selecting and removing items from their shelves. This has been viewed as a critical function of library management [12, 14, 24]. According to the collection management literature, the practices of collection management are dependent on the type of library collection. For example, Drew and Dewe [9] distinguish ephemera in special collections from other items, and Kovacs [16] distinguishes among types of libraries. We will argue here that new types of collections in the digital library will lend themselves to new types of maintenance issues. Table 1 delineates four types of digital collections. This is not the only method of distinguishing among "digital libraries"; for example, we could have included access methods or network topologies. Additionally, an actual digital library could have elements of any (or all) of these types. Nonetheless, distinguishing among types on the basis of control over the collection is important to the continuing operation of a collection.

In a traditional, or paper-based, library, there is considerable control over the collection. Versions of publications are stable (i.e., the contents of non-ephemera do not change from copy to copy). More importantly, because the collection is physically contained, there is considerable control over the collection. Library staff can decide what is and what is not in the collection. Maintenance of the collection is within the purview of the institutional members.

Collection Maintenance

The variation in collection control determines the type of institutional and technical maintenance possible. Collections that are closer to those in traditional libraries can use more traditional control and maintenance mechanisms. Digital libraries that incorporate more individualistic, dynamic, and informal information may need to find new maintenance mechanisms.

Maintenance agents and filters - The World Wide Web

Collection maintenance tools will be necessary for the digital library. As examples of these tools, we briefly consider here several potential mechanisms for reducing the user's maintenance cost in his continued use of the World Wide Web. These examples are limited. Although many of the same issues exist for other informal materials, the mechanisms for dealing with them may not. For example, trying to capture traffic on Usenet groups might require methods of summarizing series of messages. Still, the Web is a valuable testbed for dealing with maintenance issues. Additionally, since many computer science pre-press materials are available on the Web, the Web serves as a salient and immediately useful example.

The Web shares the same maintenance problems as most hypertext systems. For example, in a hypertext collection such as the Web, one needs to:

- * Check that there are nodes at the other end of a link. In a distributed system such as the Web, the site may no longer exist, or the node may have moved. If a node or link has changed or has vanished, there will not be a local notification.

- * Determine that all nodes have links into them (i.e., there are no orphans other than entry points into a local area).

- * Check that the information in nodes is not obsolete (e.g., by examining expiration dates for objects). Since standard Web clients do not provide type information for nodes or links, consistency checking for types is not feasible. Similarly, since versioning is not generally supported, no checking for the correct version can be made.

Below are several semi-autonomous agents that attempt to ameliorate Web maintenance problems. Neither agents nor the list of problems is without omission, and again, these mechanisms are meant to be suggestive of work that will be required for the broadly-construed library.

MOMspider

MOMspider (Multi-Owner Maintenance spider) can automatically traverse a focused portion of the Web. It is most valuable in checking a portion of the Web as a local collection. MOMspider identifies

items that require the owner's attention such as broken links, moved documents, modified documents, and owned objects with expiration dates near to the current date. It can also provide an index document that can itself be traversed as a hypertext document. MOMspider [10] is conceptually based on an earlier tool for the Answer Garden Substrate [1].

This automatic maintenance obviates the need for continuous, manual traversal of a Web collection. The Web may be traversed by owner, site, or document tree, and it is possible to mark areas for the spider to avoid. However, for efficiency reasons, MOMspider performs the traversal from the perspective of a site administrator. Furthermore, MOMspider cannot analyze changed materials to see if the changes are significant to the user. This centralized focus makes it harder for individuals to use MOMspider for personal collections and limits their ability to customize the maintenance process (and focus it) to their needs.

Web:Lookout

Web:Lookout [4] is a semi-autonomous agent that can periodically examine a compiled list of interesting Web nodes or areas. Web:Lookout can determine when links or nodes have been added, removed, or changed. Like MOMspider, the purpose of Web:Lookout is to avoid manual maintenance. Its major use is to automate the examination of "hot lists" or "favorites pages". It is fairly common on the Web for individuals to have nodes with links to other individuals' interesting nodes. These interesting nodes may be associated with a given topic (for example, computer-mediated communication or Web agents), making them extremely valuable to researchers. Additionally, individuals may have pages with pointers to work in progress, pre-press or published papers, informal descriptions of projects, data, and the like. Again, these pointers can be extremely valuable to researchers.

Unfortunately, without examination, there is no way to know when an author has added in a new link. Similarly, one cannot know when an author has added nodes to his Web area, perhaps providing new descriptions or progress on a project. Instead of having to manually traverse these lists to look for new items, Web:Lookout allows users to automate this process.

Unlike MOMspider or other robots that periodically examine specific locations for any change, Web:Lookout notifies the user only upon interesting changes. Its heuristic examines nodes for the specifics of content and link changes. For example, if the user were looking for new publications by a colleague, he could request that Web:Lookout note whether a local link has been added to the colleague's publication page. In this scenario, the user would probably not be interested that links have been deleted or text has been added; Web:Lookout would not notify the user of these things if so instructed. Web:Lookout can also determine whether the content has significantly changed (measured by a similarity metric which the user can set), whether a localized Web area has changed shape, and whether other individuals have stopped finding a particular link interesting. Web:Lookout can also place its results in a Web page for others to use.

The ability to obtain automatic notifications of changes in other parts of the Web complements the social practice of providing interesting links. As such it serves as a useful social filter, similar in effect but not in mechanism to Maltz and Ehrlich's pointer filter [18]. Web:Lookout is, in their parlance, an active filter; however, Maltz and Ehrlich require each author to notify potential users. Web:Lookout removes this notification bottleneck.

Limitations of Maintenance Agents

The major issue with informal material is its impermanence. While informal material has the advantage of being more timely, it also vanishes. To return to the material later, it must be captured in some permanent store. Neither agent presented above deals with this problem. Permanently storing all informal materials within a central location would be prohibitively expensive. This essentially duplicates the traditional problem of selecting ephemera from the bibliographic universe. To select more than a handful would threaten the rest of the collection because of the cost.

However, the costs to any given individual user may not be large. It is possible that any given user would not require substantial storage, and a simple mirroring process might be adequate. Empirical investigation of user habits, however, is required to determine whether this is feasible.

A further limitation is the inadequacy of any computational method of examining content. Robots cannot fully examine the intellectual content of informal information, and any attempt to even partially examine contents may require extensive network resources. We have tried to consider this in the design of Web:Lookout, which uses no more resources than manual traversal. However, careful consideration will need to be paid to the tradeoff between efficiency and usefulness.

Conclusions

This paper examined some of the mechanisms required to maintain the digital library over the long-run. Collection maintenance is likely to be a significant issue in the digital library -- more so than in

traditional libraries or current organizational memory repositories. Following Levy and Marshall, we examined in this paper both the broadly-construed and narrowly-construed digital libraries. The narrowly-construed library is an analog of the traditional library where the collection has known boundaries. Because of the possibility of control over the collection in the narrowly-construed library, many of the institutional mechanisms for maintaining collections can be assimilated from the traditional library.

In the broadly-construed digital library, users are able to access diverse materials. The inclusion of dynamic and informal materials in the collection, however, leads to serious control and long-run maintenance issues. Because of the lack of control over the collection (or collections), technical mechanisms will be needed for collection maintenance.

While this paper ended with several technical possibilities for collection maintenance, we wish to emphasize that we perceive this problem to be both technical and institutional. Many proposals for digital libraries remove social exchange and interaction, focusing narrowly on the technical mechanisms of information; however, a strictly technical emphasis will not lead to an adequate understanding of the long-run issues in digital library use. Accordingly we have tried to emphasize both the technical and the social perspectives. The digital library is more than a set of technologies; it is also a social institution with long-term needs and maintenance requirements.

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IT and digital information preservation

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Introduction :

Libraries Will Then Be Particularly Challenged To decide whether and to what extent their Traditional Focus On Textual or Mostly textual artifacts fulfills their responsibility. At the Very Least, Libraries in the Year 2000 should be actively assessing the possibility that they will be called upon in the future to be the repositories of whole classes of artifact quite unlike what they Owned before, Placing very different demands on their Various skills. These artifacts will be emphatically commercial in Purpose and appeal but no less important than traditional artifacts for documenting American culture in decades to come and therefore inescapably part of the collection mission of the library of congress as now articulated. In the past, The Library of congress successfully accommodated the introduction of media such as sound recordings and film,

While the continents large research Libraries in no way begin to compare in collecting scope, mandate, or begun to move aggressively in the direction of becoming hybrid Libraries the transformation of Library culture and practice by the adoption of Information technology continues apace. An increasing emphasis on service and a decreasing emphasis on collection have already been noted, Libraries are incorporating electronic Technologies work and services into the everyday work of all staff by doing a number of things.

- 1) Working to understand the technical demands, possibilities, and Long-term cost and responsibilities of digital media as instruments for the preservation of library information, including material from traditional print media (e.g., the contents of books printed on acid-based paper) and material created in digital form. When we fully understand the challenges of moving digitally preserved information from format to format, from one hardware and software system to a new hardware and software system, we will have made great progress in solving what many think is the biggest remaining problem in establishing truly functional and satisfactory digital libraries.
- 2) Working through the issues that must be faced in deciding which kinds of resources are best maintained locally, library by library, and which resources are best maintained elsewhere, whether by publishers, vendors, library consortia, or third parties. Traditional librarianship achieves security and preservation by having redundant physical copies: the challenge now is to balance redundancy (and thus security) with optimal efficiency and to avoid unnecessary duplication of effort.
- 3) Understanding evolving legal regimes such as copyright and licensing. In this arena, librarians seek not only to understand but also to shape and influence developments, thus securing agreements that offer readers high-quality, reliable, and permanent access to resources.
- 4) Exercising responsible stewardship of library resources, which are usually purchased with public funds or from not-for-profit institutional budgets. Such stewardship requires keen understanding of the business models and economics of the new information sources in an environment in which libraries find themselves increasingly offered not ownership but access, not a once-for-all price but something closer to annual subscription or by-the-drink pricing.
- 5) Cultivating an expertise in technology matters. The technological infrastructure of a library now faces a new degree of volatility and continuing costs as equipment and software need upgrading. The e-marketplace makes it literally impossible to choose not to play the upgrade game: in a very short time, a library's information would simply become unavailable if it persisted in using even slightly outmoded operation systems or software.
- 6) Continuously upgrading human resources and skills. The librarians and support staff at this time of transformation must undergo no less arduous a series of "upgrades." As in other sectors of our economy, it is impossible in the library sector for staff to acquire and practice skills and then use them for a lifetime; instead, they must grow and adapt, and there are real and substantial costs for supporting the necessary training and for paying a more highly

- skilled staff.
- 7) Working for the broadest possible access for readers in the electronic environment. Not only are libraries seeking technological standards and presentation of resources in forms accessible to the broadest range of readers, but they are also lobbying to advance the public policy debate in ways that support broad access for the good of society as a whole.
 - 8) Reallocating an increasing and visible portion of collection budgets to the electronic resources needed by their readers. For example, ARL Supplementary Statistics indicate that in FY98/99, 29 ARL member libraries spent more than \$1 million of their collections budgets for licensing electronic databases, 41 representing anywhere from 6 to 22 percent of their library materials budgets.
 - 9) Building collection of digital resources that, while not yet rivaling traditional collections in scope and bulk, are substantial, of high value, and integrated in the traditional patterns of collection and use.
 - 10) Cooperating with other libraries in setting up networks that make libraries effectively a single virtual (through the locator tool of interoperable online catalogs) institution that can deliver physical materials, via advanced interlibrary loans and document delivery, to more and more readers more effectively and more cost-effectively than ever.
 - 11) Partnering with other participants in the creation and dissemination of knowledge. Libraries can, for example, work with individual authors, organizations, publishers (commercial and noncommercial), booksellers, and software companies to create and make available functional and well-used online resources.
 - 12) Digitizing and making available to readers material already in library collection and special collections. Such materials would include, in particular, out-of-copyright material, image collection, sheet music, maps, and other traditional library treasures.
 - 13) Subscribing to online services that provide statistical data. Libraries would help readers learn to manipulate services containing anything from historical census data to financial market data.
 - 14) Crating multimedia servers for music, film, and other media. At the same time, thorny question of access and permitted use must be addressed, and the technological capability to handle significant quantities of such material must be developed.
 - 15) Using the new generation of library management systems as a springboard not only for integrating forms of access to a wide range of materials and formats but also for reengineering the entire workflow and back-office processes of traditional librarianship. The technical services of libraries are becoming increasingly business-like, streamlined, and closely managed, with closer links than ever to vendors through electronic data interchange (EDI) and other forms of electronic interaction that work to the advantage of all parties.
 - 16) Working to shape and support initiatives such as community education, online course, sport Web page design, teaching-specialist electronic resources, and digitizing of materials for these programs all with a view to making educational opportunities as broad, rich, and accessible as possible. Lifelong learning is the opportunity and the goal, and “distance learning” is the current buzzword for the tactics librarians seek to support.
 - 17) Finding new ways to measure the usage patterns and behaviors of readers, so as to anticipate and support their needs, bringing the right resources into play for readers. The digital environment facilitates such measurement and, accordingly, such feedback, giving a better allocation of resources than has ever been possible with print media.
 - 18) Devoting increasing effort to more sophisticated reader services associated with single and multiple electronic resources. Librarians are more often than ever teachers of how to use electronic resources, and readers spend less time pursuing simple factual information at traditional reference desks.
 - 19) Seeking new funding sources and opportunities. Traditional funding sources annual budgets doled out by the government or not-for-profit organizations with a tiny annual increase no longer suffice.

Conclusion :

Librarians are increasingly engaged in entrepreneurial efforts, whether soliciting research and development funding from granting agencies, developing partnership with other entities in the library sector, or participating in cost-recovery projects with the commercial sector that serves and interacts with the library community.

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Digital Library: An Overview

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Abstract :

This paper describes the concept of digital library, Components of digital library, need, features, uses and importance of digital library and Importance of digital library in electronic era. It also describes shortly digital library software. Normally digital libraries mean the automation of the libraries. Digital library collect the information in electronic ways. In the digital library computerization is the most important factor.

Keywords- Digital Library, Hardware, Software

Introduction :

A digital library, digital repository or digital collection, is an online database of digital objects that can include text, still images, audio, video or other digital media formats. Objects can consist of digitized content like print or photographs, as well as originally produced digital content like word processor files or social media post. In addition to storing content, digital libraries provide means for organizing, searching and retrieving the content contained in the collection.

Digital libraries can vary immensely in size and scope, and can be maintained by Individuals or organizations. The digital content may be stored locally, or accessed remotely via computer networks. These information retrieval systems are able to exchange information with each other through interoperability and sustainability.

Definition:

A digital library is a collection of documents in organized electronic form. Available on the internet or on CD-ROM Disks (Compact Disc - Read Only Memory). Depending on the specific library, a user may be able to access magazine articles, books, papers, images, sound files and videos.

According to Arms, a digital library is a "Managed collection of information, with associated services, where the information is stored in digital formats and accessible over a network."

Need of Digital Library:

Some of the common factor which is influencing to change the digital mode are the limited buying power of libraries. Complex nature of recent document storage problem etc. some other factors are:

- Information Explosion: There is explosion of information generation and publication.
- Searching Problem in Traditional Libraries: In traditional libraries, it not easy to find the pinpoint information to the right user at the right time.
- Low Cost of Technology: Technology needed for digital library is decreasing and efficiency in Increasing.
- Environmental Factors: The use of electronic resources decrease the paper publishing and it automatically saves the trees.
- Need Generation Needs: Today users are demanding information in electronic form and minimum time.

Features of Digital Libraries:

- It provides access to very large collection of information.
- It focuses on providing access to primary complete information, not merely indexes.
- It supports multimedia content.
- It provide users friendly interface.
- Network Accessible.
- Enable link representation to local, external object.
- It supports the advance search & retrieval.
- Available for a very long time.
- It supports publishing, annotation & integration of new information.

Components of Digital Library:

The basic components of a digital library include necessary hardware and software and skilled well –trained manpower.

A) Hardware :-

- Server with high capacity hard disk and clients in the LAN, web server and FTP server.
- Desktop workstation – pc
- Capturing devices such as scanners, cameras, cards, data compression devices etc.
- Cartridge tape
- High power UPS
- Secondary storage
- High speed network

B) Software :-

- Digital library management software's like D-Space, Greenstone, OCR-Software.
- OCR Software
- Scanning Software
- Adobe Acrobat Reader
- CD-Read / Write Software
- Windows – NT, Networking Software, SQL Server Software, DBMS etc.

C) Skilled Manpower :

The manpower who is supposed to implement and manage the IT should be trained and retrained in order to keep themselves abstract of the latest techniques and tools of IT.

Use of Digital Library:

The important characteristics of digital libraries are the storage of information in digital form. Direct usage of communication network for accessing and obtaining, information and copying by either downloading or on-line / off-line, printing from a master file. Digital libraries enable managing from a master file. Digital libraries enable managing very large amounts of data, preserve unique collections provide faster access to information facilitate dealing with data from more than one location and enhance distributed learning environments. They also help to perform searches that are manually not feasible or practical and offer to protect content owner's information (Hulser, 1997)

Digital material is available freely in the open access imitative. Internet and digitization has been shift from the hard copy formats to digital form.

Importance of Digital Library:

Digital library is understood to have the information stored predominantly in electronic on digital medium. The digital information are include digital books. Digital scanned images, graphics, textual and numeric data. Digitized files audio and video clips etc.

The following factors had catalytic effects in the emergence of digital libraries (Sherwell 1997)

1. A Well-informed and computer – literature user base has started to demand more information at the desktop.
2. Library budgets were not able to cope with the users rising demands for hard copy journal titles.
3. Users demanding documents for their research were not concerned whether these were had locally in the library or obtained from outside as long as they could be supplied quickly.
4. The distinction between library collection management and document delivery – the ownership and access approaches, was becoming increasing blurred.
5. The rapid growth in the internet has demonstrated the potential wealth of information resources available at the click of a mouse button.
6. Librarians started giving increased emphasis to provide access to resources available elsewhere rather than physically possessing resources.

Digital Library Software:

Today change the concept of library from traditional library to digital library. There are electronic resources available in CD-ROM, DVD, Floppies, digital format, online databases, repositories, digital archives etc. Open source software the key of making institutional repository open source software provides two types of software, commercial and free software. It provides free of cost download software through internet. GSDLS (Green Stone Digital Library Software), D Space, EAS (E- print Archive Software) CDS ware, Archimedes, Fedora are mostly used for develop institution repositories.

1. D-Space :

The D-Space is a joint project of the MIT libraries and HP labs. D Space is a digital asset management system. It helps create, index and retrieve various forms digital content. D Space is adoptable to different

community needs. Interoperability between systems is built-in and it adheres to international standards for metadata format. D Space is open source technology platforms which can be customized and extend its capabilities.

2. Greenstone :

The Greenstone digital library software from the New-Zealand digital library project provides a new way of organizing information and making it available over the internet. Collections of information comprise large number of documents and a uniform interface is provided to them. Libraries include much collection, individually organized though bearing a strong family resemblance. A configuration file determines the structure of a collection.

3. EPRINTS :

E Print is free software developed by the University of Southampton, England, E Print @ it repository collects preserves and disseminates in digital format the research output created the research community. It enables the institute community to deposit their preprints, post prints and other scholarly publication using a web interface and organizes.

4. ARCHIMEDE :

ARCHIMEDE developed by Laval University Library in Quebec city, Canada, the ARCHIMEDE project was designed to accommodate electronic preprints and past print from the institutions faculty and research staff. The first manages the University electronic thesis and dissertation; the second provide a productions platform for electronic journals and monographs.

FEDORA:

Fedora is a centre for innovation in free and open source software, and creates a community where developers and open source enthusiast come together to advance free and open source software. The FEDORA community contributes everything it builds back to the free and open source world and continues to make advances of significance to the broader community. FEDORA is a by Linux based operating system that provides users. With access to the latest free and open source software, in a stable secure and easy to manage from members of its community for easy to manage from members of its community for the management and dissemination of digital material created by the institution and its community members. It is most essentially an organization commitment to the stewardship of the digital materials including long presentation.

Conclusion:

Digital libraries enable the creation, organization, Maintenance, Management, Access to sharing & preservation of digital document collection. Digital libraries differ from traditional libraries by enabling users to access & work direct with electronic document.

Building a digital library is expensive and resource intensive. Before embarking on such a venture, it is important to consider some basic principles underlying the design, implementation, and maintenance of any digital library. Finally we need to strive for continued open access to all knowledge. There is no better time to start than now and no better place to start than with our own valuable collections.

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Challenges for Digital Libraries

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Abstract :

Information Communication Technology has changed the face of library and its functions. It changed the slandered of teaching and research. In this modern age library users are more web save than the his professionals. This paper highlights on different definitions of digital library advantages of digital libraries challenges before creating library digitization and challenges after creating library digitalization.

Keywords- E-Library, ICT.

Introduction :

Today Digital world in concerned with creating, sharing and using information in digital format. The advent of information technology has paved the way of reducing the size of libraries from biggest to very small.

The concept of "Digital Library" Which is going to the from the backbone of modern librarianship is becoming avidity the to tremendous influence of interned libraries with walls are turning to libraries without walls. Digital libraries are electronic libraries in which large repositories of electronic objects.

Recent development in information and Communication Technology (TCT) especially the internet and the web have brought significant changes in the ways of the information being generated, distributed and accessed and being used.

Digital Libraries will include all the process and services that are the backbone and nervous system of libraries. However such traditional processes, though forming the basis digital library work, will have to be revised and enhanced to accommodate the differences between new digital media are traditional fixed media.

Digital libraries will require both the skills of librarians and well as those of computer scientists to be viable.

Advantages of Digital Library :

1. Preservation of rare materials - Rare and Valuable documents can be preserved for the next generation because of digitization.
2. Multiple Access :- As the Material is available in digital format it can be accessed by more users at a time. Thus fourth law of library science is followed because of digitization.

Saves Money :

Already parent body sanctions less amount to the library so library professionals can overcome this problem with the help of consortia, Inter Library lord and resource sharing. It is possible to get access to the most costly e-journals be utilized for purchasing other reading materials useful for library. Thus because consortia and resources sharing it is possible to collect variety of books and fulfill the demand of users.

Provide Safely :

As open access is necessary in the library reading of books is very common. Digitalization of some rare and valuable books can be protected from stealing, insects and fungus. E-journals and E-books solve. The problem of missing the books or the journal. Thus librarian can get relief from these issues.

Storage Problem :

Storage of books is really a big problem in front of librarian. But it can be solved as now a day most of the reading material is available in CD, DVD and online format. Previously Encyclopedia of Britannica was occupied more space but now it is available online and results in reducing the space. Digitalization of some rare and valuable books can be lessens some of the storage. Hundreds of books can be kept in a small CD, DVD, Pen Drive.

Process of Digitization of Library Resources :

i) Policy Approval -

The policy should be approved by appropriate authorities before project implementation for instance, a university library may need the approval of the university management and other funding agencies before any digitization project can be embarked upon.

ii) Planning, Budgeting and Monitoring :

This is a very essential stage. It is desirable to set up a planning committee that will draw the plan and budget for the digitalization exercise. Budgets for digitization projects should include the following categories.

iii) Acquation of Appropriate Technology :

The plan drawn for the project will determine the appropriate technology to acquire. Technology here refers to all the equipment/ hardware and software that are needed.

iv) Administrative Decision on the procedure to be Adopted :

Decision has to be made on the mode of operation, whether to just establish links with existing digital libraries or to digitize in house or to contract it out. There is a need to establish time limit for the project.

Copyright Permission :

Violation of the copyright laws should be avoided. It is not necessary to obtain copyright permission for materials published before 1922. Copyright permission have to be obtained for materials to be digitized, particularly those that are not available in the government domain. When the copyright permission is granted, it is essential to enter the date of approval and the name of the person who granted the permission into the database. If an item is still under copyright, it can be digitized for in house use only. Usually copyright state men's permit educational and non-educational usage.

Preservation :

Tapes, hard discs, CDS, and Floppy discs have a very short life span the data on them can be refreshed keeping the bits valid, but refreshing is only effective as long as the media are still current. The media used to store digital materials become obsolete in anywhere from two to five on older media could be lost because there will no longer have the hardware or software to read them. Thus, libraries will have to keep moving digital information from storage medium to storage medium.

Conclusion :

In a conclusion we can say that digital library the electronic library, which the information is stored in the digital form with the advancement and new technology in the field of information. The librarians need improve new skills using the new technology and its sources. The librarians have started subscribing to the web-based full text electronic journals with availability of high speed internet connection users are satisfied with the CD-ROM, and education information and counseling services respectively the digital library supplements the present infrastructure and the information professional to meet the information need to the people by providing timely and qualitative services. The digital library services save the money as well as time of the wares and staff also with qualitative services.

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Social Networking Sites in Libraries

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Abstract :

Now a day's Information Communication Technology is approach to transmitting the idea or thought or information between one to another and understanding through the interaction, in other words it is the act of sharing or exchanging information, ideas or feelings. There are various technique to communication that establish through the network, web technologies are creating more friendly, social and fun environments for retrieving and sharing information and one of such Social networking websites are a good example of communication network and it is a social structure that lets the user interact and work collaboratively with other users. In the field of LIS services have realized the need of social media networking in their organizations so that social media networking can be used inside the organizations. Now it is time for LIS professionals to embrace a new embedded technology into their day-to-day activities. The present paper highlights the need, purpose, Role of librarian and Social Networking sites in libraries.

Keywords- Social Media, Academic Libraries, Social Networking Sites (SNS), Library services, Role of Librarian.

Introduction :

Today, in the age of information technology the library users are more techno savvy and need micro information about the subject . Now a day's everyone is connected with each other by means of various social networks like Orkut, Google, Twitter, Facebook, LinkedIn, etc. This became an effective medium to share the knowledge and skills of the users and library professionals. From the traditional searching process for the books in the libraries the interactive usage of social networking can be now addressed as part of the library system. Social Networking sites are one of the new technologies offering libraries the opportunity to reach out to its clients. In the changing era social networking play a crucial role for growth and development of higher education and explosion of information and transition from print to electronic have influenced the user behavior. It can also play an important role for sharing, collaboration, community building and participation. This technology exists in different forms such as wikis, social bookmarking, and blogs podcasts. Social media is a powerful new form of communication and the number of users on popular social media sites is growing at exponential rates. Millions of people are using social media tools as part of their everyday lives for work, studies and play because of its ubiquity. Academic libraries abroad have found the use of social media as an effective communication tools to interact with faculty staff and students in new ways.

Social Media and Social Networking

Social Media is the collective of online communications channels dedicated to community based input interaction content sharing and collaboration websites and applications dedicated to forums micro-blogging social networking social bookmarking and wikis are among the different types of social media. Social media is becoming an integral part of life online as social websites and applications proliferate most traditional online media include social components such as comment fields for users in business social media is used to market products promote brands connect to current customers and foster new business.

Social Networking is a composition of individuals or organization, which are attached with one or more individuals such as friend, neighborhood, small communities etc. In the professional field, especially in the workplace, university and colleges, it is most fashionable online networking site among the individuals. This is because of the widely spread of internet in the work places like colleges, universities and other work places the individuals gather and share their first hand experience and information among them.

Social Networking Site

Meaning: Social network is a website that brings people together to talk, share ideas and interests, or make new friends. This type of collaboration and sharing of data is often referred to as social media. Unlike traditional media that is often created by limited people only, social media sites contain content

that has been created by hundreds or even millions of different people.

Social networking sites are new developing technology in sharing and disseminating information product with in the users. The primary role of SNS's in library to make an interaction between library staff and users. The SNS are effective tool for library professionals to promote their services as well as marketing of the information products.

Definitions:

- According to Computing Dictionary (2011), Social networking site as any website designed to allow multiple users to publish content of them. The information may be on any subject and may be for consumption by friends, mates, employers, employees just to mention a few.
- “Social Networking is primarily Internet based tools for sharing and discussing information among human beings.” – Wikipedia

Features of Social Networking

Services Social networking in the field of information landscape can be great contributor to the field of information poor society. It has several unique features that can serve the user community where availability of resource is a great challenge to library field. Library should experiment and come forward to accept this new budding technology. It has some major features like social collaboration, easy surfing, more participation, private messaging can be easily possible by communicating thousands networks, discussion forums, events management, blogging and commenting, media uploading, multimedia enabled, interactive and collaborative learning .

Need of Social Networking Sites in Libraries

Social Networking Sites are interactive mediated technologies that facilitate the creation & sharing of information ideas, career interests & other forms of expression via virtual communities and networks. It was a web – based medium through which people can share content, personal opinion, spread news, swap perspectives and generally communicate with other people. Evidently social media brings into use the newer, better and more useful systems and technologies that are for everyone. Libraries have historically been places to receive information, create an environment to disseminate the information; but they had a limited role in contributing information flow for organizing, disseminating, archiving, evaluating and systematising for better world. It is a fact that libraries are part of the solution and as information professionals we are bound to deliver information service for the enhancement of the society. This accountability makes us to understand social media for implementation, delivering of service for connecting with our user.

Social Networking Sites in Library Environment

Social networking sites are web-based services that allow individuals to construct a public or semi-public profile within a bounded system. Social networking sites allow librarians to adopt a new role by placing themselves into a social realm with users. By reading blogs, group postings, and message boards, the librarian becomes an active participant, who is able to anticipate and advise patrons as needs arise. Linking to patron profiles also keeps the library within the consciousness of users,

There are many social sites like face book, twitter, my space, blogs, wikis, LinkedIn, you tube, what's up etc and many more to stay with all aspects in this challenging time library a library services should also use of this type of social media networking to provide fast and quick respond to its users and promoting of library services effectively to users use of social median networking library services reach to its user in a very less time.

1. Face book: It is social network service and most popular now because it is useful for sharing the user profile, photos and personal information. It is also share the public & private messages. Face book is Librarian friendly, with many applications i.e. World Cat, JSTOR search, instant messaging system- to answer queries over chat. It is also useful in libraries for developing user database i.e. create user groups or profile like undergraduate, postgraduate students. Face book is useful for posting library events & its photographs i.e. Librarians Day, The world Book day, Teachers day, Science day and it also alerting user about upcoming events. We can use the blog features in Face book to inform the user about the new arrivals, most borrowed books etc. It is also useful for sending virtual gift for the special occasion about the student or faculty.
2. You Tube: It has certain user friendly features like play back, quality codes, 3D videos, content accessibility, etc. It is useful in libraries for developing Digital Video Library, Library website may share the most downloaded video relevant to a celebration like Librarians day, environmental day, teachers day, father’s day etc. It is also useful for uploading institutional events, videos i.e. guest lectures. Important celebration / meet like conference, seminar, library

- guide, library orientation etc.
3. Flickr: It is an image hosting social media service provider. Flickr supports the sharing videos, photographs to all or to a group, or to an individual and provides tools for organising the photographs. Flickr is a powerful photo storing & sharing social media tool available for free therefore librarian can use this tool to store, share and distribute new images/photos of library collections i. e. cover page of new arrivals of both books as well as journals can be disseminated to users via Flickr.
 4. Library Thing: It is social cataloguing network is great for libraries and librarians can catalogue along with Amazon, the Library of congress, and more than 200 other libraries around the world. Librarian will get recommendations and easy tagging as well. It is freely available tool, it also allows a library to add 200 titles without any fee and charges.
 5. Twitter: It is a micro blogging application, to keep users and staff updated on daily activities, like frequently updated collections. Users can utilize this platform to type in short messages or status update. Librarians can use this platform to give user firsthand information about new arrivals, current content.
 6. MySpace: It is most popular social networking sites, which primarily have a social function allowing people to make friends, talk online and share resources. In academic institutions where the students are; libraries have taken advantage of this site to post, calendar, custom, catalogue search tools, and blog features to improve their presence.
 7. LinkedIn: It is useful for professionals is a great way to get library patron connected with the people that can help them find information. Librarians can get users connected with specialists in their particular field of interest via LinkedIn. Librarians can use this service such as Strategic Dissemination of Information.
 8. Blogs and Wikis: Blogs are Web pages consisting of user-supplied content in chronological order (Boxen, 2008). Wikis are open Web pages that allow approved users to add and alter a page's content (Boxen, 2008). Many students have their own blogs and most have encountered Wikis at some time. Thus, most students are familiar with both Web formats. Blogs and Wikis encourage interaction and collaboration among users, an important component for a new outreach tool.

Academic Libraries can also respond to the needs of modern day patrons by applying efficient technologies such as social networking, mobile application, and online check in/check outs to their service delivery. These developments in the operations of library service delivery should encourage libraries to reinvent itself to respond adequately to this call by investing in technologies that have direct effect on the operations of the library. To achieve this, libraries must upgrade library staff skills in information Technology so as to be able to understand and use Social Networking sites to their maximum.

Benefits of Social Networking Sites to Libraries

Social networking sites have its own advantages to Librarians and Clients . Following are some benefits

- The Social networking sites will facilitate collaborations and promote effective communication between librarian and their patrons.
- It will generate a flow of information excluded from search engines and library catalogues.
- The crucial aim of librarians is to make library resources available to patrons so as to social networking sites help to achieve this goal.
- Social networking sites wall linked to a library's web pages has the potential of reaping great results by attracting and serving distance education students .watts etal in 2002 stress that it is through social networking sites that any person is capable of communicating and delivering a message to a distance target person.

Role of Librarian

The Concept of physical library is changing towards digital library. Social networking websites is a new technology offering promising new outreach options for academic librarians. The academic library professional from India are utilizing these tools for providing new way of library services. Librarian should follow the public conversations, posts, updates and events of these key individuals & proactively offer advice, resources and help. Understanding and articulating the nature of social networking sites creating webpage content , establishing feignedly users with the skill acquisitions. Librarian should act as an active participant of the social space and be able to identify the needs of the members of the library communities and to offers solutions by offering information links to websites that relevant to their information needs and even direct offers to help. The growing use of social networking tools calls to

librarians to develop 21st century skills on digital technologies. Libraries can connect, their social networking sites with their library websites to link their chat, reference pages, research guide, calendar of events news etc.

Conclusion :

Social networks are one of the best ways to maintain closer relationships between libraries and their users. SNS maintain relation with users to guide them and literate them about library services and resources. Right now usage of social media is in library experimental stage, in future SNS will play very important role in library services. As per developments taking place in the society users thinking and attitude are changing towards library. The users want to acquire information in a quicker and less time so; library professionals need to adopt social networks technology in their libraries to provide centric services to users in this digital environment. Therefore library professionals should be aware of new technology development taking place in the society, its helps to give better services to the user community. In the age of ICT, changing needs of library users the libraries and library professional's needs to be changed accordingly.

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Bulk SMS Services in Academic Library

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Abstract :

This service is used for sending bulk messages to the users of libraries. In this service, send one message from a mobile phone to bulk SMS application. In this paper we have discussed Bulk SMS mobility services have transformed communication and taken it to an all new level. How to work this services in the library. What is Bulk SMS?

Introduction :

SMS stands for Short Message Service. It is a technology for sending and receiving messages between users and mobile phones. SMS first appeared in Europe. SMS is uses full system for Communication and extensively making using for sending messages for personal, students, consumers, business man and other informative purposes.

Libraries in also have started using SMS for communication with members and utilize to sending alerts and notifications of library. The main advantages of SMS is Sending and receiving messages to individuals user and Group of users. Often mobile phone carried by the owner most of the time, whenever it is received, it will be notified immediately irrespective of the time and location.

Bulk SMS mobility services have changed the way of transforming of communication and taken it to an all new ways. The increasing accessibility of mobile phones and development of advancements in technology is an easy way to send bulk SMS user without spending too much money. In India's number one SMS service provider is available and they provide numerous options to stay in touch with your users, staff and others. In India, the concept of sending bulk SMS is becoming more popular day by day. Bulk SMS services help to send message for book issue, return reminder, overdue and other forms of communication to the library user across a wide geographical area.

What is SMS?

SMS is a short form of Short Message Service. This service is commonly used to sending text message through mobile, smart phones and web for communication, using standardized communications protocols for sending short messages of up to 160 characters. SMS is do similar work as a paging. For sending SMS it is not essential the mobile within range. If you have send SMS to not reachable mobile, then when you will come in the range you may received SMS. They can also be sent SMS to any communication devices in a number of other ways, such as

- From one digital phone to another
- From Web-based applications within a Web browser
- From instant messaging clients like ICQ
- From VoIP applications like Skype
- From some unified communications applications.

(Margaret Rouse 2007)

What is Bulk SMS?

Large numbers of SMS messages are dissemination from one mobile to numbers of mobile is called as Bulk messaging

It is mostly useful for by banks, business man, companies, enterprises, etc for marketing, entertainment, selling etc.

Number of Bulk SMS providers in India. Some Bulk SMS providers list will give you detailed information

1. Text Local

TextLocal is based in the UK and offers services in India l. Its services comprise of Bulk SMS, 2 Way Messaging and Email to SMS.

2. Kaleyra

In 2018, Italian enterprise Ubiquity and Indian company Solutions came together to form an International group-Kaleyra.

3. Spring Edge

It is a wide range of SMS services, Its include a 2-way communication and customer loyalty programs.

4 Digimiles

It's services comprise of Bulk SMS API, Transactional SMS Service, OTP SMS and Promotional SMS.

5. Msg91

It provides various products including OTP, Transactional & Promotional SMS, from 2010,

6. Kapsystem

From 2009 Kapsystem later entered into Bulk SMS services.

7. 2Factor

It is good services for its cloud mobile messaging via REST API calls. it provides SMS through OTP and Voice Call.

10 It is well known bulk SMS service provider in India. Bulksmsgateway SMS Service is a complete Bulk SMS Solution. It is useful for small to large companies.

SMS Prices For Bulk SMS by smsgateway

Transactional SMS

SMS Credits	Price /SMS	SMS Price	GST Tax(18%)	Total Price	Validity
10000	0.18	Rs.1800/-	Rs.324/-	Rs.2124/-	Unlimited
25000	0.14	Rs.3500/-	Rs.630/-	Rs.4130/-	Unlimited
50000	0.13	Rs.6500/-	Rs.1170/-	Rs.7670/-	Unlimited
100000	0.12	Rs.12000/-	Rs.2160/-	Rs.14160/-	Unlimited
200000	0.11	Rs.22000/-	Rs.3960/-	Rs.25960/-	Unlimited
500000	0.10	Rs.50000/-	Rs.9000/-	Rs.59000/-	Unlimited

Promotional SMS

SMS Credits	Price /SMS	SMS Price	GST Tax(18%)	Total Price	Validity
25000	0.12	Rs.3000/-	Rs.540/-	Rs.3540/-	Unlimited
50000	0.11	Rs.5500/-	Rs.990/-	Rs.6490/-	Unlimited
100000	0.10	Rs.10000/-	Rs.1800/-	Rs.11800/-	Unlimited
200000	0.095	Rs.19000/-	Rs.3420/-	Rs.22420/-	Unlimited
500000	0.090	Rs.45000/-	Rs.8100/-	Rs.53100/-	Unlimited
1000000	0.085	Rs.85000/-	Rs.15300/-	Rs.100300/-	Unlimited

Voice SMS Prices ForBulkSMS

Promotional Voice SMS Rates

Packages	Cost /Call	Call Price	GST Tax(18%)	Total Price	Validity
25000	0.20	Rs.5000/-	Rs.900/-	Rs.5900/-	Unlimited
50000	0.18	Rs.9000/-	Rs.1620/-	Rs.10620/-	Unlimited
100000	0.16	Rs.16000/-	Rs.2880/-	Rs.18880/-	Unlimited
500000	0.14	Rs.70000/-	Rs.12600/-	Rs.82600/-	Unlimited

Transactional Voice SMS Rates

Packages	Cost /Call	Call Price	GST Tax(18%)	Total Price	Validity
25000	0.22	Rs.5500/-	Rs.990/-	Rs.6490/-	Unlimited
50000	0.20	Rs.10000/-	Rs.1800/-	Rs.11800/-	Unlimited
100000	0.18	Rs.18000/-	Rs.3240/-	Rs.21240/-	Unlimited
500000	0.15	Rs.75000/-	Rs.13500/-	Rs.88500/-	Unlimited

Reference:- Table of SMS Prices For Bulk SMS is taken from bulksmsgateway.in

BulkSMS services in AcademicLibrary

Libraries can create SMS groups for circulate information of library to among users. in library SMS services is first new users join this service then they will be free to receive the messages from the library. They will receive sms regarding reminder of expiry date of B.T ,overdue books, library notice etc.

Bulk SMS service lay ability to broadcast messages to a group of users. Libraries SMS groups sending job alert, library events, library information, etc to both library users and the whole community. Librarian should give more publicity about these this services among users. Library websites, information brochures, and information display at notice boards/ key areas are necessary to attract users to join in Bulk SMS groups.

Today's users see their phones so many times in a day, so Through Bulk SMS services library can automate all communicational processes, save time, reduce postage charge and your users have receiving better information simultaneously.

Conclusion

This type of service brings an important contribution for managing aspects. This service, in a way help the libraries provide information services outside the traditional areas of the library.

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E-Book Readers: a study

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Abstract :

The age of smart phone and 5G technology, book available in electronic format i.e. a e-book. E-book can read on smart computer, laptop and on e-book reader device. The main purpose of this paper is to introduce and update the various best e-book readers, their usage, special features and types of devices available in market of various companies. Feature wise Kindle of Amazon company is cost effective and convenient for use. This paper also highlight the merits and demerits of various E-book readers.

Keywords- e-resources, e-books, e-book readers, smart phones

Introduction :

Information technology has changed the means of dissemination and the flow of information is not restricted by any kind of boundaries. Recent advances in ICT and computer applications have brought radical changes in the way of information is generated, stored, organized, accessed, retrieved and consumed. The E-book form is an electronic version of printed books that are delivered to customers in digital formats. The term electronic book was formulated by Andries Van Dam, a faculty at Brown University. The term portable or handheld E-book emerged in the late seventies. The first e-book titled 'Dyna Book' was introduced by Alan Kay, a post-graduate student at Utah in 1968. Adobe Acrobat also is known as pdf reader is the commercial software for displaying and viewing electronic text. The contents of an e-book are the usual text, graphs, illustrations, maps, etc., just like that of printed versions of the books. The electronic content is transmitted and/or displayed on a device (hardware) called e-book reader (a portable electronic device very similar to personal digital assistant (PDA) computer), to be read by the viewer. It is almost similar in experience to reading a printed book.

E-book Readers

E-books readers are portable digital devices that display text and images. In their internal memory, they can store a number of documents as per capacity, so it really is possible to have a library in your pocket. Although they are called 'e-book readers'. In 1998 America Launches two e-book reader in market i.e. Rocket e-book reader and Soft e-book reader

Basic Features and Merits of E-book reader:

1. Portability:--E-book reader is small and light. It fits easily in a handbag, pocket so you take it with you everywhere you go.
2. Capacity:- Capacity of E-books is more you can upload many books on it according to the capacity of it.
3. Free books:- There are thousands of free e-books on the Internet. You can save a money and time and motion using an e-book reader; there is no need to go to the book store or the library anymore.
4. Support for popular ebook formats:- E-book Reader perform with the most well-known ebook formats, like as ePub, MOBI, FB2, CBZ, CBR, PDF and TXT.
5. Easy Management:- The functions supports formulating and filtering the e-books in various groups: recently read, all books, choice, or filter the content by format
6. Notes:- It's easy to select text from e-books and focus it and add notes with text to it. The notes and highlights can be viewed, sorted, edited, deleted and saved as HTML files.
7. Bookmarking:- Use bookmarks to never forget the important pages. By bookmarking a page, it becomes easy to go back to it after switch off the application. Furthermore, the programs accordingly switch users to where they have closed at in case a bookmark wasn't added.
8. Easy finding:- Use the "Search" option to find the choice content while reading a book. The application is ready of finding by words or phrases and also by pages.
9. Content customization:- It's simple to break the content into two columns or read it in a effective way. Besides, the reader can make the content smaller or larger by clicking the

buttons.

10. Data sorting:- All data displayed in the Table view mode that is a book title, author, progress and added on a date can be sorted out in ascending or descending orders. To do that simply click the title of the column that you want to sort.
11. Library import and export:- Reader can import the Library to back-up the current progress and they export the archive file with the previous backup to ship the old Library version.
12. Save the environment and money
13. Audio content: If the device supports the feature we can make audio material available, for example, the spoken word version of books(audiobooks). The ebook reader could also include music, podcasts, language lessons, and spoken guides.

Demerits of E-book Readers:

1. Less awareness about recent technology
2. Eye fatigue caused by the color display from the screen of the device
3. Although the battery life of e-readers is long, they do still have a limit.
4. A shortfall can crack the reader's screen.
5. Digital Right Management (DRM): DRM is a barrier. It has been said with some justification that DRM only ever inconveniences legitimate customers. The idea of being able to download all e-books as TXT, RTF or PDF files for easy use on any device has not happened, meaning that if you source e-book content.

List of Top E-book readers in 2019 and 2020

Points: Reader name	Kobo Clara HD	Kobo Libra H2O	Amazon Kindle Kids Edition	Amazon Kindle Oasis (2019)	Amazon Kindle (2019)	Barnes & Noble Nook Glow Lights	Kobo Forma	Barnes & Noble Nook Glow Light Plus (2019)	Amazon Kindle Paper white (2018)
Best For	Library and Third-Party E-book Reading	Library Borrowers and Manga Fans	Kids and Budget Buyers	Style-Conscious Amazon Fans	Budget-Minded Readers	Barnes & Noble Readers	Waterproof Third-Party and Library E-book Reading	Waterproof Barnes & Noble Reading	Amazon Reader
Dimension	6.3 by 4.3 by 0.3 inches	7.1 by 6.3 by 0.3 inches	8.4 by 4.7 by 0.3 inches	8.5 by 5.6 by 0.3 inches	4.5 by 6.3 by 0.3 inches	6.9 by 5.0 by 0.4 inches	6.3 by 7.0 by 0.3 inches	6.3 by 5.9 by 0.3 inches	6.8 by 4.8 by 0.3 inches
Weight (Gram)	181.28	192.77	189.18	192.77	171.95	189.94	197.02	171.15	181.43
Storage Capacity	8 GB	8 GB	8 GB	32 GB	4 GB	8 GB	8 GB	8 GB	32 GB
Screen Size	8 inches	8 inches	8 inches	8 inches	8 inches	8 inches	8 inches	7.8 inches	8 inches
Book Formats	EPUB, PDF, TXT, HTML, RTF, CBZ, CBR	EPUB, PDF, TXT, HTML, RTF, CBZ, CBR	PDF, MOBI, TXT, HTML	PDF, MOBI, TXT, HTML	PDF, MOBI, TXT, HTML	EPUB, PDF	EPUB, PDF, HTML, RTF, CBZ, CBR	EPUB, PDF	PDF, MOBI, TXT, HTML
Waterproof	-	Yes	-	Yes	-	-	Yes	Yes	Yes
Editors Rating	4.0/5	4.5/5	4.0/5	4.0/5	3.5/5	3.5/5	3.5/5	3.0/5	4.5/5
*Price (Rs.)	9200-	12000-	8000-	14500-	2000-	3500-	20000-	14200-	8100-
Pros	Small and light Color-changing Front light Excellent native file format support	Physical page-turn buttons Color-changing Front light	Popular books are free for unlimited access	Adjustable backlight Slim, striking design Bright long screen Waterproof	Front light Similar performance to other e-readers	Sharp screen Color-changing Front light goes from blue to yellow Physical page turn buttons Pub support	Big screen is great for large type and manga profiles color-changing front light for its size Public library integration Handles many file formats	Supports protected child profiles color-changing front light standard 3.5mm headphone jack	Waterproof Front is easy to clean Plays audiobooks over Bluetooth Long battery life
Cons	Not waterproof Awkward QWERTY interface	No library option No audiobooks Can't read Kindle books	Too small for most picture books, comics, and magazine	Expensive Clunky QWERTY keyboard Compatibility	Not waterproof Relatively low resolution Screen Date design	Sluggish UI Limited store selection Awkward for library books	Expensive Not pocketable Materials don't feel premium	Software is poor Doesn't support concentration on Reading	

*Price has been converted to US dollar to Indian Rupess., **Red colour font highlight the highest number . (<https://au.pcmag.com/ebook-readers/4786/the-best-ereaders>)

Conclusion:

I would like to conclude that the e-book readers are useful to increase reading habit among the readers. It is convenient for handling, Carrying and more cheaper than the print edition. Amazon kindles paper white and kobo Libra H2O is most popular device according to the user review on the amazon's website. It saves place, time & money. But still, because of lack of knowledge of technology and preference to print edition of users, e-book readers are not in use in our country but in foreign country readers are very keen to use it.

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Digitization of Libraries Effect on Readers and their Reading Habbits

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Abstract :

Digitization is the process of converting the documents into digital format. It is and helps in early storage, transmissions and communication of information stored. In recent year's digitization of libraries have gained vast popularity as it gives information any time anywhere and also requires very less space we may say rich information in less space. Digitization has also helped scholars for R & D as they get access to scholarly information. Digital libraries are organized source of information's. They are collection of books, letters, diaries, manuscripts, etc; Digitization of libraries is made for creating, managing and hosting the information which is digitized. Reading as the basic requirement for the gathered / stored information is most important factor. Reading means acquisition of language, communication of sharing of information and ideas. Reading is a prose of analyzing, understanding and deriving meaning and comprehending the thoughts. This article highlights the identification of matter to be digitized, planning, selection of data, copyrights, etc, and understanding the digitization of libraries on basic of readers & reading habits.

Keywords- Digital libraries, Digitization, Reading Habbits, Readers, Library Digitization procedure, Software Analog Collections. Knowledge Resource Centers (KRC)

Introduction :

Digitization is the processes of converting text pictures sound, printed material, manuscripts in the format which can be proceed by a computer. They are converted into electronic format which can be accented and made available using latest technologies such as computers, laptops, smart phones, tablets, etc as libraries are termed as knowledge Resource centers, which clearly identifies that vast Resource have been accumulated and stored which is made available to the reader whenever required.

Knowledge is and will be continuously required. Knowledge has been continuously transferred from one generation to another generation. Many efforts have been taken by the generations together to transfer the knowledge may it be related to Mythology , history science, literature, etc., every generation has developed its own transfer methodology so as it can be made available for the coming generations. Stone tablets to oil painting to pigments in paper to books to photographic films to magnetic records to disk to optical disk. Every time the methodology of transferring the information is scientifically evolved.

Nowadays increased access to internet through mailing services, online display of data, display of information etc; is giving timely, accurate relevant and current information to the asters. Internet computer teaching has also gained rapid acceptance throughout. We have all personally used libraries to gain inspirations spiritual, social and academic knowledge, and we all have done through reading many personalities who have kept a mark on society and the world at large were rigorous readers and used the library services for growing their own intellectuality and further contributions and present evaluations are made available by the libraries now termed as Knowledge Resource Centers.

Providing good literature, value based education materials, out come based knowledge materials are the basics of a good library and making them all available to the potential reader is the primary responsibility of a librarian, making all these things possible will be the important contribution of KRC and the librarian by having a greater share in mounding and building a happier individual and a better society. The use of digital library will make the functions of library easier, more efficient, faster, broader inscape as compared to conventional libraries.

Library-KRC has no value if it cannot impart a substance to the learner to get educated. Educational development and a substance to education through providing apt material are two inseparable concepts; one perishes if separated by another.

In this paper, an effort is made to place the importance of library -KRC, digitization of library -KRC, Development of education through assistance to readers and attracting readers by developing reading habits.

Conceptual framework

Purpose of digitization

These are two main objectives of digitization

- i) Preservation of existing knowledge resources for future generation.
- ii) Providing access to the preserved resources.

Preservation through Digitization

Information's preserved by Wikipedia org, we can get the information related to the wrath of nature and humans on libraries and sources of knowledge, for instance history clearly mentions that the most renowned repository of Buddhist knowledge – Nalanda University was burned in the year 1193 which contained 9 million manuscripts having roots of knowledge, Buddhism and Ayurveda. The past history of the world relating to destruction of knowledge is very painful and disturbing. More than 85 great libraries of ancient past to present have faced destruction. The recent destruction caused was in 2015 which contained 8000 books rare and old manuscripts from 18th century which happened in Iraq.

Any kind of loss to knowledge resource is the great loss to the present generation of mankind and coming generations. The survival of any kind of life is depended upon the survival of the knowledge and the resources imparting knowledge. The complete ecosystems of our mother nature earth in itself is the source of knowledge and all the discoveries and inventions made by human being right from the beginning carry importance which cannot be measured and explained in words. Information requires safety and also requires retrieval whenever necessary. A student entering into Engineering, Medical, and Law, Humanities Discipline will require the knowledge of that chosen discipline as well as information related to the discipline which will further help him to establish self in the society and the same is done by KRC's.

Through digitization the knowledge and information will be preserved which will provide integrated access to the available source in digital format which can be governed and available source in digital format which can be governed and controlled and made available according to the user group digitization has potential for qualitative of information and the quality remains the same inspire of multiple usage.

Same information can be accessed by multiple users at the same time which is termed as multiple referencing. Through digitization user can get wide area of access through multiple windows of networking and can be retrieved as per requirements which saves time of the user and user also is benefited at the time when required. Archival storage, security, linkage to database is all benefits of preservation of knowledge resource and information.

Through identifying the requirements importance of the source of knowledge and the contribution of the source to the society through conducting survey and identifying the interest of user for specific collection, the librarian can preserve the data for the user groups.

Before entering into digitization, librarian personnel of the knowledge resource shall analyze some following parameters for digitization

- Identify the requirement
- Conducting survey of requirement
- Considering technical factors which are available,
- Planning and consulting costs,
- Salary and training cost for manpower involved in digitization,
- Digitization cost
- Quality check cost.

After completing all the necessary activities and responsibilities, the most important factor for which all the efforts are taken is the Reader and to provide access to the Preserved Resources.

Providing Access through Preserved Resources:-

All the preserved data is to be provided to the user through an access point is the important task of the Librarian or the personnel of the Knowledge Resource. The data nowadays is made available through search engines, for example – Google, DuckDuckGo, Bing, Wiki, Twitter, Internet Archive, etc., The Librarian or the personnel of the Knowledge Resource by following certain procedure can provide the access, he has to

- Treat the users as customers,
- Enable continuous innovation,
- Try to make things better, faster, cheaper and more convenient,
- Making data more personalized for users.
- Expedite the systematic development of procedure to collect, store and organize the information form.
- Encourage co-operative efforts in research resource, computing and communication networks.

Through making the preserved data available and accessible will provide the platform for E-Learning

and E-Reading and will overcome the problem of the getting access to the User Groups at large.

Readers and Their Reading Habits:-

Reading (Cunningham, 2001) is done in initial stage for decoding, word recognition and comprehension. Reading has been an intellectual activity and has created a clear differentiation between literate and illiterate. Reading has different effects on different stages of Life, and hence reading varies. At college level it is part of academic requirements, during Research it is the part of generating of new knowledge and ideas. In knowledge world, people reading are in pursuit of getting excellence and for persons who read out of compulsions are habitual readers. So at all the stages of an individual – Child, Adolescent or Adult, reading varies and the habits accordingly vary too.

As the format of available information has been changing according to changing time and technology, the reading habits of the human beings have also changed. The basic objective of reading was to acquire knowledge and evolve and again transfer the gained knowledge from one generation to another. The published paperback books had the danger of decay, destruction, chemical changes, paper quality and life, wrong treatment of paper. And hence, Digitization has its importance as all data of past historians to the future generations of the art, science, news, and all other records when digitized, we can outlast even for our own life times.

A common mans perception towards hard bound books is that they give a feeling of being good, they are preferred when one really need to concentrate, underlining the important sentences, creating notes after reading, etc have certain impact on the intellect of the individual and has deep advantages on the readers life. Arrival of Internet, Kindle, Smartphone's, Tablets, etc has proved benefactors to them who are unable to go the Libraries, zoom in option has helped those groups who have vision difficulties such as patients having medical problems, old aged peoples, etc., whereas the 70-80% mass group of young readers have switched the other part of Internet such as, Social Media having – Facebook, Whatsapp, Instragram, SnapChat, Online Games, etc., which have taken away the larger group away from Reading. The Librarians have to be well learned and well updated to face these groups when creating a readers group and has to be much creative to tackle the needs of the young readers.

Possible Solutions and Conclusion:-

Through careful management of digitization activities and indentifying the areas of structured service the digital library will provide quality services to the users and to the organization. The Librarian or the Personnel of Knowledge Resource Center shall be well versed with all technologies available and treat the users as customers and even he should use the techniques of Management Studies such as Customer (Reader) Satisfaction, Market Survey, Customer (Reader) Demand, Changing Market Trends for Customers (Reader), etc., and learn new techniques to attract the users / readers. Through becoming well versed with the available resources the Librarian or the Personnel of Knowledge Resource Center can give a proper justice to Digitization, Reader and develop Reading Habits.

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Digital Libraries in India : Issues and Advantages

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Abstract :

A digital library, digital repository, or digital collection, is an online database of digital objects that can include text, still images, audio, video, or other digital media formats. Digital libraries can vary immensely in size and scope, and can be maintained by individuals or organizations. Digital libraries will start gaining ground in India in the present century. We are heading toward an environment in which digital information may substitute for much print-based information.

Present Paper Discuss on How many Digital Libraries In India and There issues and Advantages. There are different type's digital libraries in India. In this research paper Mention about features of Digital Libraries and its Services Provide to Readers.

Keywords- Digital Library, Database, Services and Reader.

Introduction :

Digital Libraries basically store materials in electronic format and manipulate large collections of those materials effectively. Research into digital libraries is research into network information systems, concentrating on how to develop the necessary infrastructure to effectively mass-manipulate the information on the Net. The digital library is not a single entity; The digital library requires technology to link the resources of many services that are transparent to the end users; Universal access to digital libraries and information services is a goal; Digital library collections are not limited to document surrogates: they extend to digital artifacts that cannot be represented or distributed in printed formats.

The digital library is the collection of services and the collection of information objects that support users in dealing with information objects available directly or indirectly via electronic/digital means.

Present Paper Research on Various Digital Libraries In India and There Services and Brief Information about Digital Library.

Definition:

1. A managed collection of information, with associated services, where the information is stored in digital formats and accessible over a network. 1
2. Collection of Digitized (See Digitization) Documents, Images and Sounds that can be accessed and read by the use of computers. 2
3. A digital library is not a single entity. It requires technology link the resources of many collections. The links between digital libraries and their resources are transparent to users. Digital library collections are not limited to document surrogates (bibliographic records). They are the actual digital objects such as images, texts, etc.

Digital Libraries In India and There Brief Information:

1. Archives of Indian Labour

This Library specialized repository of records and voices of the workers, and contain textual, visual and oral records on labour in India. At present in total 8 special collections comprising 40,000 printed pages, 100 hours of taped interviews are stored in digital form. In addition several special reports and articles on labour history of India are also available on this digital library. This library has been developed using Greenstone open source software at V.V. Giri National Labour Institute, Noida. Registration is required to access the library.

2. Digital Library of India

Digital library of India is a digital library of books, which are free-to-read, searchable, predominantly in Indian languages, available to everyone over the Internet. Very soon it is expected that this portal would provide a gateway to Indian Digital Libraries in science, arts, culture, music, movies, traditional medicine, palm leaves and many more. This project is collaboration between different Indian institutes and Universities and Carnegie Mellon University under Universal Digital Library Project.

3. Digital Library of Indian Institute of Management, Kozhikode

This Library is developed by IIMK library holds documents on management, economics, sociology,

etc and IIMK staff publications. The number of documents included is less as the library is in development stage.

4. ETD at Indian Institute of Science

ETD is the digital repository of Theses and Dissertations of Indian Institute of Science, Bangalore, India. You can search, browse and access theses and dissertations from this collection. This repository has been developed to capture, disseminate and preserve research theses of Indian Institute of Science.

5. Indira Gandhi National Centre for the Arts [IGNCA] Digital Library

IGNCA is a digital library contains digital images, audio and video recordings, animations, electronic books, etc related Indian arts and culture.

6. Librarian's Digital Library [LDL]

This Library developed by DRTC, which contains full text of papers/articles related to Indian Librarianship. Presently it contains full text papers submitted in DRTC seminars, papers submitted by LIS professionals and Students Theses/Dissertations.

7. Nalanda Digital Library

This Digital library is a initiative of National Institute of Technology, Calicut Library. Nalanda Project aims at a full-fledged Digital Library at NITC to cater to the increasing demand for information resources from the Campus User Community as well as from Remote Users from rest of the Country. Some resources are open to all.

8. Vidyanidhi :

This is Digital library and E-Scholarship Portal is planning to develop repository for Indian doctoral thesis. At present it provides access to metadata of Indian thesis and Universities. Few full text thesis [ETDs] are presently available in its database. It started as a project in 2000 with support from NISSAT, Govt of India. The project is based at Dept of Library and Information Science, Mysore University, Mysore, Karnataka.

9. NDL (National Digital Library)

The National Digital library of India (NDLI) is a project under Ministry of Human Resource Development, India. The objective is to collect and collate metadata and provide full text index from several national and international digital libraries, as well as other relevant sources. It is a digital repository containing textbooks, articles, videos, audio books, lectures, simulations, fiction and all other kinds of learning media. The NDLI provides free of cost access to many books in English and the Indian languages.

Advantages of Digital Library:

1. Digital library provides a starting point for all research.
2. The digital library is ideal in support of students receiving their school using distance learning education.
3. The digital library provide excellent opportunities for a broad range of patrons to find appropriate research material all in one place.
4. Digital libraries can be customized so user can have access to what they want and need to use.
5. The Librarian is in full control of the selection of materials for the digital library.
6. The access to information is not dependent on the patron being in one location.
7. Certain attributes of items, principally the nature of pictures, might be moved forward. Digitization can improve readability and expel obvious imperfections, for example, stains and staining.
8. The client of a computerized library require not to go to the library physically; individuals from everywhere throughout the world can access a similar data, as long as an Internet association is accessible.
9. The client can utilize any hunt term (word, express, title, name, subject) to look through the whole gathering. Computerized libraries can give extremely easy to understand interfaces, giving snap capable access to its assets.

Disadvantages of Digital Library:

1. Enough but too many resources.
2. Obsolescence of books.
3. Budget.
4. Access is an equity issue.
5. Client verification for access to accumulations.
6. Copyright.
7. Advanced Conservation.

8. Value of Access.
9. Nature of Metadeta.
10. Data Association.

Conclusion :

Above paper discussed on digital libraries in india and there brief information and services provide to users. And this digital libraries advantages and disadvantages. Digital library Definition.

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Digital Library

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Abstract :

The information is explosion and its applications in every aspect of life have changed the entire scenario of world. The information Technology revolution and information explosion has led to the emergence of electronic information era. Today user are not satisfied with the printed available material. They are printed material or information be supplemented with more dynamic multimedia documents. Digital libraries play an important role in the age of information Technology and it seems that the digital Library concept should be considered a dynamic and essential components of an organization. Changing of rapidly environment, infrastructure and service facilities should be made available according to the needs of as to compete and survive in the age of competitiveness. Trimendes changes in the information environment have transformed the role of libraries in to those of information managers.

Introduction :

The first Digital Library 07/04/1971 on July 4, 1971 Michael, Hart Sent invention of e-Book project Gutenberg the digitized text of the American Declaration of Independence to every one on a computer networks at the University of Ilionis at Urban champaign.

A digital library or digital Collection is an online database of digital objects that can be include text, still images, audio, video on other digital media formats objects can consists of distribution content like printer photographs as well as originally produced digital contents like word processor files or Social media post. In addition to storage content, digital libraries provide means for organizing, searching and retrieving the content contained in the collection.

Digital libraries can vary in mensely in sizie and scope and can be maintained by individual on organization the digital contents may be stored locally or accessed remotely via computer networks. These information retrival systems are able to exchange information with each other though interoperability and sustainability.

Definition of Digital Library :

A digital library is a networked collection of digital objects –text, still in ages, moving images, sound, data-with arrangement, search features and metadata that allow for discovery and presentation, supporting research and teaching and with attention paid to architecture persistence longevity and digital preservation.

- Feature of digital Libraries
- Multiple access.
- Information retrieval.
- Preservation and conservation
- Space
- Added value
- No physical boundary
- Easy accessiable

Disadvantages of Digital Library.

Some disadvantages of Digital library

The computer viruses, lack of standardization for digitized information quick degrading properties of digitized material, different display standard of digital product and its associated problem, health hazard nature of the radiation from monitor etc. makes digital libraries at times handicap.

Conclusion :

Libraries many of their resources and services and the information experts who works in libraries appear to be increasingly less visible in a universe of abundant information, but without data we could not say with any certainly how extensive this apperent shift has become. The perceptions of libraries and information resource center report provides this data.

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Digital Libraries

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Abstract :

Libraries are expanding amount and variety of high quality information resources that are directly available to research users via the web. The term digital library refers to the natural means of the collection of library material can include periodical, multimedia, educational package, encyclopedia, map guides, even books. This Paper discusses the Advantage, concept of Digital Libraries, need of digital libraries, an overview off the digital library.

Keywords- Digital library, Network, Electronic, Information, Collection, Resources, Access.

Introduction :

Digital Library is a collection of information, with associated services, where the information is stored in digital formats and accessible over a network. A crucial part of this definition is the information is managed. The data, when organized systematically, become a digital library collection. Historically the digital libraries concept has been visualized by several people earlier.

A digital library is a library in which collections are stored in digital formats and assemble by computers. The digital content may be stored locally, or accessed remotely via computer network. A digital library is a type of information retrieval system.

Definition

Digital libraries are organization that provide the resource, including the specialized staff, to select, structure, offer intellectual access to interpret, distribute, preserve the integrity of and ensure the persistence over time collection of digital work so that they are readily and economically available for use by a community or set communities.

Advantage of Digital Libraries

Digital library has changed face of library with the help of digital library. Libraries are now offering better services which are never imagined before some time following are the advantage of digital libraries.

- 1) No Physical Bounder :- People from all over the world could gain access to same information as long as an internet connection is available. The User of digital a library need not to go the library physically.
- 2) Networking :- A seamlessly interesting resources sharing can be achieved by providing the link to any other resources of other digital by the particular library.
- 3) Information Retrieval :- Digital Library provides very faster user friendly interfaces, single click of the mouse help to access resources, the user is able to search entire collection of the library.
- 4) Multiple Access :- Electronic resources can be accessed by number of users at the same time.
- 5) Space :- Where as traditional libraries are limited by storage space, digital libraries have the potential to store much more information.
- 6) Round the Clock availability :- A Major advantage of digital libraries is that people can gain access 24/7 to the information.

Concept of digital library

- 1) A digital library is an electronic library.
- 2) Digital library includes text, photograph, drawing, artwork, numeric data, images.
- 3) Digital library is group of interlinked workstation connected to high speed network.
- 4) Information is acquired, stored and retrieved in digital form.

Need of digital libraries

The trend of Globalization and free marketing increases global competition in all fields and also it increases fast development in the knowledge industry and human resource development. Within the next decade, most of the information output created in our society will be made and communicated only electronically.

Digital mode of the common factor which are influencing to change to digital mode are the limited

buying power of libraries, complex nature of recent document and storage problem, to the following factors.

- 1) Emergence of internet and web technologies as a media of information delivery and access. The internet particularly world wide web (www), allows rapid access to a wide variety of networked information resources extending a uniform interface to a vast number of multimedia resources. The web, being a hypermedia based system, allow linking amongst electronic resources.
- 2) Searching problem in traditional libraries : In traditional libraries is not easy to find the pinpoint information to the right time.
- 3) New generation need : Today users are demanding information in electronic form and minimum time.
- 4) Information Explosion : There is explosion of information generation and publication.
- 5) Environmental factor : The use of Electronic resources decreases the paper publishing and it automatically saves the trees.

Conclusion

Digital libraries are a managed collection of information with associated services, where the information is stored in digital formats and accessible over network, digital libraries are expected to bring about significant improvements over current modes of information. Publishing and accessing method, education, researchers and student across the world will be among the first to benefits from digital libraries.

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Social Networking: with reference to University Libraries in Maharashtra

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Abstract :

Web 2.0 technologies help us in reaching to our user in interactive ways, Keeping in view that expectations of library users in the modern days are high, so LIS professionals need to shift their focus to use Social networking for better library services.

The present article focuses on Social networking sites used in Higher education; Academic libraies. The basic theme is based on the links provided to social network in Top Universities in Maharashtra. Data collected from the universities websites and University libraries websites. Data shows that the use of social networks is quite low. There is need to promote LIS professionals to become techno savvy in their field. The article concluded that the change should be accepted and library professionals need to strive hard for the successful use of social networks in Academic libraries.

Keywords- Libraries, Social Media, Social Networking, University Libraries,

Introduction :

Librarians are born to provide information and disseminate it to its users. This is critical task for librarians is to able to support its user through various types of media and technologies. Traditional methods are the only way of disseminating information to users before the use of Information and communication technology (ICT). But in 21st century, traditional way of disseminating information materials, it is not so far effective, reaching for library users.

Social Media is a two-way communication media for exchange of ideas, information and learning. Use of Social media/social networking tools in libraries essential as it will help to provide feedback to librarians and update to library users. (Omeluzor & Tinuoye, 2016)

Social Networking:

A social networking site or social media is an online platform which people use to build social networks or social relationship with other people who share similar personal or career interests, activities, backgrounds or real-life connections.

The social network is distributed across various computer networks. The social networks are inherently computer networks, linking people, organization, and knowledge. Social networking services vary in format and the number of features. (20Ja10)

O'Reilly proposed the web 2.0 concept in 2005. this was revolutionary concept going away beyond the limits of the dot com technology. Social media is defined as a group of internet-based application that builds on Web 2.0. The term "Social Media" is used to denote all applications of social networking and communications tools and applications that help each-other to remain in touch. (Sriram, 2016)

Advantages of Social Networking:

- Worldwide Connectivity
- Commonality of Interest
- Real-Time Information Sharing
- Free Advertising

Disadvantages of Social Networking Sites (Online Social Communities):

- Face to Face connections are endangered
- Cyber Bullying and Crimes
- Risk of Fraud or Identity Theft
- Time Waster
- Diminishing Privacy

Some Specific features like:

- Create Profile themselves
- Connect with others by sending 'request' may be accepted or denied.
- List of friends/users
- Sending messages

- Sharing, Tagging, posting, comments etc

Social networking and Libraries

Social networking in libraries will promote adequate information access, sharing, disseminating which are core functions of academic libraries. Social networking tools are very attractive, users can share information, Communicate with other professionals, build relationship, share picture, video etc.

Social networking tools can be used in different ways such as: Information Communication, Information Archiving and dissemination and knowledge organization in academic libraries. (Sahu, 2016)

Various Social Networking Sites/Tools can use in libraries (Pradhan & Pradhan, 2016)

Social Media	Used In Libraries for...
Facebook, Linkdin, Meebo, Myspace, WhatsApp, Twitter, Blog, Ning,	Information Communication
Slide share , Research Gate,Academi.edu, Youtube, Flickr, Foomote, Digg, Stumble upon, Slideshare, Second Life etc	Disseminate Information
Mendley , Zotero, aNobi, Librarything, Connotea, Communitywalk, GoogleScholar, Del.icio.us, Lib.rario.us	Organizing Knowledge

Social Networking Sites are mostly used by Libraries to:

- Announce Programmes of the library
- Create opportunity to ask questions related to the use of the library
- To inform the library community or library users about new books, it can be paste on the wall of Social Networking Sites
- Brief updates to patrons

In The Era of Digital world, academic libraries may efficiently respond to the needs of their users or patron by adopting Web applications, Social networking.

Review Of literature:

The use of Social networking in libraries is fast gaining prominence.

Pradhan & Pradhan confirmed that Social network has created a new platform for library and Information Professionals to provide library services in an effective and innovative way. In their study paper an attempt has been made to know about the application of social networking in different Library services. (Pradhan & Pradhan, 2016)

Singh stated that in his study the possible usefulness and applications of social networking technologies and social software in web2.0 in the field of Library & information services.(Singh, 2016)

Omeluzor asserted use of social networking in academic libraries in South-East, Nigeria. their study adopted a survey design 173 librarians from the zone (Omeluzor & Tinuoye, 2016)and shown that librarians used SN in libraries for delivery of library services. And also revealed that SN will be beneficial and cost effective for academic libraries to adopt

Sujata Santosh, in her study explained that the library professionals are favourably inclined towards the use of Web2.0applications in libraries. The major barriers perceived include accessibility of the internet by users, lack of incentives, support, technical help, training and resources.(Santosh, 2017)

Ansari, explained in his article that SN is verified as a medium of communication with one to another for sharing their experiences and information regarding interest and also helps to build up long-time relationship between individuals and group.LIS professional need to develop proficiency about SN. (Ansari)

Objectives:

- 1) To find out different type of SNS and their use
- 2) To find out universities having links to the social networking sites
- 3) To find out social networking Sites are used by University libraries. Link provided to social networks on library home page..

Methodology:

Author accessed data from UniRank: Website <https://www.4icu.org/in/maharashtra/> Top Universities In in Maharashtra -2019 Maharashtra University ranking for this research paper. Author finds out the list of 50 top universities in Maharashtra and sort out 10 universities. Social networking link data is taken from <https://www.4icu.org/in/maharashtra/>. After that author searches the link provide to social networking sites by university as well as University Libraries. Social networking sites Twitter, Facebook, Youtube, LinkedIn, Youtube, Instragram, Google+ these sites are taken for study by surfing the websites of 10

Universities.

Top University ranking In Maharashtra:

UniRank™ is the leading international higher education directory and search engine featuring reviews and rankings of over 13,600 officially recognized Universities and Colleges in 200 countries. (Ste 2C, 5 Tambua Street Sydney New South Wales 2009 Australia –mailing address, online fom is also available on website)

What are the most popular Universities in Maharashtra? UniRank tries to answer this question by publishing the 2019 Maharashtra University Ranking of 53 recognized Maharashtra higher-education institutions meeting the following UniRank selection criteria:

- being chartered, licensed or accredited by the appropriate Indian higher education-related organization
- offering at least four-year undergraduate degrees (bachelor degrees) or postgraduate degrees (master or doctoral degrees)
- delivering courses predominantly in a traditional, face-to-face, non-distance education format (UniRank)

Table 1: Universities in Maharashtra (Data is taken from UniRank <https://www.4icu.org/in/maharashtra/>)(Last accessed on 14 January 2020 at 1.36 p.m)

Sr. No	Name of Universities	URL	City	Year	MAH Rank	Country Rank	World Rank
1	Indian institute of technology Bombay	http://www.iitb.ac.in/	Mumbai	1958	1	3	253
2	Savitribai Phule Pune University	http://www.unipune.ac.in/	Pune	1948	2	7	469
3	University of Mumbai	http://mu.ac.in/	Mumbai	1857	3	21	1184
4	Tata Institute of Social Sciences	https://www.tiss.edu/	Mumbai	1936	4	30	1523
5	Narsee Monjee Institute of Management and Higher Studies	https://www.nmims.edu/mumbai/	Mumbai	1981	5	38	1689
6	Tata Institute of Fundamental Research	https://www.tifr.res.in/ https://main.tifr.res.in/	Mumbai	1945	6	42	1774
7	Shivaji University	http://www.unishivaji.ac.in/	Kolhapur	1952	7	88	3213
8	North Maharashtra University	http://nmu.ac.in/ http://nmu.ac.in/clp/en-us/home.aspx	Jalgaon	1990	8	121	4010
9	Indian Institute of Science Education and Research, Pune	http://www.iiserpune.ac.in/	Pune	2006	9	145	4459
10	Visvesvaraya National Institute of Technology	http://vnit.ac.in/	Nagpur	1960	10	160	4663

Table 1 a) City wise universities

Sr. No.	Town	Quantity	%
1	Mumbai	05	50%
2	Pune	02	20%
3	Kolhapur	01	10%
4	Jalgaon	01	10%
5	Nagpur	01	10%

Table 1) represents the data from UniRank 2019, top50 universities in Maharashtra. Author took 10 universities for detail study. Table described Universities name with their URL, founded year and Ranking.

This table states the university ranking in Maharashtra, on Country or world. Table 1a) displayed that total 5 Universities are on top from “Mumbai” followed by two (2) from “Pune” and one (1) from Kolhapur, Jalgaon. Nagpur.

Table 2: Universities using Social Networking (having link on Home page of University)

Sr. No	Name of Universities (Abbre)	Social Networking Sites					
		Twitter	Facebook	Google+	Linkedin	Youtube	Instragram
1	IIT Bombay	√	√	√	√	√	-
2	SP Pune University	-	-	-	√	-	-
3	MU	√	√	-	√	-	-
4	TISS	-	-	-	√	-	-
5	NMIMHS	√	√	-	√	√	√
6	TIFR	√	√	-	√	√	-
7	SU	√	√	-	√	√	-
8	NMU	-	-	-	√	-	-
9	IISER	√	-	-	√	√	-
10	VNIT	√	√	-	√	√	-

From the above table we come to know that Twitter, Facebook, LinkedIn, Youtube are popular social networking sites.

Table 2a) Analysis of Social Networking sites used by Universities

Sr. No.	Social media	Total Number of Universities	%
1	Twitter	07	70%
2	Facebook	06	60%
3	LinkedIn	10	100%
4	Youtube	06	60%
5	Google+	01	10%
6	Instagram	01	10%

Table 2a) indicates total Top 10 (100%) universities of Maharashtra are using “LinkedIn” for business and Academic Networking. Seven (7) Universities(70%) using “Twitter”, and 60% universities using “Facebook” and “Youtube” followed by “Google+” is activate in only IIT Bombay. “Instagram” is used by NMI MHS Mumbai.

Table 3: University Libraries using Social media

Sr. No.	Name of Universities	URL of Libraries	Name of Libraries
1	IIT Bombay, Mumbai	https://www.library.iitb.ac.in/	Central Library IIT Bombay
2	SP Pune University, Pune	http://www.unipune.ac.in/university_files/library.htm	Jayakar Knowledge Resource Center
3	MU, Mumbai	http://mu.ac.in/library	Library University of Mumbai
4	TISS	http://library.tiss.edu	Sir Dorabji Tata Memorial Library
5	NMIMHS, Mumbai	https://www.nmims.edu/about/facts-and-history/libraries/	-
6	TIFR	https://mam.tifr.res.in/mam/campus/src.php	Scientific Information Resource Centre
7	SU, Kolhapur	http://www.unishivaji.ac.in/library/	Barr. Balasaheb Kharadekar Knowledge Resource Center
8	NMU, Jalgaon	http://nmu.ac.in/clp/en-us/home.aspx	Knowledge Resource Center
9	IISER	http://www.iiserpune.ac.in/~library/	Srinivasa Ramanujan Library
10	VNIT, Nagpur	http://vnit.ac.in/library-and-information-centre	VNIT Library

Table 3) Indicates Universities with their library URL and Particular name. While searching central libraries of universities it came to know that Five (5) 50% libraries having internal link on homepage i.e. IIT Bombay, Mumbai University Library, Sholapur University Library, IISER library, VNIT Library and Five (5) 50% having external link.

Table 4: Universities having Links to Social Networking Sites

Sr. No	Name of Universities	Social Networking Sites						
		Twitter	Facebook	Linkedin	Youtube	Instagram	Skype	RSS Feed
1	IIT Bombay, Mumbai	√	√	-	√	-	-	√
2	SP Pune University, Pune	-	-	-	-	√	-	-
3	MU, Mumbai	√	√	√	-	-	-	-
4	TISS	-	-	√	-	-	-	√
5	NMIMHS, Mumbai	No Social Networking Sites						
6	TIFR	√	√	-	√	-	-	-
7	SU, Kolhapur	√	√	√	-	-	√	√
8	NMU, Jalgaon	No Social Networking Sites						
9	IISER	√	-	-	-	-	-	-
10	VNIT, Nagpur	√	√	-	√	-	-	-

Table 4a) Analysis Statement of Link to Social Networking Sites

Sr. No.	Social network	Number of University Libraries	%
1	Twitter	06	60%
2	Facebook	05	50%
3	Linkedin	03	30%
4	Youtube	03	30%
5	Instragram	01	10%
6	Skype	01	10%
7	RSS feed/Pinterest	03	30%

Table 4 & 4a Indicates Link to social Networking Sites. “Twitter” link is provides by almost 60 %libraries, “Facebook” is followed by 50% of Libraries. “Youtube” link is given by 30 % of libraries. It is come to know that “Twitter and Face book” is most popular social site.

Findings:

- Table 2 & 2a indicates link on homepage of universities to Twitter (7)70% University ,Linkedin (10)100% (Linkdin data is taken from UniRank website) all universities ,followed by facebook and youtube (6)60%,
- Social networking sites/tools are used by Universities Libraries. Twiter (6) 60%, Facebook (5)50%, Linkedin, Youtube, RSS Feed/pinterest respectively 30% of libraries using it. Instragram (1) 10% and Skype (1) 10%
- LinkedIn, Twitter and Facebook, youtube are most commonly used while Instragram, RSS feed is the least used one.
- The university libraries are still at the early stage using Social Networking
- The use of Social networking features is found to be very less in university libraries.
- There is no significant improvement in trend to use social networking Sites in libraries.

Suggestions:

- 1) Personal interest in using technology, proper training and technical support were found to be the major motivating factors In adopting SN (Social Network) in Libraries.
- 2) Libraries should use social networks /tools such as facebook, teitter, blog, youtube, instragram etc.
- 3) Libraries should use social networks into their web based library services.
- 4) Users and LIS Professionals should be trained on the use of social networks in order to increase their participation and interaction in the library activities.
- 5) Library should promote their services by using new innovative tools like facebook , blog,

twitter, youtube, Instagram RSS feed, Skype etc for maximum utilization of their resources and services.(Negi & Pant, 2017)

Conclusion:

With the rising demand of the new users about technological assistance, Library professionals need to change their traditional ways of Functioning. In the 21st century, generation is very much attracted by SNS and so libraries to tap the opportunities and provide service to the users by using SNS.(Joshi & Bansode, 2016)

The result of this study indicate that lack of incentives, institutional support, technical support, training and resources are the significant barriers perceived by the library and information professionals. It was found that both the intrinsic (such as personal interest and willingness) and extrinsic motivators (such as training and technical support) are crucial in use of Social Networking Sites by the information Professionals.

The study has revealed many facts about use of various social networking services among University libraries. There is no significant improvement in trend to use social networking Sites in libraries. University Libraries are showing inclination towards the adoption and use of such services. Social networking in libraries can be used as complimentary tool to traditional services. Since these are quite helpful in providing alert services and also quite helpful in outreach activities. The adoption and usage of social networking services need to be geared up by the university libraries in the state because we are lacking behind in this field.

The Librarians are much aware of SNS and are using them for their personal and professional purpose, but on the same hand fails to use the SNS in their libraries. My appeal to MUCLA that please organized Seminar, workshop, training programme especially on “ Application of social Networking in Libraries” for librarians.

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Use of Social Media in Libraries

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Abstract :

The conventional use of social media has impacted the library as it has been identified to be an efficient platform for libraries to foster networking and enhance engagement with their user community. This is the era of information explosion. Social media play important role. In this media, information disseminate through a Web based platform. It is a internet based communication. Libraries should adopt this media as a tool. Library is also not untouched by social media. This paper, we discussed that how libraries are using Social Media platform for providing information desired by users and how they save their time and self. According to the fourth law, "Save the time of users" is getting meaningful by the use of Social Media. In this paper we discussed also many Social Media which is use in everyday in the library i.e. Facebook, Twitter, Google+, Wikipedia, LinkedIn, Reddit , Pinterest, Drupal, MySpace, Library Thing, YouTube, Flickr and so on, are some of the tools fulfill the need of users.

Keywords- Social Media, Social Networking, libraries, Library Services

Introduction :

The information explosion continuously to un stop one place to other place or one person another person to the changing dimensions of the present day reshaping human interaction is the social media networks. Social media comes in many forms like blogs, forums, chat apps, business networks sharing them feeling and education information, social problems in the platform. Social media network is a powerful tool for sharing information with others. Present day the most Population is communicating those needs and ideas through such amazing social media. Social media has become a part of many people's everyday lives. Social media is the way the world creates & publishes content, interacts, and has web presence. In this new world, everyone is a creator or publisher of information. The availability of a range of different social media tools for a wide variety of purposes that include, Communication, Collaborative Content Building, Multimedia Sharing, Reviewing & expressing Opinions, Entertainment, Monitoring, etc. have collectively made this world live and real time.

As stated in the Ranganathan Law of Library Science, Library is a „growing organism? as the role of library in the new century is beyond the its concrete wall and physical building. Hence the library has to mobilize its role and function to keep growing by utilizing the latest technology in order to justify their presence and sustainability of library services among society. Furthermore, social media has the potential of improving the image of the library and improving the users? experience. In the literature, Facebook, Twitter, Drupal, MySpace, Library Thing, YouTube, Flickr and so on, are some of the tools extensively used by libraries. Having knowledge of how to use these tools to design and build our library website, OPAC, provide reference services, alert services and for interacting with users in a more effective and elegant way is the need of the hour for Librarians 2.0.

Definition:

Social Media: Social media is the collective of online communications channels dedicated to community-based input, interaction, content-sharing and collaboration. Social media are interactive computer-mediated technologies that facilitate the creation or sharing of information, ideas, career interests and other forms of expression via virtual communities and networks.

Social Networking: The term "Social Networking" refers to a range of web-enabled/it-enabled software programs that allow users to interact and work collaboratively with other users. It includes ability to browse, search, invite friends to connect and interact, share film reviews, comments, blog entries, favorites, discussions, events, videos, ratings, music, classified ads, tag and classified information and more.

Libraries:

A library is a custodian collection of sources of information and similar resources, selected by experts and made accessible to a defined community for reference or borrowing. It provides physical or digital access to material, and may be a physical location or a virtual space, or both. A library's collection can include books, periodicals, newspapers, manuscripts, films, maps, prints, documents, microform,

CDs, cassettes, videotapes, DVDs, Blu-ray Discs, e-books, audiobooks, databases, and other formats.

Academic Libraries: Academic libraries are generally located on college and university campuses and primarily serve the students and faculty of that and other academic institutions.

Public Libraries: Public library is a library that is accessible by the general public and is usually funded from public sources, such as taxes.

Special libraries: A special library is a library that provides specialized information resources on a particular subject, serves a specialized and limited clientele, and delivers specialized services to that clientele.

Library Services: Services provided by the library to online students can include instruction on how to access and use library materials; reference services to provide quick and in-depth answers to student questions; and materials delivery services that provide students with access to library materials online or items delivered to students' homes.

What is Social Media

Social Media is one of most widely used terms of today. The best way to define Social Media is to break it down. Media is an instrument on communication, like a newspaper or a radio, so Social Media would be a social instrument of communication. Social media is just a name for how the internet looks nowadays and the way people use it. This change is particularly due to the social media tools. In a general sense we can say 'social media are media for social interaction, using highly accessible and scalable publishing techniques' Social media makes our information search, accessing, organizing, creating, disseminating and analyzing more interactive. Following social media tools are Facebook, Twitter, Google+, LinkedIn, Snapchat, Library Thing, YouTube, Flickr, Reddit, Instagram, Tumblr, Skype etc.



Fig.1 Social Media

Types of Social Media :

Social media can be powerful information dissemination tools and offer a way for libraries to promote their activities, resources and services while allowing a two way dialogue with users. Media sharing types of Social Media are used to find and share photographs, live video, video and other kinds of media on the web.

- **Facebook:**

is a popular free social networking website that allows registered users to create profiles, upload photos and video, send messages and keep in touch with friends, family and colleagues.

- **Twitter:**

is a free micro blogging service that allows registered USERS to broadcast short posts called tweets. Twitter users can broadcast tweets and follow other users' tweets by using multiple platforms and devices.

- **Google+**

was Google's social networking , designed to replicate the way USERS interact offline more closely than is the case in other social networking services.

- **Wikipedia:**

is a free, open source online encyclopedia created through the collaborative effort of a community of users known as Wikipedians. Someone registered on the site can create an article for publication.

- **LinkedIn**

is a social networking designed specifically for the business community. The aim of the site is to allow registered members to establish and document networks of users they know and trust professionally.

- **Reddit:**

is a social news website and forum where stories are socially curated and promoted by site members. The site is composed of hundreds of sub-communities, known as "subreddits."

- **Pinterest:**

is a social curation website for sharing and categorizing images found online. Pinterest requires

brief descriptions but the main focus of the site is visual. Clicking on an image will take you to the original source.

- **Instagram**

was launched as a unique social networking platform that was completely based on sharing photos and videos. This photo sharing social networking app thus enables you to capture the best moments of your life, with your phone's camera or any other camera, and convert them into works of art.

- **YouTube:**

is the world's largest video-sharing social networking site that enables users to upload and share videos, view them, comment on them and like them. This social network is accessible across the globe and even enables users to create a YouTube channel where they can upload all their personally recorded videos to showcase to their friends and followers.

- **Tumblr:**

Having been owned by Yahoo since 2013, Tumblr serves as a social media cum micro blogging platform that can be used to find and follow things that you like. You can also use it to post anything, including multimedia, to a short-form blog. Moreover, it gives you the flexibility to customize almost everything.

- **Blog:** Libraries can use Blogs to keep their users aware with the latest developments in the field of library related matter. Blogs can be subscribed through RSS feeds.

- **Flickr:**

It is an online image sharing service. Sharing and uploading picture of library events and services are possible for libraries by using Flickr.

- **Skype:**

Skype, owned by Microsoft, is one of the most popular communication-based social networking platforms. It allows connecting with people through voice calls, video calls (using a webcam) and text messaging.

- **Snapchat:**

this is an image messaging social platform that enables you to chat with friends by using pictures. It allows you to explore news and even check out live stories that are happening around the world.

- **Library Thing:**

Library Thing is a social cataloging web application for storing and sharing book catalogs and various types of book metadata.

Purpose of Social Media Usage in Library :

Social media websites have become communities of their own. In order to successfully market and get the word out about the library and its events social media is a cheap, easy to use tool to accomplish this. A vital part of marketing for a library is communicating the value of the library to current users and future users. Social media can be used in a variety of different ways; sharing events, showing photos, communicating important information and creating a dialogue between the users of a service and the providers. Users use social media to search for information. Therefore it is very important for a library, a community institution, to be available in all the locations where people are. Social media can help determine what people feel are lacking from the library but can also assist in finding out what people love, this helps to shape future programming and how funding should be allocated. There are various websites that can be used to promote the library.

Using social media in our libraries, the primary reason shall be to fulfill the objectives of the library itself, to help the users to find the right information.

1. to share about library events
2. to share events pictures
3. Provide library resources and collections.
4. Provide library services.
5. To communicate among the librarians about their professional development.
6. To build an e-reputation of LIS domain
7. art work from the library
8. share other community news
9. provide reference advisory
10. users profile

Advantages of Using Social Media In Libraries :

1. Cost of using social media are perceived to be low
2. It increase engagement and interactions with library users

3. It helps to gather feedback to enhance user services
4. It can be used for outreach activities through onward sharing
5. It enhance communications both, library and with other Departments
6. It can help increase usage of content
7. It promotes library services, quickly delivering information to directly library users

Disadvantages of Using Social Media in Libraries :

1. Too many social tools to learn
2. Lack of privacy and identity theft
3. Confidentiality of information
4. Lack of knowledge, how to use it
5. Inadequate funding for libraries
6. Electricity Failure
7. Slow speed of internet
8. Low interest of librarians in learning and utilizing social media

CONCLUSION:

Social Media has been used by libraries all over the world as a tool to reach out the users and provide them with information at their own time and space. In general libraries have adopted a multichannel approach to social media and are using the familiar household brands we use in our personal and professional lives. There are differences across the libraries and the libraries are using social media for many purposes, from marketing and promotion, opening up the resources of the library, and a customer service function by responding to queries and questions. It is impossible to know what social media success looks like for libraries without undertaking in-depth research but librarians are trusted information professionals are well placed to harness the opportunities available in the world of social media.

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Digital Library

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Abstract :

Smart Librarian and Smart Libraries of year 2020 must be prepared ,cause the users of the college libraries or the university libraries are well acquainted with the ICT and mobile technology , digital formats and use of social medias. As a head of the Library the Librarian must make himself well prepared for the needs of such types of Users, for that he and the college or university authorities must support there Librarian for making the Library Digital or atleast fully computerized. The paper deals with the digital library and pros and cons of digital library

Keywords- Digital Library, Libraries, Digital

Definition of Digital Library :

A digital Library is a collection of documents in organised electronic forms, available on the Internet or on CD-ROM disk. Depending on the specific library a user may be able to access magazines , articles, books, paper, images, sound files and Videos.

Introduction :-

Digital Library, digital collections is an online database of digital objects that can includes audio, texts, videos or any other digital media formats objects can be consists of digitized content like photographs or prints as well as originally produced digital content like word processor files or social medias posts. In addition to storing content, digital libraries provides means for organizing and retrieving the cont in the collection. Digital libraries can vary immensely in size and scope and can be maintain by individuals or organisation. The digital content may be stored locally or accessed remotely via computer networks. These information systems are able to exchange information with each other through interoperability and sustainability.

Digital Libraries have the potential to store much more information, simply because digital information requires very little physical space to contain it. The cost of maintaining a digital library can be much lower than that of a traditional library. One of the advantage to digital conversion is increased accessibility to users. They also increase availability to individuals who may not be traditional patrons of library, due to geographical location or organizational affiliation.

Function of Digital Library :

1. Access to large amounts of information to users wherever they are and whenever they need it.
2. Access to primary information sources.
3. Support multimedia content along with text
4. Network accessibility on Intranet and Internet
5. User-friendly interface
6. Hypertext links for navigation
7. Client-server architecture

Components of Digital Library :

1. The components of a digital library are:
2. Infrastructure
3. Digital Collection
4. Systems function
5. Telecommunication facility
6. Human resources

Planning for Digital Library :

1. IT Infrastructure
2. Digitization
3. Access
4. Staffing
5. Furniture, equipment, and space

6. Services

7. Funding

Digitization of Materials

How do you go about deciding what parts of a collection to digitize? There are several approaches available, at least theoretically:

1. Retrospective conversion of collections : essentially, starting at A and ending up at Z. However ideal such complete conversion would be, it is impractical or impossible technically, legally, and economically. This approach can arguably be dispensed with as a pipe dream.
2. Digitization of a particular special collection or a portion of one:- A small collection of manageable size, and which is highly valued, is a prime candidate.
3. Highlight a diverse collection:- By digitizing particularly good examples of some collection strength
4. High-use materials:- making those materials that are in most demand more accessible.
5. An ad hoc approach:- where one digitizes and stores materials as they are requested. This is, however, a haphazard method of digital collection building. These approaches can be used alone or in combination depending upon a particular institution's goals for digitization.

Copyright/ Rights Management :

Copyright has been called the “single most vexing barrier to digital library development” (Chepesuik, 1997:49). The current paper-based concept of copyright breaks down in the digital environment because the control of copies is lost. Digital objects by multiple users simultaneously. The problem for libraries is that, unlike private businesses or publishers that own their information, libraries are, for the most part, simply caretakers of information??they don't own the copyright of the material they hold. It is unlikely that libraries will ever be able to freely digitize and provide access to the copyrighted materials in their collections. Instead, they will have to develop mechanisms for managing copyright, mechanisms that allow them to provide information without violating copyright, called rights management.

Advantages of Digital Libraries :

1. No physical boundary. The user of a digital library need not to go to the library physically; people from all over the world can gain access to the same information, as long as an Internet connection is available.
2. Round the clock availability A major advantage of digital libraries is that people can gain access 24/7 to the information.
3. Multiple access. The same resources can be used simultaneously by a number of institutions and patrons. This may not be the case for copyrighted material: a library may have a license for "lending out" only one copy at a time; this is achieved with a system of digital rights management where a resource can become inaccessible after expiration of the lending period or after the lender chooses to make it inaccessible (equivalent to returning the resource).
4. Information retrieval. The user is able to use any search term (word, phrase, title, name, subject) to search the entire collection. Digital libraries can provide very user-friendly interfaces, giving click able access to its resources.
5. Preservation and conservation. Digitization is not a long-term preservation solution for physical collections, but does succeed in providing access copies for materials that would otherwise fall to degradation from repeated use. Digitized collections and born-digital objects pose many preservation and conservation concerns that analog materials do not. Please see the following "Problems" section of this page for examples.
6. Space. Whereas traditional libraries are limited by storage space, digital libraries have the potential to store much more information, simply because digital information requires very little physical space to contain them and media storage technologies are more affordable than ever before.
7. Added value. Certain characteristics of objects, primarily the quality of images, may be improved. Digitization can enhance legibility and remove visible flaws such as stains and discoloration.[21]
8. Easily accessible.



Disadvantages of Digital Libraries :

Digital libraries, or at least their digital collections, unfortunately also have brought their own problems and challenges in areas such as:

1. User authentication for access to collections
2. Copyright
3. Digital preservation
4. Equity of access
5. Interface design
6. Interoperability between systems and software
7. Information organization
8. Inefficient or non-existent taxonomy practices (especially with historical material)
9. Training and development
10. Quality of metadata
11. Exorbitant cost of building/maintaining the terabytes of storage, servers, and redundancies necessary for a functional digital collection.

There are many large scale digitization projects that perpetuate these problems.

Example of Digital Library in India :

- 1) National Digital Library of India
- 2) ShodhSindhu or N-LIST developed by INFLIBNET.

Conclusion :

In the year 2020 the library must go one step forward from computerization to digitization. The Librarian of the year 2020 must establish himself as a smart librarian and he must take effort to make his library smart. Today the broadband internet speed is much more better and faster than few years back and the rates of internet data is also less as compare to past. Smart phone and tablets are available and present in the hands of every students of college and university. So it is the right time for every Librarian to transform him and also the library he is working in. Time and Technology is not going to wait for anyone.

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Changing Scenario of Academic Libraries in a Social Networking Sites

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Abstract :

The present paper explores that, how libraries can grip on social networking and social media skills to provide dynamic library services in the face of reducing economic problems. The social media type has gradually crept into the library profession with social sites such as Facebook, Twitter, Flickr, YouTube; it has become evident that our services will need to change to meet the growing needs of our end users. The sites reviewed in this column have been selected as quality examples of social networking sites that have great potential for use within libraries, enabling library professionals to better collaborate with one another and reach out to patrons. Specifically, the following reviews address sites offering conferencing and general networking opportunities. The research paper reflects Social networking sites, Changing Library environment, Social Networking Opportunities for Libraries, Future Roles of Librarians, Challenges of Social Networking

Keywords- Social networking, Resources, Media, Libraries, Librarians

Introduction :

Social networkings sites have become very important role in library science profession. According to Suraweera et al (2011) social networking refers to a process of relationship building among a group with a common interest. The Facebook initially was used only for social discussions, however over time, particularly by the turn of the 21st century the grouping of individuals into specific groups emerged. Professional groups started to spring up and within time the library profession had its own group with the sole purpose of sharing ideas and gathering first hand information regarding the profession. The exponential growth of the use of social media such as the Facebook, MySpace, twitter, YouTube, it became inevitable that librarians must learn the use of these tools to be able to keep their ever growing and sophisticated patrons. Libraries have started to use these tools to interact with their patrons on real time. Where library budgets have been constantly on the decline, the social media have become a means for serving our patrons in a more specialized, interactive, and value added way without incurring undue expenses. These media are used mostly to provide current and up to date information to clients, provide links to other open source library resources, and give information about new arrivals in the case of books through the link to the library world cat and through the updated list of journals.

Definition of Social Networking

Social network sites are web-based services that allow individuals to create a public profile, to create a list of users with whom to share connections, and view and cross the connections within the system.

A social networking website is an online platform that allows users to create a public profile and interact with other users on the website. Social networking websites usually have a new user input a list of people with whom they share a connection and then allow the people on the list to confirm or deny the connection. After connections are established, the new user can search the networks of his connections to make more connections. A social networking site may also be known as a social website or a social networking website.

Social Networking Sites

Social networking sites are web-based services that allow individuals to construct a public or semi-public profile within a bounded system, to articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system (Boyd and Ellison, 2007). Social Network Sites (also called Social Networking Services or Social Networking Communities), are those Internet systems that have at their heart the personalized profile (Tapscott & Williams, 2006, p. 49). Some of the prominent examples include: Facebook, LinkedIn, Twitter, and MySpace. Social networking sites are two-way transparent communication that encourage a feedback mechanism; connecting people with shared interest. Social networking sites allow librarians to adopt a new role by placing themselves into a social realm with users. By reading blogs, group postings, and message boards, the librarian becomes an active participant, who is able to anticipate and advise patrons as needs

arise. Linking to patron profiles also keeps the library within the consciousness of users, potentially increasing interaction. Some of these Social Networking Sites (SNS) popularly used by librarians in Nigeria to meet the information needs of the users include:

- Facebook: most popular now because it is librarian- friendly, with many applications like JSTOR search, World Cat, and much more. Librarians can interact with users to know their information need. Libraries try to link some of these specialized library applications to Facebook.
- Blogs: Here, librarians can periodically post messages; share information on a particular subject or issue, and allow users to contribute to content. They can write articles, news on topical issues and expect an instant reaction from their users.
- Wikis: is a free online encyclopedia that gives a background knowledge and definition of concepts. It offers a platform for users to access, edit and contribute to content. This is a collaborative web page for developing web content.
- LinkedIn: Librarians can get patrons connected with specialists in their particular field of interest via LinkedIn. Librarians can use this platform to render specialized services such as Strategic Dissemination of Information (SDI).
- Twitter: a micro blogging application, to keep staff and patrons updated on daily activities, like frequently updated collections. Users can utilize this platform to type in short messages or status update. Librarians in Nigeria can use this platform to give users firsthand information on the on-going national elections. Users can send Instant Messages (IM) on complaints or ask questions on a particular issue and get a feedback on the spot using twitter.

The Changing Library Environment

Today, libraries are using the latest technologies and trends to make their services popular and user friendly. The concept of a library as physical place where one can visit to get information is rapidly changing to a social cyberspace where users access, communicate and contribute to existing knowledge. This is because the modern library of the 21st century is characterized with collective knowledge creation and enabling technologies; and also a movement away from the old stereotype, conventional and one directional library services to users to a more dynamic, two-way communicational network environment characterized by open access, content creation, collaborative and participatory social space where users are free to access and contribute content. The potentials of the modern technology with the Open Access Protocols provide the opportunity for free access, free interaction, free communication and contribution to knowledge. Tise (2009) posits that libraries facilitate access to information thereby providing the means through which new knowledge is developed and made available to all. Librarians are gradually utilizing these tools to offer “on the spot” library services to users. These are made possible with the present social networking sites such as Facebook, MySpace, Wiki, etc. which provide interactive platform for users to access and generate content. Information is now produced in a variety of media whose representation can no longer be presented in the physical books alone. Libraries need to realize that in order to engage with their users they will need to reach them “in their preferred methods of communication” (Topper, 2007, p. 378).

Social Networking Opportunities for Libraries

- Marketing of library services – The librarians that make use of social networking is an indication that it is an ideal vehicle for marketing the services of libraries to patrons. Flickr is an excellent marketing tool which could be used by librarians to sensitize the users on general library services. Most students are not aware of the different services offered in the library such as reservation of books, reference services and Strategic Dissemination of Information (SDI). Librarians can spread awareness of library services to those who may not be aware of these services via social media. Librarians can also develop subject-specific blogs and play a leading role in advocating the use of blogs for scholarly communication and commenting on research findings.

- Reference Services – The use of social networking tools enable librarians to identify library patrons on the social cyberspace and pro-actively provide the type of information that would normally result from reference service. Social networking tools are not only being used as a vehicle for promoting services, programs and new resources but they are also used for reference service. (Steiner, 2009, p. 4) Students are using tools like Ask a Librarian, meebo and twitter to ask questions in “real time.

Future Roles of Librarians

Libraries play important roles in providing information for research and access to knowledge. In order to stay relevant in the socially networked environment and meet the growing needs of their users, libraries therefore need to pro-actively embrace the new technologies and face the challenges for better services delivery. Librarians are responding to the popularity of social networking sites and their expanding

role in the creation, use, and sharing of information by engaging them as a central medium for interacting with library patrons and providing services to meet their information needs. The ways in which people communicate, acquire and share knowledge, will inevitably have an impact on the library, its services, and its staff (Miller, 2006). Librarians should follow the public conversations, posts, updates, and events of these key individuals, and pro-actively offer advice, resources, and help. He should act as an active participant of the social space and be able to identify the needs of the members of the library communities and to proffer solutions by offering information, links to the websites that are relevant to their information needs; and even direct offers of help. There is an urgent need for libraries to adopt the new social networking tools in their services as a strategy to embrace change while promoting a participatory role for library users in knowledge creation. Librarians must possess these skills:

1. Network awareness – Librarian should be able to share views and create awareness of the different social network sites and their uses.
2. Expert search – The 21st century librarian should be an expert in web navigation; able to find friends of friends, and potential library users with common interest.
3. Contact management – Librarians can cross-link people and ideas among the conglomerate of different groups.
4. Context awareness – Librarian should be diversified in knowledge and able to link information to people's profiles.

Challenges of Social Networking

Lack of Awareness – Most librarians in the developing countries are not aware of social networking services, even the few that are aware are still struggling to find out the productive uses of these sites for library services. Users are also not aware of the protocols involved in social communication. Many students and possibly even some of the academic staff may be unaware that there is a subject specialist in their discipline. It is important for librarians to initiate contact with clients and experiment with developing a “public self” (Horizon Report, 2007).

Bandwidth problem – Most institutions have limited bandwidth to support this practice. Poor connectivity can frustrate effective online participation.

Technophobia – Many librarians and users are afraid of handling computers. They make the traditional library services their comfort zone and are not eager to embrace change.

Lack of maintenance culture – Maintenance culture is seriously lacking in most institutions in developing countries. The few available technologies are in moribund conditions that may not support remote access to information.

Unreliable power supply – The low supply of electricity discourage people from participating in the online forum.

Lack of training of staff – Most librarians lack the 21st century skills that could be required to adopt the social networking tools for effective library services.

Copyright Issue – The free access to information where people copy, paste and edit without acknowledging the authority is a serious challenge to copyright management.

Conclusion:

The present paper examine that the concept of social networking and its application to library services. It has been observed that librarians have not fully embraced these social networking tools in library services. In such cases, there is a need for a pro-active awareness and training to educate both the librarians and the users on the invaluable importance of utilizing social networking in library services

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Social Media Use For Agricultural Extension

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Abstract :

Social media, a popular ICT tool has great potential to be used for knowledge sharing and social networking among farmers. The potential of Social Media channels like Facebook, WhatsApp and YouTube among others are not yet fully exploited by agricultural extension and development departments to reach out to farmers in India. However, there appears to be bright prospects of social media use in agricultural extension and advisory services given the recent initiatives taken by the Indian government to enhance social media use

Nowadays tremendous development in communication system with advance communication tools like ICT (Information and Communication Technology), Multimedia, Internet, e-mail and now very popular and trendy aspects in communication system is social media. In social media different communication tools like Whatsapp, Facebook, Twitter, YouTube, Instagram, LinkedIn, Wikis Research Gate etc that is all using by the peoples with Android mobiles. Smart phones, Laptop, Tabs etc. In Agricultural extension point of view the social media play an active role in transfer of agricultural technologies. social media is gradually appreciated in agricultural extension service delivery, but faced with challenges. Thus, the necessity to put structures in place and required efforts by all stakeholders to ensure good use of its benefits.

Keywords- Social Media, Agriculture, Extension, Farmer, Information

Introduction :

What is social media?

Social media is the collective of online communications channels dedicated to community-based input, interaction, content-sharing and collaboration. Websites and applications dedicated to forums, microblogging, social networking, social bookmarking, social curation, and wikis are among the different types of social media.

Social media are web based tools of electronic communication that allow users to personally interact with others individually or in groups for the purposes of exchanging information, sharing thoughts and opinions, influencing and facilitating decision-making by creating, storing, retrieving and exchanging information in any form (text, pictures, video, etc.) by anyone in the virtual world (Suchiradiptra and Saravanan, 2016).

Types of social media platforms

Type of platform	Examples	Description
Social networking sites	Facebook, Google+	Mostly used for creating personal profiles and networks with friends, colleagues and peers. They are the most popular form of social media platform and have the highest reach, mainly because of the personal reach.
Blogs and vlogs	Blogger, Wordpress	Earliest form of social media. They are mostly personal web logs but are increasingly being used by corporate houses to reach their clients. Media richness is high in blogs but not so much in vlogs.
Micro-blogs	Twitter, Instagram	Similar to blogs with character restriction (140 for Twitter) and allow users to create and share content. Media richness is high as in blogs. Use of hashtags (#) for highlighting content, mostly used in micro blogs helps in indexing of content and makes them easily searchable by other users.
Collaborative projects	Wikis	

		Joint and simultaneous content creation by users. Media richness is generally low but they can become the main source of information for users due to mere diversity and broad base coverage.
Social bookmarking	Delicious, Blinklist	Group based collection, rating, and sharing of internet links and media content. Low media richness.
Virtual social worlds	Second life	Users are generally in their 3D avatars and interact in a virtual environment. These platforms give users the unlimited scope for self-presentation strategies. Users can also create content online and give opportunities to corporate houses for virtual advertisement, v-commerce and marketing research.
Social gaming	World of Warcraft, Farmbook	Similar to virtual social worlds, with high social presence and media richness. The users can interact with each other though the scope of self-presentation and self-disclosure is somewhat limited. They can also be leveraged by corporate houses for communication campaigns and reach millions of users
Content communities	Video (YouTube, Vimeo, Vine)	Mostly formed to share specific type of content easily amongst many users. Media richness is high for specific content. They are easy means to reach a global user base in an interesting way.
	Photo (Instagram, Flickr, Tumbler) Audio (Soundcloud, Podcasts) MS Office docs, PDF, PPT (Slideshare)	
Forums, discussion boards and groups Discussion groups (Dgroups)		Google hangout, Blackboard, Content creation and sharing among users with specific interests or activities is easier. Media richness is medium as all platforms do not support various formats of content.
Socially integrated messaging platforms	Whatsapp, Facebook messenger, Snapchat	Highly popular due to group messaging options and high media richness. Users can create and share any form of content in groups or to individuals.
Professional networking	ResearchGate,	Academia.edu, LinkedIn Specifically for professional networking, these platforms increase the scope for scientific discussions among peers and experts in specific fields. Increased networking among professionals increase the scope of research findings to be disseminated amongst wider audience.
Social news	Reddit, Propeller, Digg	News item sharing platforms where users can comment on the posts. The news items and comments can be ranked based on popularity. Media richness is high and can be very useful for keeping up with recent happenings and web trends

- Use social media?
- Highly cost effective
- Simultaneously reaches large numbers of clients
- Location and client specific, problem-oriented
- User-generated content and discussion among the community members
- Easily accessed from mobile phones
- Increases internet presence of extension organizations and their client reach
- Democratization of information by making it accessible to all
- Brings all stakeholders into a single platform
- Can measure reach and success by tracking number of visitors, friends, followers, mentions, Facebook ‘likes’, conversation index and number of shares

- Challenges and opportunities of social media in extension

Challenges Opportunities

- Ensuring participation
- Quality control and monitoring of posts
- Internet and IT infrastructure issues
- Satisfying heterogeneous users
- Institutionalizing social media
- Continuous engagement
- Skilled human resource to maintain social media interactions
- Measuring the impact – lack of capacity for tools and analytics that help monitoring and assessing the value of information
- Creating awareness about social media’s potential at the organisational level
- Allocating time to update content

Encouraging stakeholders to access resources through social media links

Social media in extension:

- Few social media apps are available without internet
- Forming global/national interest groups is possible
- Reaching one to many
- Greater engagement and dialogue
- Allows for integration of a wide range of stakeholders
- Can act as catalyst for resource mobilization (technological, organizational, and financial)
- Ensuring participation
- Quality control and monitoring of posts
- Internet and IT infrastructure issues
- Satisfying heterogeneous users
- Institutionalizing social media
- Continuous engagement
- Skilled human resource to maintain social media interactions
- Measuring the impact – lack of capacity for tools and analytics that help monitoring and assessing the value of information
- Creating awareness about social media’s potential at the organisational level
- Allocating time to update content

As the social media use for agriculture sector and extension has gained momentum in the recent times, only popular platforms like Facebook, Twitter and YouTube are used for agriculture and extension related works. WhatsApp is another major platform that is being used by extension professionals to communicate with peers or client farmers but the communication (individual and group) being personal in nature, not much information is available about the groups other than when highlighted by the media.

Facebook

Facebook is the most used social media platform in the world with more than 1.87 billion monthly active users on the site And this means an immense potential for extension professionals. A few examples where Facebook is being used as an extension tool by individuals, professional networks, and extension organizations are given below.

Facebook pages of international agricultural organizations

Food and Agriculture Organisation of United Nations (FAO): <https://www.facebook.com/UNFAO/?ref=mf>

International Crop Research Institute for Semi-Arid Tropics (ICRISAT): <https://www.facebook.com/ICRISAT>

Livestock Information and Market Centre

(www.facebook.com/groups/Livestock.TN): This is a Facebook group of livestock farmers, extension personnel, scientists, local leaders, market functionaries, and consumers in the Indian state of Tamil Nadu to share information related to livestock production and management, marketing, etc.. It is a very unique example of how various stakeholders in livestock sector can work together, share important information, and influence change.

Facebook pages of international agricultural organizations

- Bioversity International: <https://www.facebook.com/bioversityinternational>
- International Maize and Wheat Improvement Center (CIMMYT): <https://www.facebook.com/CIMMYT>

- International Potato Center (CIP): <https://www.facebook.com/ifpri.org/>
- World Food Programme: <https://www.facebook.com/WorldFoodProgramme>
- Young Professional for Agricultural Development (YPARD): <https://www.facebook.com/YPARD/>
- Global Forum for Rural Advisory Services (GRFAS): <https://www.facebook.com/groups/gfrfas/>
- World Farmers Organisation: <https://www.facebook.com/worldfarmersorg/>
- SAARC Agriculture Centre: <https://www.facebook.com/saarcagri/>

Twitter

Microblogging site Twitter is one of the most popular social media platform globally with 320 million users. On a social context, it has been one of the major catalysts used for creating public opinions and for organizing people into groups. In agriculture too, it is one of the most used platform and some of the examples are as follows:

- **e-Agriculture**

(https://twitter.com/e_agriculture): e-Agriculture is a global community of practice, where people from all over the world exchange information, ideas, and resources related to the use of information and communication technologies (ICT) for sustainable agriculture and rural development. The twitter handle is used to share information in real time to the 60,000 followers as of Dec.2019 and catalyst for institutions and individuals in agriculture and rural development to share knowledge, learn from others and improve decision making about the vital role of ICTs to empower rural communities, improve rural livelihoods, and build sustainable agriculture and food security.

- IFFCO (https://twitter.com/IFFCO_PR): Indian Farmers Fertilizer Cooperative Limited (IFFCO) is one of India's largest cooperative society with an amalgamation of over 45,000 Indian cooperatives with diversified business interests. The Twitter handle is a platform for initiating dialogue and engaging with stakeholders on topics related to health, agriculture, and cohesive growth.

YouTube

YouTube, a video sharing platform, is the third most visited website in the world. A total number of 3.25 billion videos are watched on the website each month and more than half of the views are from mobile. Many individuals, organizations, and networks are leveraging its advantages. Few agriculture related YouTube channels in India and abroad are given below.

- Kissan Kerala (<https://www.youtube.com/user/kissankerala>): Kissan Kerala is an integrated, multi-modal Agriculture Information System for Kerala. Conceptualized, implemented and managed by Indian Institute of Information Technology and Management - Kerala (IIITM-K), Kissan Kerala provides several ICT enabled agricultural information services to the farming community. Information services are provided through multi-modal delivery platforms like online services, television program, mobile based information services, touch screen kiosks etc. With 55,521 subscribers and more than 35 million views, this channel provides telecast quality informative videos on agriculture, animal husbandry, fisheries and allied topics.

Blogs

Blogs contain detailed information on specific topics. They create and facilitate in-depth discussion on any issue through comments from the readers. With increased popularity, many blog competitions are also organized worldwide for rural youth to encourage them start a discussion about farming. Even organizations like World Bank, Food and Agriculture Organization (FAO) and International Food Policy Research Institute (IFPRI) have their own blogs not just to discuss issues but announce their new publications like policy papers, working papers, reports and so on; communicate summaries of important publications; and to increase awareness and discussion on important issues related to agriculture and rural development. Some interesting blogs that can be followed by extension professionals are discussed below.

- **Agricultural Extension in South Asia (AESAs) blogs:**

This blog explores the possibilities of social media in agricultural extension with examples from around the world about how it is currently being used.

WhatsApp

A messenger app for smartphones, it is an internet based messaging platform that supports text, audio, video, pdf and various other forms of files. Real time video chatting has also been integrated recently, making it more popular among users. Currently there are more than two billion users of the app in 180 countries. Though initially used for personal messaging, it is gaining more popularity among agricultural professionals and practitioners to share information, which is aided by the group messaging feature. There are few hundred thousand WhatsApp groups created for agricultural extension and advisory

services in India. Two examples of WhatsApp use by farming community from India are given below.

- eHorticulture: Created and maintained since 13th June, 2015 by Indian Institute of Horticulture Research (IIHR), Bengaluru, the group has 170 members and two administrators. A total of 98 posts on cultivation and management of horticultural crops, queries, press coverage, new technological innovations, etc. Experts of IIHR generally reply to the queries posted by farmers. Pictures were the most used media followed by URLs to web contents, documents, videos and audio files.

Conclusion:

In conclusion, this paper has tried to examine the concept of social media and its application to agricultural farming services. The popular social media tools i.e. Twitter, Blogs, Facebook, WhatsApp and YouTube are being used for information delivery and sharing across different agriculture subsectors (crops, horticulture, dairy, goat farming) in India. The quality of information shared through social media would be an important factor for its use by farming community.

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Application of Web Content Management Systems in Academic Libraries: An Overview

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Abstract :

The growth of Internet increased web based tools, the intranet and campus networks within the organizations have changed the role of libraries. Huge volumes of data are available in this networked environment for academic sharing. For integration and accession of this large amount information new technology called "web content management System" CMS are evolved.

The present paper dealt with the aspect of content, Content Management system, Types of CMS, Content Management Software for academic Libraries Websites, Advantages and Disadvantages of CMS and its applications with the aspects of Does and Don'ts of CMS.

Keywords- Internet, Content, Content Management Systems, Content Management Software,

Introduction :

1. What is Content?

- Content is created through "editorial process." This process is what humans do to prepare information for publication to an audience. It involves authoring, editing, reviewing, approving, versioning, comparing, and controlling.
- Content is information produced through editorial process and ultimately intended for human consumption via publication.
- Content is in essence, any type or 'unit' of digital information.
- It can be text, images, graphics, video, sound, documents, records etc
-or in other words, it can be anything that is likely to be stored and managed in an electronic format.

2. Content Management system:

A content management system (CMS) is a software package that provides some level of automation for the tasks required to effectively manage content.

Content management systems refer to computerized systems that manage submission, publication, modification and retrieval of digital contents in different forms and formats from a central administrative control panel. In library domain, the additional roles of a content management system also include management of different workflows right from submission to withdrawal in participative, interactive and collaborative environment.

A library content management system is essentially Web-enabled content management system to support creation, management, storage and deployment of knowledge objects. These objects are available in different forms and formats such as textual objects, objects with embedded graphics, photographs, video, audio, and research datasets. The ultimate aim of library content management system is to support end user retrieval and participation. Library content management systems have additional responsibilities in comparison with generic content management systems (like Joomla, Drupal etc). These additional responsibilities include management of copyright and other legalities, retention of authors' rights, privileges control (who submits/access what), version control, preservation, format management for object bit streams, purging control (withdrawal of metadata/items), and embargo control.

3. Types of Content Management Systems

- Web content management (WCM): The management of content primarily intended for mass delivery via a website.
- Enterprise content management (ECM): The management of general business content, not necessarily intended for mass delivery or consumption (e.g., employee resumes, incident reports, memos, etc.). This flavor was more traditionally known as "document management," but the label has been generalized over the years. ECM excels in collaboration, access control, and file management.
- Digital asset management (DAM): The management and manipulation of rich digital assets such as images, audio, and video for usage in other media.

- Records management (RM): The management of transactional information and other records that are created as a byproduct of business operations (e.g., sales records, access records, contracts, etc.).

4. Content Management Software for academic Libraries Websites:

A well-designed, up-to-date website is critical for a library of any size. Your patrons rely on your website for basic information about your library, such as directions to a branch or upcoming events. They also may go to your website hoping to search an online public access catalog (OPAC), download an e-book, or browse an online exhibit. A content management system, or CMS, can help you provide these services and manage them effectively, whether you have a volunteer managing your site or an entire department doing so.

A CMS is essentially a software package that lets you create and edit website content — including text, pictures, menus, and more — without having to know how to write code.

There are a lot of CMS platforms available, but some are better suited for library needs than others. Which one you choose will depend not just on your size, budget, and level of technical sophistication, but also on what kind of content you put on your website.

a) User-Friendly Systems:

For very small libraries with only one or two professional staff members, it probably doesn't make sense to spend a lot of money on a sophisticated CMS. A tool for simple sites that uses a WYSIWYG (What You See Is What You Get) interface and drag-and-drop design features can help you build a site with a few pages in only a couple of hours.

However, you'll need to look elsewhere if your library needs the ability to customize its website's design in detail. These systems mostly rely on pre-designed templates that limit flexibility in creating site structure, meaning that if you want to include an OPAC, access to other databases, or other electronic resources, you'll likely have to include a hyperlink that redirects users to another site.

Low-complexity options include Weebly, Wix, and Squarespace. These tools all offer free or very inexpensive versions that include ads as a concession to their low cost. They also provide a URL, or web address, rather than allowing you to use your own (for example, www.yourlibrary.weebly.com), though you can register your own domain for an extra fee.

b) Open Source for More Flexibility

Bigger libraries with staff or consultants dedicated to their sites' design and maintenance will need a CMS that allows for more architectural complexity and design flexibility. The library commitment to open-source CMS platforms needs of the user, in line with its general support for the freedom of information. Open-source software source code is available to anyone who wants to customize it. The software is often overseen by a community of developers or a nonprofit rather than a for-profit company. It's free to download and use, but installing and implementing it — and finding support for problems — may require working with a consultant with technical skills and familiarity with the system.

WordPress.org : is an open-source version of the very popular WordPress platform. Because it is easy to get up and running, several people recommended the tool for small and medium-sized libraries. The community of libraries using WordPress is sizable too, so it's likely you'll find a peer institution that's also using the platform and can talk through tips and tricks with its users. For the best experience using WordPress, it helps to know some HTML and CSS.

Disadvantages:

For sites over a few hundred pages, WordPress may prove frustrating and limited.

Joomla! Is another open-source platform gaining traction in libraries? It's known for being user-friendly, especially when you consider how well it scales to larger sites.

Disadvantages:

Drupal: The powerful Drupal platform offers a number of add-ons geared toward libraries, including an OPAC and integrations with popular e-book vendors. Drupal even has an online forum dedicated to the questions librarians and library IT staff face. Though it doesn't require a lot of programming knowledge to set up and operate.

Disadvantages:

Drupal is complex enough to merit the help of a consulting firm to implement the system, and dedicated staff to maintain the site.

All of these platforms are free to download, but once you factor in hosting costs, staff time, and potentially the cost of a consulting firm to help you get the site up and running and troubleshoot problems over time, your website will be a significant budget item.

Plone: Plone is a free and open source content management system built on top of the Zope

application server. Plone is positioned as an "Enterprise CMS" and is commonly used for intranets and as part of the web presence of large organizations. High-profile public sector users include the U.S. Federal Bureau of Investigation, Brazilian Government, United Nations, City of Bern (Switzerland), New South Wales Government (Australia), and European Environment Agency. Plone proponents cite its security track record and its accessibility as reasons to choose Plone.

Plone has a long tradition of development happening in so-called "sprints", in-person meetings of developers over the course of several days, the first having been held in 2003 and nine taking place in 2014. The largest sprint of the year is the sprint immediately following the annual conference. Certain other sprints are considered strategic so are funded directly by the Plone Foundation, although very few attendees are sponsored directly.

c) Library-Specific Platforms

The universe of CMS platforms includes several designed specifically for libraries. These platforms might be worth looking into for libraries whose needs are not met by a more generalized CMS, but keep in mind that you might have more difficulty finding a consultant or web host familiar with these platforms.

BiblioCMS is a CMS provided by BiblioCommons, the vendor behind the BiblioCore Software-As-a-Service OPAC popular with public libraries. For institutions already using BiblioCore, the ease of integration is a significant benefit.

LibGuides, provided by Springshare, is popular with academic libraries, and is most often used for subject guides and directories within library sites. It can also be used as the main CMS for your library's entire site.

Disadvantages:

The experts felt that this probably wouldn't be the best solution for larger libraries. It's also not as user-friendly as some of the more widely used content management systems.

Omeka is an open-source platform that adheres to the Dublin Core metadata standards being increasingly used. Omeka draws praise for the quality of its design and its ease of use.

Disadvantages:

The experts noted that the platform doesn't scale well to larger collections.

Advantages of CMS:

Low cost: subscriptions can be expensive, overall the cost of not having to hire full-time developers can lower the total costs.

Easy customization A universal layout is created, making pages have a similar theme and design without much code.

Easy to use WCMSs accommodate non-technical people. Simplicity in design causes not much training in coding or system maintenance.

Workflow management WCMSs allow administrators to set up rules for workflow management, guiding content managers through a series of steps required for each of their tasks.

Good For SEO WCMS websites also accommodate search engine optimization (SEO). Social media plug-in help build a community around content. RSS feeds automatically generated by blogs.

Disadvantages of CMS:

Cost of implementations software is required on bigger investments. Commitment to training, developing, and upkeep are costs incurred in any enterprise system

Cost of maintenance Maintaining WCMSs may require license updates, upgrades, and hardware maintenance.

Latency issues Larger WCMSs can experience latency if hardware infrastructure is not up to date, databases are used incorrectly.

Tool mixing Because the URLs of many WCMSs are dynamically generated with internal parameters and reference information, they are often not stable enough for static pages and other web tools, particularly search engines, to rely on them.

Security WCMS's are often forgotten about when hardware, software, and operating systems are patched for security threats. Due to lack of patching by the user, a hacker can use un-patched WCMS software to exploit vulnerabilities to enter an otherwise secure environment.

5. Implementation of CMS:

While day-to-day content changes should be handled by staff, alterations to site architecture, as well as site maintenance Open source CMS communities, including Drupal, Joomla and Plone, offer resource centers where users can find developer and technical support. CMS community tries to qualify people who register by asking for links to documented projects.

Publisher: Publishers can chose between a dedicated Web development firm and an individual

developer within the open source community. They both offer advantages and disadvantages: Web firms typically offer better support but a more entrenched, bureaucratic process for getting things done while an individual developer may offer more flexibility and cheaper prices but less support.

Pricing:

Offshore developers are typically charge per hour, Agency rates range are also on per hour but they often work on a sliding scale, such as giving the client a package of services.

Requirements for Partners:

Try to offer a sense of what Library or institution want before developing the site architecture and include all the templates Library or institution need in the initial build.

5. What a CMS Does

Let's break down the core functions of a CMS. In broad terms, what is the value proposition? Why are we better off with a CMS than without?

Control Content

A CMS allows us to get control of our content, which is something you'll understand well if your content is out of control.

CMS provides core control functions, such as:

Permissions Who can see this content? Who can change it? Who can delete it?

Versioning How does that version differ from the current version? Can I restore or republish an older version?

Dependency management What content is being used by what other content.

Content Reuse Using content in more than one place and in more than one way increases its value.

Some examples:

Reuse: reuse of content was one of the original problems that vexed early web developers.

The ability to reuse content is highly dependent on the structure of that content.

Content Automation and Aggregation: Having all of our content in a single location makes it easier to query and manipulate it.

If our content is structured correctly, we can manipulate it to display in different formats, publish it to different locations, and rearrange it on the fly to serve the needs of our visitors more effectively.

A good CMS enables editors to publish more content in a shorter time frame

6. What a CMS Doesn't Do

Now for the bad news: there are things a CMS doesn't do.

Create Content

A CMS simply manages content, it doesn't create content.

It doesn't write your news articles, procedure documents, or blog posts.

CMS won't ensure that your content is any good, either. Although a CMS might offer several tools to minimize poor-quality content from a technical standpoint CMS cannot edit your content to be sure it makes sense and meets the needs of your audience.

Create Marketing Plans

A CMS doesn't "know" anything about marketing. While some systems have marketing tools built into them

A CMS doesn't take the place of a creative team that understands your marketplace.

Effectively Format Content

While a CMS can structure content and automatically format it during publication.

Editors have never seen a button on an editing interface that they didn't want to press.

Governance is primarily a human discipline. You are determining the processes and policies that humans will abide by when working with your content. The CMS is just a framework for enforcement.

Conclusion:

The paper concluded that Content management is relatively a new concept in Library and Information Science disciplines. Today every institution adopted the technology like intranet or Internet. By using this web technologies nature of activities is similar to that of traditional knowledge management and content management the latter requires application of advanced technologies for handling web- and intranet based information.

The adoption of CMSs to manage libraries' web content is increasing. Using web content management tools, library staffs have many factors to take into consideration. These include, Content creation through editorial process, It can be text, images, graphics, video, sound, documents, records etc Besides these are not limited to, in-house technical expertise, desirability of open source solutions, satisfaction of peer libraries with considered systems, and library specific needs, such as workflow

management and customization requirements.

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Position of Library in Digital Era: Opportunities and Challenges

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Abstract :

Now a day technology going to change rapidly, huge technologies are related to upgrade library in digital era. We have reviews various research literature and found some sort of very much correlated work about opportunities and challenges in this articles, every libraries has more or less opportunities to correlate to technology to reach theirs reader members. Now the library is without walls, this is challenging to reader but library provide reading malarial on a single click to him. Internet is the revolution to distribute the study material to student, teachers and reader as per their needs. We propose review of sophisticated literature to understand the challenges and opportunities in the literature.

Keywords- Digital library, Internet Information, e-Books, e-Journals.

Introduction :

The Current evolution in Information and Communication Technology (ICT) have made the concept “Libraries without walls” into a practical truth. This has posed several challenges to the information work force and the information users[1]. In last few years the Internet has become a true component part of the process of education in many countries in Europe. This global computing information technology network has brought us many types of applications of computer technology suitable for learning [2]. Technology and Internet Distributed information to Network System which created scope for research in the area of information system and its related fields. Digital Library, one of the most recent development in Library and Information Science, which help its user to seek information through web browser [3] The Library information services are a most important element in libraries since the ancient times. Their vital role is growingly measure of the library’s contribution to the transformation and development of a society and the nation at large. The use of Information Communication Technologies (ICTs) has caused a transformation in the users’ perception from what is being hosted in the library to how and when services are rendered to fulfil their requests [4]. Purpose: This study explores both library users’ and librarians’ experiences, benefits, and challenges depending on the implementation of digital technologies in academic libraries. The research has been taken place in two Greek academic libraries; In the Panteion University Library and in the Central Library of T.E.I. of Athens [5]. Approach: Two research questions were developed for this research to be conducted and a sample size of 55 respondents (39 library users and 16 librarians) of the Panteion University Library and Central Library of T.E.I. of Athens, was evaluated [5]. No library, however big it may be, is able to satisfy all the needs of its clientele due to various constraints. It is because of this phenomenon that the concept of resource sharing has developed. Initially the term used for resource sharing activities was library cooperation. Though cooperation theoretically could embrace almost all library activities, practically it was confined to inter-library loan of library documents [11].

Related work of Digital Era:

Developments in computers, microelectronics and communication technologies have drastically developing the library and information environment. In this regard, the information environment is changing greatly throughout the world. Digital libraries are emerging as an important area of research and number of other related disciplines for information science in information age. The information technology has made a profound impact on availability and accessibility of e-resources [1]. In last few years the Internet has become a true component part of the process of education in many countries in Europe. This global computer network has brought us many types of applications of computer technology suitable for learning [2]. Library information services are a key element in libraries since the ancient times. Their vital role is increasingly becoming a measure of the library’s contribution to the transformation and development of a society and the nation at large. The use of Information Communication Technologies (ICTs) has caused a transformation in the users’ perception from what is being hosted in the library to how and when services are rendered to fulfill their requests [3]. Purpose: This study

explores both library users' and librarians' experiences, benefits, and challenges depending on the implementation of digital technologies in academic libraries. The research has been taken place in two Greek academic libraries; In the Panteion University Library and in the Central Library of T.E.I. of Athens. Approach: Two research questions were developed for this research to be conducted and a sample size of 55 respondents (39 library users and 16 librarians) of the Panteion University Library and Central Library of T.E.I. of Athens, was evaluated [5]. Linking the electronic health record to the digital library is a Web-era reformulation of the long-standing informatics goal of seamless integration of automated clinical data and relevant knowledge-based information to support informed decisions. The spread of the Internet, the development of the World Wide Web, and converging format standards for electronic health data and digital publications make effective linking increasingly feasible. Some existing systems link electronic health data and knowledge-based information in limited settings or limited ways [6]. In this era, the academic library traditional position as central mediator is no longer guaranteed. Today, many academic information consumers reject the library's mediation in their search for information; they prefer to do it on their own, using their personal computer. From home, office, bus or the coffee shop they search through Google, Yahoo and likes as their homepage instead of using the academic library facilities, the physical ones and/or on lines. (See, for example, Budd, 2009; Martell, 2008; Nicholas et. al, 2008b) [7]. The primitive idea of 'library' connoted a storehouse of written document mainly based on clay tablets, palm leaves, waved wooden boards, papyrus role, etc. but with the advancement of knowledge in the human civilizations, the library has become the nerve centre of the civilized society. It becomes the sign and symbol of incentive to become dynamic and regarded the rich springs from which knowledge flows out to irrigate the wide fields of education and culture. It becomes an important medium of continuing self- education. With the increase in the demand for libraries, there arose the concept of collection development. Collection as defined by the Webster Dictionary is a "publication containing a variety of works". However, in the connotations of library science, the term collection refers to book selection, library acquisition, building the collection and developing it (i.e. collection development) [8]. No library, however big it may be, is able to satisfy all the needs of its clientele due to various constraints. It is because of this phenomenon that the concept of resource sharing has developed [9].

Opportunities of Library in Digital Era:

The concept of digital libraries and its objectives in university digital system and challenges has been discussed in digital libraries environment. This research paper is highlighted infrastructure and technology as challenges facing and parameters of digital environment [1]. However, there are still some methods and procedures which are part of this global network and are still not sufficiently used [2]. Internet and Distributed Network System created scope for research in the area of information system and its related fields. Digital Library, one of the most recent development in Library and Information Science, which help its user to seek information through web browser [3]. Consequently, libraries are becoming less important for the material they collect or house. Instead, their importance is being measured in respect to the fulfilment of the users' requests. The movement of material from publishers and hosting them for "just in case" some users will need them is being replaced by delivering materials from publishers "just in time" to answer the user's needs [4]. Findings: From the findings of the study, it was concluded that the general perception of both library users and librarians towards digital material and E-resources and services of the Panteion University Library and Central Library of T.E.I. Of Athens, is satisfactory. Library users were satisfied with the convenience of digital material, the availability of E-resources provided by both academic libraries such as World Wide Web, WIFI, and online databases [5]. Disintermediation in academic libraries is the proper term for this phenomenon (Housewright, 2009; Lukasiewicz, 2007). It is not the only symptom of the digital era libraries are coping with but with no doubt it is a huge challenge, (not just a threat) for academic libraries. It gives the academic library the opportunity and the duty to research itself and define new roles, more fitted to this changing environment and its users [6]. All these terms are used to describe the process of building a collection in the library, following certain canons and principles and to add library materials to the existing holdings of the library annually or periodically. But, there has been a metamorphosis in the terminology and 'collection development' that has replaced the other terms in general [7]. An in-depth study of the varied nuances of meaning of the concept is, therefore, imperative before the real study takes off. In earliest times, there was no distinction between a record room (and archive) and a library, and in this sense libraries can be said to have existed for almost as long as records have been kept. A temple in a Babylonian town of Nippur, dating the first half of the 3rd millennium BC, was found to have a number of rooms filled with clay tablets, suggesting a well-stocked archive or library. Similar collections of Assyrian clay tablets of the 2nd millennium BC were also found in Egypt [8]. The changing expectations and demands of library users are forcing libraries to

reassess their role in the digital age. Amidst this change there is a fundamental constant- the need for access to high-quality research materials. Success in the new environment will require learning much more than we now know about the use of digital resources, their preservation, and the training needed for operating the library of the future [9]. Library and information Services are playing an important role in digital era. Library services are now depends upon the information and Communication Technology. This paper is highlight the services of libraries with new technology [10]. Initially the term used for resource sharing activities was library cooperation. Though cooperation theoretically could embrace almost all library activities, practically it was confined to inter-library loan of library documents. But due to physical distance and other reasons even this limited system of cooperation was not being practiced widely [10].

Challenges of Library in Digital Era:

With the application of IT university libraries could gradually overcome such challenges and opportunities in consideration of users' perspective. University librarians are facing difference challenges which have been focused in this study. It is also mentioned users' expectation and requirements for digital environment in university libraries. The paper focuses its opportunities in digital environment in university libraries [1]. As a result of this opinion, a small group of students of the 4th year of library and information sciences at the Faculty of Philosophy in Zagreb, proposed a project which, they think, would solve the problem of inadequate quantity of printed exam materials at the Faculty necessary for the successful completion of exams by use of a digital collection containing equivalent ready-for-use material in electronic form [2]. Digital Library is organized assortment of information, with its supported services and a place where the information is kept in digital format and can be retrieved over a networks. Since last one decade researchers are focusing on the users of Digital Library to develop more efficient and effective system to provide quality service to users. The aim of this paper is to provide literature on Digital Library with respect to its users that may be helpful for future research. The paper discusses about the users centric approach in the context of Digital Library. Researchers are working on the system upgradation by using wireless technology to connect with end users directly with libraries. Further, other areas such as user's Perception, Attitude, Adoption and Satisfaction with respect to digital library are also discussed [3]. However, this transformation has brought a challenge in the field of library information services of dealing with the ever-increasing complexity of information, differentiating useful information from mis-information, and upholding the rising needs expectations of the users. This paper will discuss the available technological opportunities that can be used by the library information services in addressing such challenges [4]. They were not satisfied with library technology (i.e., computers) and library staff. Besides, results showed that services such as e-mail and Open Public Access Catalogue were used more often. Librarians were less satisfied with the digital library system, the limited personnel, and the financial funds for academic libraries in general. Implication: The results of this research have implications in the stakeholders of an academic library including the institutional management, the library administration, the librarians, the library users, the researchers, the community at large, and others. Value: This paper identifies critical issues related to the utilization of digital technologies and digital material; their benefits and challenges faced by librarians and library users as well as their effective operation from academic libraries in this information age [5]. Yet many challenging informatics research problems remain to be solved before flexible and seamless linking becomes a reality and before systems become capable of delivering the specific piece of information needed at the time and place a decision must be made. Connecting the electronic health record to the digital library also requires positive resolution of important policy issues, including health data privacy, government encouragement of high-speed communications, electronic intellectual property rights, and standards for health data and for digital libraries. Both the research problems and the policy issues should be important priorities for the field of medical informatics [6].

Academic libraries and its librarian have a lot to offer. Their expertise within the field of information including retrieval skills, metadata, information and knowledge management or even the familiarity of using criteria in order to judge reliability and accuracy (in other words, the quality) of information is an important professional tools. It is rare qualities and valuable ones at the current information environment [7]. Ashurbanipal (reigned 668-c. 627 BC), the last of the great kings of Assyria, maintained an archive of some

25,000 tablets, comprising transcripts and texts systematically collected from temples throughout his kingdom (Encyclopaedia Britannica, 2004; CD-ROM, p.2291).Above this background, the article has to emphasize over the problems and challenges of Collection development of Indian libraries in digital era [8]. This article examines three essential questions and suggests areas for research in each: How are digital resource user's best served: What resources will they want? How will they want to use them? And,

what services will most enhance use? What elements are required for a coherent preservation strategy covering resources both digital and traditional? What kinds of education will “librarians” of the future need? [9]. It determines the varied elements of ICT. It also define the functions and challenges of ICT based mostly [10].

However, with the advent of ICT and its application in library activities, new opportunities opened up for greater cooperation among libraries. At the global level Internet and at the national and local level several library networks came in vogue and databases created for information sharing. In recent years availability of information resources in digital or electronic medium has further facilitated exchange of information resources among libraries, thus creating favourable condition for increased resource sharing. Emergence of library consortia is a very promising development in this direction [11].

Conclusion:

Many digital literature found related to technology going to change rapidly, hues technologies are related to upgrade library in digital era. In this research article we reviews various informative research literatures and found some sort about opportunities and challenges in these articles, now a days every libraries has more or less opportunities to correlate to technology to reach theirs reader members. Now the library is without walls, this is challenging to reader but library provide reading malarial on a single click to him. Internet is the revolution to distribute the study material to student, teachers and reader as per their needs. We propose review of sophisticated literature to understand the challenges and opportunities in the literature.

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Challenges in Development Digital Libraries

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Abstract :

The process of developing digital library involves a huge investment for the digitalization of existing collection and acquiring new e-resources. The libraries having low income are unable to invest in digital library and digitization process. In the present paper author tried to focus on some representative challenges occurs while developing digital libraries in today's environment. These challenges may vary by library to library and location to location of library. It will help the library professionals to consider and overcome these barriers before and after developing digital libraries.

Keywords- digital library, e-contents, license, copyright, COUNTER, security

Introduction :

The advancement of information communication technology has become a probable medium for socioeconomic growth and development among developing countries. The digital libraries are became one of the successful medium of these changes in society and it happened due to application of information communication technology by traditional libraries. It helps to cater the needs of scientific and research community as well as society also. Today's era is known as era of open access or open initiatives. Therefore the libraries have to transform their collection and services from traditional to global or digital library. Bhattacharya (2004) very aptly said that, the emergence of information technology and computer networks have provided the means of acquire, store and disseminate the information in digital format in very short time. Digital libraries are worked for the particularly defined user groups by providing resources in the electronic or digital form.

Purpose of Digital Library:

Bhattacharya (2004) has described the primary purpose of the digital library is to provide coherent access to a very large and organized information along with the appropriate reference tools. These tools are helps to identify and evaluate the possible sources and types of information. It plays an important role in education and research process. It can provide access to many knowledge networks around the world. It provides information in various formats and it has no restrictions of availability. The scholarly contents published anywhere in the world can be easily access through digital library. The digital library can provide access in remote areas and can be accessed simultaneously by more than one user.

Challenges in developing Digital library

Content and pricing

The very first thing in developing digital libraries is the e-contents. It is very crucial to determine the format of e-content in which it should be acquire and what will be the frequency of its updates. To what extend the back issues of e-contents should make available or archive for future access etc. Whereas the pricing pattern of e-resources packages are significantly different from each other. There is need to consider the cost, physical storage, availability and access of e-resources while subscribing for libraries. The pricing model which gives maximum access with archives can satisfy the needs of library users. All these things should be considered while subscribing e-resources for libraries.

Infrastructure

There is need to have proper infrastructure like hardware, software, equipments and power backup for effective access to e-resources in digital libraries. It should have regular maintenance of all these equipments. There are various types of access to e-resources. There is IP based access or login password based access of e-resources. In the IP based access multiple users can access the e-resources available in digital library on one particular IP address. It is preferred by more libraries. It provides access to only authorized users through proxy server of library. There is also need proper training to operate these infrastructure and access to e-resources. The e-resources should be compatible with hardware and physical infrastructure.

Functionality and reliability

According to Sinha (2005), the digital library platform should be user friendly, easy to search the

required information, and user should be able to save search history of accessed e-resources also. There should be a powerful search engine with all necessary features like keyword and Boolean logic searching, full text searching, truncation type searching pattern, relevancy ranking etc. which helps users to search required information in minimum time. The e-resources available on the digital library system should be accessible to users at any time with minimum downtime.

Technological Non-use

The rapidly changing technological advancement leads hardware and software non-use in very short time. It is not so easy to maintain the speed of these advancements to many organizations. It is one of the major challenges in developing and managing digital library. To make sure the longer existence of the available electronic resources there is need to have continuous development and up gradation of information storage and retrieval equipments. There should be regular access to techniques and technology. For keeping up to date with new advancements, it is very crucial to transfer old files and other electronic information in to new formats and platforms.

Archiving / preserving e-resources

The libraries have not ownership to any kind of e-resources and it cannot preserve or store their e-contents for future usage. It is time bound access based on pricing and subscription model that libraries have chosen while purchasing particular e-resource. It is very important to have guarantee that if any institution or library stopped to subscribe any e-resources, they should have right to access the contents previously subscribed by that particular library. So there is need to consider the important thing, whether the e-resources provider is giving access to archive the e-contents or it permits to preserve the contents for future access to that particular e-resource previously subscribed by libraries.

Copyright

A major challenge usually come out while developing digital library is to meet the terms of copyright and other intellectual property rights matters. Copyright is a system that gives exclusive rights to authors or creators of an original work in relation to publish, distribute and when it will be open to share in public. The digital library is an online version of traditional library. So it comes under the copyright laws and there are restrictions to reproduce or share the subscribed e-contents outside the campus or user community.

Licensing issues

The e-resources are not purchased like print resources. It requires signed license agreement to access the e-contents available in any e-resource. The license agreement should be review at the time of purchase as it contains the types of use (IP based or Multiuser) and how many users can access it at the same time. The publisher's policy for preservation of contents is mentioned in license agreements. It also covers the notice of renewal of subscription or permits sufficient time for review of the resources.

Renewal and review of uses

As per as renewal of e-resource is concern, there should be review of access statistics before renewal the e-resources. If it is accessed at sufficient time by our users then it should be renew regularly. If the access is less as compare with subscription price, then there is need to consider while renewal of such e-resources. The library should demand the access report of e-resource which is known as COUNTER (Counting Online Usage of Networked E-Resources) and / SUSHI (Standard Usage Statistics Harvesting Initiative). The libraries have to ensure the expenditure from budget on e-resources that helps to achieve the objectives of the organization.

Security: Kadam (2013) focused on the key considerations of information security and said that, to secure the information digitized for digital libraries is the biggest challenge while developing digital libraries. The physical assets are visible and one can easily know their value. But it is not easy to understand the value of information unless one is familiar with organizational goals and objectives. There is need to have familiarity with components such as piracy of databases, virus infection, various types of malwares etc; and digital library personnel should know methodologies of protection on instant basis. There should be provision of highly configured antivirus software. There is need to have strongest policy to encounter the emerging threats of security. The digital library personnel should also trained to guard digital library against such threats based on the risks while working with digital contents.

Lack of expertise: There are very few vendors available for supplying digital materials and services of digital libraries in the world. There is an urgent need to enlarge this capability across Asian countries also (Iyer, 1999). There is also need to adopt the required skills or expertise for handling such technologies. The organizations should motivate their personnel to learn and adopt the new skills to struggle with cyber threats.

User Education: The user is very important aspect for whom libraries are transforming their traditional

nature in digital libraries. The end user should also aware and knows about the importance and its utility value of the digital content available in digital libraries. That's why there is strong need to educate and aware the users for accessing the e-resources available in digital libraries. The regular training can helps users to access the e-contents very effectively.

Conclusion:

The development of digital library is the very long and challenging process and library professionals have to apply proper skills while planning the digital library. Library professionals have to manage the collection of both print and e-resources. The library professionals have to identify and facilitate the access to e-resources but at the same time we have to educate the users about their use and availability also. The users are demanding the information in electronic formats. This process of transformation from traditional to digital library can helps to reduce the cost of processing and storage. But there is need to have balance collection of printed as well as e-resources. The importance of intellectual property rights and information security aspects should also consider while developing and effectively management of digital library.

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Role of Social Networking Sites in Libraries

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Abstract :

This paper is to look at the implication and use of the most important social networking tools in libraries. Academic Library staff members are use and create various forms of social Networks in library for their work and it influence and help to the users. Social networking sites can be successful process of users outreach in libraries if Libraries and Information Professionals to obtain and think about to respect user's privacy and to make available equal exposure for all areas. The most popularity of the social networking sites can modify quickly library environment and libraries should consider using social networking sites as an outreach effort but take care to avoid the potential negative consequences.

Keywords- Social Networking sites, Social Networking, libraries, Digital Library, Information Professionals.

Introduction :

Today's Information & Communication Technology is approach to transmitting the ideas, thought & Information between one user to another users and understanding through the interaction, sharing or exchanging information, ideas or feelings. There are various technique to communicate that establish through the network, web technologies are creating more friendly, social & fun environments for retrieving and sharing information and one of such Social networking websites are a good example of communication network. It is a social structure that lets the user interact and work collaboratively with other users. ICT will continue to change, and Libraries and Information Professionals have to use the changing technology to provide the best access and services to their users. Electronic information creates challenges for the library society, it's very foundation, moving, it away from the traditional paper-and-print format to an ethereal world of circuits and connectivity. Libraries have a role to identify the importance and recognition of user-generated content in the larger awareness of sharing best practices in any given area.

Social Networking sites are used in effective media of communication. The social networking sites are connected to users for common purpose. Today's age, social networking sites helps to improve Information Professionals as well as library services. The Social Networking sites are totally changed the traditional library services. Information Professionals can reach through Social Networking sites to number of users at time and they are able to provide similar information to large community of users. The use of social networking sites in library is increasing days by day & it helps to Information Professionals to build personal interaction with their users.

DEFINITIONS:

Social Networking sites : "Social networking site" is an online platform that allow users to create a public profile and interact with other users on the website. Social networking sites usually have a new user input list of user with whom they share connection & then allow the user on the list to confirm or deny the connection. After connections are established, the new user can search the networks of connections to make more connections.

Social Networking : "Social Networking is a range of web-enabled software programs that allow users to interact and work collaboratively with other users. It included to browse, to search, and invite friends to connect & interact, share film reviews, comments, events, videos, ratings, music, and classified information.

Digital Library : is a collection of documents in organized by electronic form, available on the Internet & CD-ROM (compact-disk read-only memory) disks.

Information Professionals : Information professionals is someone who collects, records, organizes, stores, preserves, retrieves, and disseminates printed and digital information. The 'information professional' is also used to describe other similar professions, such as archivists, information managers, specialists, and records managers.

SOCIAL NETWORKING TOOLS IN LIBRARIES

Social Networking tools for interacting and exchanging ideas has changed the development of research and scholarly communication in the academic background. Social networking site tools have a fundamental impact of networked information on academics behavior and the attitudes in which they work, communicate access information, work together and distribute their research outputs. S M Dnyandeo Mohekar Mahavidhyalaya Library using social media tools for the encouragement, improvement and delivery of services and the collection.



Fig-1. S.M Dnyandeo Mohekar Mahavidhyalaya Library, Kalamb home page



Fig-2. S.M Dnyandeo Mohekar Mahavidhyalaya , Kalamb facebook page

PURPOSE OF SOCIAL NETWORKING SITES IN LIBRARIES

Social networking provides advancements in communication & self expression. The main goal of the Social Networking Sites is to provide an interactive environment to communicate with useful information.

To Find Useful Information: Social Networking Sites are a new platform for information sharing and communication, where users can read, download and upload valuable information and share with users.

To Academic Purpose: School, College and University and other institutions are use of use to the academic purpose. They also help in providing reference utility at admission time. The libraries also utilize this technology to provide need- based services to the users.

To Get Opinions on Different Subjects: Social Networking Sites users post their comments on a subject matter for open discussion. Users give their feedback in the form of comments regarding the topics posted.

To Discussion Forum : Users on these sites connect different groups i.e. academic, business, political and social welfare. Users of Social Networking Sites discuss common matters on related problems.

To Share Experience and Expertise : School, College and University and other institutions are use

of these types of media in order to provide information.

To Interactive Media of Communication to Phone/E-Mail : Social Networking Sites are free services provided by the Internet. These sites provide easier, cheaper, faster and more interactive features for communication than communication tools such as mobile or email.

To Helps in Study and Learning : It is a virtuous network among students and teachers. This medium provides an interactive classroom environment among teachers and learners.

To Advertisements: Social Networking Sites users can advertise a specific product on an idea to create awareness among their users. These are also used to publicize different issues and to get feedbacks.

Utilization of Social Networking and IT Application In Library

User approach towards library is changing gradually; it wants most practical and speedily information in e-learning age. Social networking helps library professional to share information with users in the easiest way for digital library environment. Social networking can be successful by conducting maximum research and experiment on social networking from different point of view on library. Social networking tools were helpful to promoting library services consistent with the finding purposes for which libraries used social networking tools were promotion of library events such as exhibitions, competitions, seminars, workshops, tutorials, training courses and dissemination of news events, and library updates.

Librarian can use in three major activities in library and information services.

Information sharing : this process librarian can keep constant touch and effective interaction with staff, students and faculty in online collaborative environment. The tools are MySpace, Facebook, Ning, Blog, Meebo, LinkedIn, Twitter, What's up and so more.

Information Distribution : Information sharing is the major part and crucial area where professionals should look seriously while considering and designing library activities in digital age. Users' satisfaction should give first and foremost priority by providing right information at the right time in a right way from anywhere. The below mentioned tools: Flickr, YouTube, TeacherTube, Wikipedia, PBwiki, Footnote, Community Walk, SlideShare, Digg, StumbleUpon, Daft Doggy.

Knowledge Organization : Social software can help the professionals in Knowledge Organization environment for getting handy information which can be accessible with the social networking technologies in web 2.0 milieu. The below mentioned tools : aNobii, Del.icio.us, Netvibes, Connotea, lib.rario.us

CONCLUSION :

Social networking sites proved a vast area for communication with others, which are online network. Libraries can proliferate to these networks for reaching out strategy to new generation users at their own space and time but it is also important that to provide quality services and interact with users efficiently. These applications mainly serve as a resource centre to users and above mentioned social networks help to all students, lecturers and researchers they can share and exchange knowledge. Sharing information and knowledge with one to another, they are able to increase both their learning and their flexibility in ways that will not be possible within a self-contained hierarchical organization. The library can connect to provide information and services to the campus. The implication of social networks can be successful conducting to all global libraries.

Now a day's Information Communication Technology is approach to transmitting the idea or thought or

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डिजिटल ग्रंथालय

काळे सचिन भाऊराव
संशोधक
स्वा.रा.ती.म. विद्यापीठ, नांदेड.

सय्यद अनीस मोइनोद्दीन
संशोधक
स्वा.रा.ती.म. विद्यापीठ, नांदेड.

सार :-

डिजिटल ग्रंथालय ही संकल्पना अशा माहिती प्रणाली आणि सेवांकरिता वापरली जाते जी इलेक्ट्रॉनिक स्वरूपातील प्रलेख उदा. टेक्ट फाईल, डिजिटल साऊंड व डिजिटल व्हिडीओ इ. आधुनिक स्वरूपातील प्रलेख पुरवीते. डिजिटल ग्रंथालयाचे कार्य हे मुख्यतः संगणक संदेश वहन सुविधा तसेच आधुनिक तंत्रज्ञानाच्या वापरातील ग्रंथालय व्यवसायीकांचे कौशल्य, ज्ञान आणि वापरली जाणारी साधने यावर अवलंबून असते. यामधील मुलभूत संकल्पना हि जगभरातील डिजिटल स्वरूपातील माहितीचा विश्वव्यापी वापर अशी आहे. डिजिटल ग्रंथालय ही अशी सार्वजनिक जागा असते ज्याद्वारे कोणतीही शैक्षणिक संस्था, संशोधक वाचक किंवा शिक्षण तज्ञ आपल्याला हवी असणारी माहिती कामाच्या ठिकाणाहून प्राप्त करू शकते.

प्रस्तावना :-

दुसऱ्या महायुद्धानंतरच्या औद्योगिक क्रांतीच्या पार्श्वभूमीवर जेव्हा छापखान्यांचा शोध लागला. तेव्हा पासून ग्रंथालयाकडे येणाऱ्या वेगवेगळ्या स्वरूपातील साहित्याचा ओघही वाढत गेला आणि या ग्रंथालयाचा विकास झपाट्याने सुरु झाला. पुढे अनेक नवनविन माध्यमांचा शोध लागला उदा. मायक्रो फॉर्मस, चुंबकीय ध्वनी मुद्रन, चलचित्र प्रकाशीय व शेवटी इलेक्ट्रॉनिक माध्यमे. इलेक्ट्रॉनिक माध्यमांच्या प्रवाहातही वेगवेगळे प्रवाह आपण पाहिले त्यात ई-जर्नल, ई-स्रोत व इंटरनेट इत्यादी. विविध प्रकारचा समावेश होतो. संगणकाच्या वापराने तसेच इलेक्ट्रॉनिक माध्यमांच्या प्रभावाचा ग्रंथालयाला अलीकडच्या काळात झालेल्या विकासावर खुप परिणाम झालेला दिसतो त्याचा परिपाक म्हणून इलेक्ट्रॉनिक ग्रंथालय (१९७० च्या दशकात), क्षितीजावीना ग्रंथालय (Libraries without boundaries) Virtual Library (Animation) तंत्रज्ञानासह जवळजवळ पूर्ण इलेक्ट्रॉनिक ग्रंथालयाचा आभास निर्माण करणारी ग्रंथालय. अशा नव-नविन तांत्रिक संकल्पना (Concepts) उदयास आल्या आणि सरते शेवटी डिजिटल ग्रंथालय या नविन तंत्रज्ञानाच्या संकल्पनेचा उदय झाला. आजच्या घडीस आपण डिजिटल ग्रंथालयाच्या उभरतयावर उभे आहोत. आधुनिक माहितीच्या क्रांतीमुळे व माहिती तंत्रज्ञानाच्या विकासामुळे माहितीच्या हाताळणीस तांत्रिक अश्वशक्ती उपलब्ध झाली आहे. जर माहिती हे ज्ञानाचे चलन असेल तर डिजिटल ग्रंथालय हे त्या चलनासाठी बँक आहे. इतके महत्त्व डिजिटल ग्रंथालयास आज प्राप्त होत आहे.

संशोधनाची उद्देश :-

१. ग्रंथालयीन कर्मचारी व वापरकर्त्यांच्या वेळेची बचत करणे
२. वापरकर्त्यांना त्यांच्या मागणीनुसार अद्यायावत सुविधा पुरविणे
३. ग्रंथालय सेवांची व्याप्ती वाढवीने
४. उपलब्ध ग्रंथ साहित्याचे परिवर्तन घडविणे

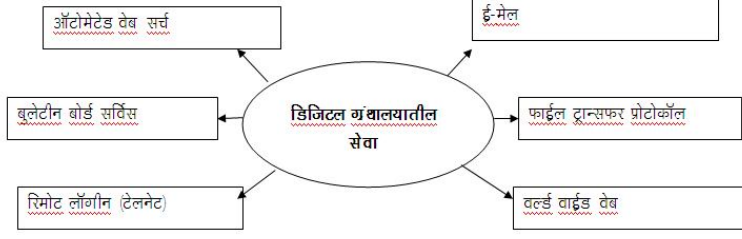
डिजिटल ग्रंथालय म्हणजे :-

ट्रेन्स स्मित :- डिजिटल ग्रंथालय शास्त्रशुद्ध पध्दतीने तयार केलेले व डिजिटल तंत्रज्ञानाचा वापर करून त्यांनी व्यवस्थित मांडणी करून ते वापरण्यासाठी विविध पध्दतीचे व विविध अंगानी वापरण्याजोग्या मार्गासहीत उपलब्ध डिजिटल साहित्यसंग्रह होय

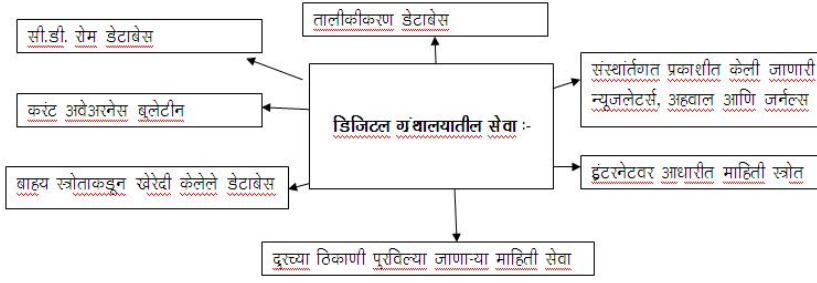
आर्म्स :- डिजिटल ग्रंथालयाच्या ठिकाणी साहित्य संग्रह हा डिजिटल स्वरूपात साठविलेला असतो व नेटवर्कच्या माध्यमातून तो वापरता येतो

आर.आर. लार्सन :- डिजिटल ग्रंथालय म्हणजे विश्वव्यापी किंवा जागतीक व्हर्चुवल ग्रंथालय, हजारो नेटवर्क्स असणाऱ्या इलेक्ट्रॉनिक ग्रंथालयाचे ग्रंथालय होय

डिजिटल ग्रंथालयातील सेवा :-



वापरकर्त्यांना देण्यात येणाऱ्या सेवा :-



डिजिटल ग्रंथालयाचे प्रकार :-

१. संस्थात्मक भांडार
२. डिजिटल संग्रह
३. आज्ञावली
४. मेटाडेटा
५. शोध
६. डिजिटल जतन
७. कॉपीराईट आणि परवाना
८. शिफारस प्रणाली

डिजिटल ग्रंथालयातील मुख्य कार्य :-

१. मुद्रित साहित्याचे डिजिटल स्वरूपात रूपांतर करणे तसेच डिजिटल स्वरूपातील माहितीचे उपार्जन करणे.
 २. मेटाडेटा, निर्मिती प्रक्रिया आणि वर्णन
 ३. इंटरनेट, इंट्रानेट आणि एक्सट्रानेटवर उपलब्ध करून देण्यासाठी डिजिटल स्रोतांचा साठा उपयुक्त साधनाव्दारे नेटवर्किंग वातावरणामध्ये पोषक स्वरूपात करून देणे.
 ४. ब्राऊजर किंवा डेडीकेटेड क्लाइंट व्दारे वाचकांना माहितीची उपलब्धता करून देणे.
- फक्त वरील घटकच डिजिटल ग्रंथालय निर्मितीकरिता उपयुक्त ठरतात असे नाही, तर ते डिजिटल स्वरूपातील माहिती वितरण प्रणालीकरिता महत्वाचे घटक म्हणून कार्य करतात.

डिजिटल ग्रंथालयाचे फायदे :-

१. जागतीक स्तरावर माहितीची उपलब्धता व वापर
२. दुर्मिळ वाचन साहित्याचे संरक्षण व संवर्धन
३. माहिती तंत्रज्ञानाचा परिपूर्ण वापर व गतीमान माहिती प्रतिप्राप्ती.
४. अंतिम वापरकर्त्यांचे समाधान आणि संख्यामधे वाढ.
५. कोणतीही शारिरीक सिमा नाही.

६. चौवीस तास उपलब्धता
७. संरचित दृष्टीकोन
८. नेटवर्कींग
९. एकाधिक प्रवेश

डिजिटल ग्रंथालयाच्या मर्यादा :-

१. गुणवत्ता नियंत्रणाचा आभाव
२. पारंपारीक प्रकाशक आणि ग्रंथपाल यांच्याकरिता कामाचे नुकसान
३. डिजिटलाइजेशन करिता खर्चाचे प्रमाण अधिक.
४. इलेक्ट्रॉनिक स्वरूपातील माहितीचे जतन व रक्षण हे आव्हानात्मक कार्य.
५. डिजिटल स्वरूपातील माहितीची किंमत निर्धारण हे गुंतागुंतीचे कार्य
६. हार्डवेअर किंवा सॉफ्टवेअर चे अपयश संपूर्ण डिजिटल ग्रंथालयाच्या कार्यक्षमतेवर विपरित परिणाम.

डिजिटल ग्रंथालय सॉफ्टवेअर :-

१. ग्रिन स्टोन :

जी.एन.यु. जनरल पब्लीक लायसन्सेस च्या अंतर्गत ग्रिनस्टोन डिजिटल ग्रंथालय हे ओपन सोर्स सॉफ्टवेअर सर्वांकरिता उपलब्ध केले जात आहे हे सॉफ्टवेअर न्युझिलंड येथील वैकाटो विद्यापीठाने विकसित केले आहे या सॉफ्टवेअर मध्ये डबर्लीन कोअर या मेटाडेटा प्रमाणकाचा वापर केला जातो.

२. डी.-स्पेस :-

डी-स्पेस सॉफ्टवेअर हेल्वेट पॅकड आणि म्यासुचेस्ट इंन्स्टिट्यूट ऑफ टेक्नॉलॉजी या संशोधन संस्थांच्या सहकार्यातून विकसित करण्यात आले आहे. हे सॉफ्टवेअर जाव या प्रोग्रामिंग लॅन्वेजवर आधारित आहे.

निष्कर्ष :-

डिजिटल ग्रंथालय क्षेत्र अद्याप नविन आहे हे लक्षात घेता डिजिटल ग्रंथालयांना वाढविण्याबद्दल आधिच बोलने आश्चर्यकारक वाटते या वेगवान गतीशील वातावरणात, डिजीटायलायझेशन प्रकल्पाव्दारे प्रारंभीक डिजिटल ग्रंथालय अगदी आभासी संकलनावर देखील वापरकर्त्यांच्या रुपात वर्धित केल्या जात आहेत. या तिव्र क्रियांच्या मध्यभागी अपेक्षा आणि तंत्रज्ञाना क्षमता अनुमती देते, वापरकर्त्यांची आवश्यकता आणि हितसंबंधाचे विश्लेषण करणे आणि नंतर डिजिटल लायब्ररी वाढविण्यासाठी वापरल्या जाणाऱ्या ज्ञानसंस्था प्रणालीची ओळख पटविणे मौल्यवान आहे. डिजिटल लॅब्ररिच्या सुरवातीच्या संस्थेच्या पलीकडे जाऊन डिजिटल ग्रंथालय त्याच्या वापरकर्त्यांस अतिरिक्त मुल्य प्रदान करण्यासाठी नेटवर्क वातावरण वापरू शकतात.

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डिजिटल ग्रंथालय : आजची गरज ; उदयाची सोय

प्रा.अमृता रविकीरण शिंदे

सहाय्यक प्राध्यापक

तुळजाराम चतुरचंद कला, विज्ञान व वाणिज्य महाविद्यालय, बारामती

सध्याचे युग हे माहिती तंत्रज्ञानाचे युग म्हणून ओळखले जाते सध्याच्या आधुनिक युगामध्ये माहिती तंत्रज्ञानाच्या क्षेत्रात मोठया प्रमाणात संशोधन झाल्यामुळे नवनवीन तंत्रज्ञान उदयास आले आहे. या नवीन तंत्रज्ञानाचा वापर करून ग्रंथालय आणि माहितीशास्त्रात आमूलाग्र बदल झालेला दिसतो. सदर लेखामध्ये डिजिटल ग्रंथालय म्हणजे काय? डिजिटल ग्रंथालयाची व्याख्या, उद्दिष्ट्ये, गरज, डिजिटल ग्रंथालयाद्वारे दिल्या जाणाऱ्या सेवा, डिजिटल ग्रंथालयाचे फायदे आणि तोटे यांचा मागोवा घेण्यात आला आहे.

संज्ञा- Digital Library, E-Library, Virtual Library, Library without Boundaries, Services

प्रास्ताविक:

संगणकाच्या वापराने तसेच इलेक्ट्रॉनिक माध्यमाचा प्रभाव यामुळे अलीकडील ग्रंथालयाच्या विकासावर त्याचा परिणाम झालेला दिसतो. याचा परिणाम म्हणून इलेक्ट्रॉनिक ग्रंथालये (E-Library), क्षितीजाविना ग्रंथालये (Libraries without Boundaries), आभासी ग्रंथालये (Virtual Library) अशा नवनवीन तांत्रिक संकल्पना उदयास आल्या आणि त्यानंतर डिजिटल ग्रंथालय या नविन संकल्पनेचा उदय झाला. माहिती ही मोठया प्रमाणामध्ये ज्याप्रमाणे वाढत चालली आहे, त्याच प्रमाणे त्या माहितीला मागणी ही तेवढ्याच प्रमाणात वाढत आहे. संशोधन करणाऱ्या व्यक्तीची संख्या वाढत आहे. ग्रंथालयात ऐतिहासिक दृष्टीने महत्त्वपूर्ण तसेच दूर्मिळ स्वरूपाची माहिती असते. माहितीचा उपयोग हा संशोधक संशोधनासाठी करू शकतो. परंतु अशा प्रकारचे वाचनसाहित्य अत्यल्प व दूर्मिळ असल्या कारणाने ते संशोधकाला दिले जात नाही. त्यासाठी त्या साधनाचे डिजिटायझेशन करणे गरजेचे असते. वाचकाला माहितीची आवश्यकता ही कोणत्याही वेळी असू शकते त्यासाठी डिजिटल ग्रंथालयाद्वारे आपण वाचकापर्यंत माहिती ही विविध माध्यमाद्वारे कोणत्याही वेळी व कमी कालावधीमध्ये वाचकापर्यंत पोहचवू शकतो. डिजिटल लायब्ररी, ई-लायब्ररी आणि आभासी ग्रंथालय या तीनही संकल्पनेमध्ये फारसा फरक आढळत नाही. यामधील साम्य म्हणजे वाचन साहित्य हे इलेक्ट्रॉनिक स्वरूपात साठवून ठेवले जाते.

डिजिटल ग्रंथालय म्हणजे काय?

आर्मसूच्या मते, “डिजिटल ग्रंथालयाच्या ठिकाणी साहित्य संग्रह हा डिजिटल स्वरूपात साठविलेला असतो व नेटवर्कच्या माध्यमातून तो वापरता येतो. असे ग्रंथालय वापरण्यासाठी संग्रह व माहितीसेवांचे व्यवस्थापन केलेले असते.”

उद्दिष्ट्ये :

१. डिजिटल ग्रंथालयाची गरज जाणून घेणे.
२. डिजिटल ग्रंथालयाच्या सेवांचा अभ्यास करणे.
३. डिजिटल ग्रंथालयाचे फायदे आणि तोटे अभ्यासणे
४. नविन सेवा सुरू करणे आणि त्या वाचकांना पुरविणे

डिजिटल ग्रंथालयाची गरज :

भविष्यकाळात ग्रंथालयांना व पर्यायाने ग्रंथांना डिजिटल स्वरूपात माहिती निर्मिती तसेच ग्रंथालयाकडे असलेल्या विविध छापील साहित्याचे डिजिटल स्वरूपात परिवर्तन व डिजिटल स्वरूपातल्या माहितीस्रोतांचे जतन व संरक्षण या बाबींकडे विशेष लक्ष देणे आवश्यक आहे. डिजिटल ग्रंथालयाची निर्मिती ही भविष्यकाळाची गरज आहे. डिजिटलग्रंथालयाच्या निर्मितीची कारणे व डिजिटल ग्रंथालयाची गरज पुढील मुद्द्यांवरून स्पष्ट होईल.

१. छापील माध्यमाची मर्यादा -

ग्रंथालय साहित्य संग्रहामध्ये छापील स्वरूपातील साहित्याचा भरणा आजही आपल्याला आढळतो. ग्रंथालये

छापील स्वरूपातील साहित्य टिकविण्याचा प्रयत्न करतात. परंतू असे साहित्य टिकविण्यात कागदाच्या मर्यादित आयुष्यामुळे अडचणी येतत. कालांतराने हे साहित्य नष्ट होण्याची भीती असते. अशा संग्रहामध्ये अमूल्य स्वरूपाचे तसेच प्रकाशकाकडून किंवा इतर कोणत्या मार्गाने उपलब्ध न शकणारे दूर्मिळ ग्रंथ असू शकतात. असे छापील साहित्य नष्ट होण्यापूर्वीच योग्य त्या माध्यमात परावर्तित करणे आवश्यक आहे.

२. वेगवेगळ्या स्वरूपातील साहित्य जतन -

ग्रंथालय संग्रहात ग्रंथ, नियतकालिके, संदर्भग्रंथ, छापील ग्रंथेतर साहित्य या व्यतिरिक्त अनेक साहित्यप्रकार वस्तू संग्रहित असतात. ज्यामध्ये अमुद्रित ग्रंथेतर साहित्यप्रकार, पेटिंग्ज, वस्तुसंग्रहातील वस्तू, दप्तरखान्यातील दस्तावेज, खेळणी, प्रतिकृती, छायाचित्रे इ. गोष्टी समाविष्ट असतात. अशा सर्व वस्तूंबद्दलची माहिती विशिष्ट माध्यमात परावर्तित करूनती कायम स्वरूपी टिकविणे आणि संशोधकास सुलभापणे उपलब्ध करून देणे हे ग्रंथालयाचे कर्तव्य आहे. डिजिटल ग्रंथालय निर्मितीच्या प्रक्रियेत अशी माहिती साठविणे शक्य आहे.

३. विविध भाषेतील माहिती वापरण्याची एकत्र सोय -

भारतासारख्या विविध भाषिक संघराज्यात विविध भाषांमध्ये साहित्यनिर्मिती होत असते. एका ग्रंथालयातही विविध भाषेतील साहित्य उपलब्ध असू शकते. अशा विविध भाषांतील उपलब्ध साहित्याचे जतन करताना डिजिटायझेशनसारखे तंत्रज्ञान वापरता येते. असे परावर्तित साहित्य वाचकांना वापरण्याची एकत्रित सोय डिजिटल ग्रंथालयाच्या माध्यमाने होऊ शकते.

४. ग्रंथालयतालिकेची व्याप्ती वाढविणे -

ग्रंथालय तालिकेचा उपयोग नेमके स्थान शोधण्यासाठी केला जातो. तालिकेमध्ये सुचिबद्ध माहितीचे वर्णन असते परंतू या व्यतिरिक्त ग्रंथाबद्दल कोणतीही अतिरिक्त माहिती तालिकेमध्ये नसते. उदा. ग्रंथाचे प्रत्येक चित्र, अनुक्रमनिका, प्रस्तावना, विषयसूची इ. माहिती तालिकेत समाविष्ट केली तर त्याची व्याप्ती वाढेल. अशा माहिती उपयोग वाचक ग्रंथ निवडीसाठी किंवा ग्रंथाची उपलब्धता नसतानाही आत्मसात करू शकतील.

५. इंटरनेट माध्यमातील प्रसारीत माहिती वारण्यातील तांत्रिक अडचणी -

इंटरनेटच्या माध्यमातून विविध प्रकारची डिजिटल स्वरूपाची माहिती उपलब्ध होत असते. उदा. ई-जर्नल्स, ई-डेटाबेसेस, ई-बुकस इ. वरील सर्व प्रकार मुख्यत्वेकरून व्यापारी तत्वावर उपलब्ध होत असतात. नेटवर्किंग सारख्या तंत्रज्ञानातील छोटयाशा बिघाडाने अशा माहितीचे प्रसारण कधीही बंद होऊ शकते. ही अडचण लक्षात घेता डिजिटल माध्यमातून उपलब्ध होणाऱ्या माहितीचे स्थानिक पातळीवर जतन करण्याची, संरक्षण, प्रसारण उपलब्धतेची सोय या सर्व बाबी डिजिटल ग्रंथालय निर्मिती अंतर्गत येतात.

डिजिटल ग्रंथालयाची सेवा :

पारंपारिक ग्रंथालयामध्ये प्रामुख्याने संदर्भ सेवा, तालिकीकरण, वर्गीकरण, संघतालिका, आंतर ग्रंथालयीन सेवा, रेफरल सेवा, प्रचलित जागरूकता सेवा, माहितीचे निवडक प्रसारण सेवा, ग्रंथसूची सेवा अशा विविध प्रकारच्या सेवा देण्यात येत होत्या. दिवसेंदिवस पारंपारिक ग्रंथालयाची डिजिटल स्वरूप धारण करण्यास सुरुवात केली आहे. त्यामुळे त्याच्या सेवामध्येही बदल होताना दिसत आहे. डिजिटल ग्रंथालयामध्ये मुख्यत्वे करून पुढील सेवा देण्यात येतात.

१. इलेक्ट्रॉनिक मेल (E-Mail) -

ई-मेल ही एक महत्त्वाची सेवा आहे. त्यामुळे जाळ्यातील (नेटवर्क्स) भागीदाराना ते सदस्य असणाऱ्या डेटा नेटवर्कचा वापर करून जगातील कोणत्याही भागामध्ये संदेशाची देवाण घेवाण करणे शक्य होते.

२. वेब-ओपॅक (Web-online Public Access Catalogue)-

या सेवेचा उपयोग करून विविध ग्रंथालये आणि माहिती केंद्राची यंत्ररूप तासिका इंटरनेट वेबच्या माध्यमातून उपलब्ध केली जाऊ शकते.

३. फाईल ट्रान्सफर प्रोटोकॉल (File Transfer Protocol) -

फाईल एका ठिकाणाहून दुसऱ्या ठिकाणी पाठविणे हे इंटरनेटची प्राथमिक सेवा आहे. दोन संगणकामध्ये अशा फाईल्सच्या प्रती एकमेकांकडे पाठविण्याकरीता इंटरनेट फाईल्स ट्रान्सफर प्रोटोकॉल या प्रमाणित साधनाचा वापर

करते.

४. जागतिक व्यापक जाळे (World Wide Web) –

या सेवेचा उपयोग सर्व्हिस प्रोव्हायडरमार्फत प्रत्येक महाजाळयाशी जोडणी करण्यासाठी होतो. ही सेवा खुप लोकप्रिय आहे.

५. शोध इंजिन (Search Engines) –

अनेक संकेतस्थळापासून आपणास आवश्यक असणारी माहिती शोधून इंटरनेटद्वारे मिळविण्याकरीता हव्या त्या संकेतस्थळावर पत्याशिवाय पोहोचणे शक्यच नसते. हा पत्ता मिळवून देण्याचे कार्य सर्च इंजिन करते.

फायदे:

१. डिजिटल ग्रंथालयामुळे वाचनसाहित्य संग्रहाचा एकाचवेळी विविध मार्गांनी वापर शक्य होतो.
२. डिजिटल ग्रंथालयामुळे वेळ, श्रम, पैसा या स्वरूपातील अडथळे दूर होतात.
३. डिजिटल ग्रंथालयामुळे कमी जागेमध्ये मोठ्या प्रमाणात वाचन साहित्य संग्रह करता येतो.

तोटे :

१. डिजिटल ग्रंथालयामुळे कॉपीराईट कायद्याचे उल्लंघन होत आहे.
२. डिजिटल ग्रंथालयासाठी वापरल्या जाणाऱ्या हार्डवेअर, सॉफ्टवेअर यांच्या किमती जास्त आहे.
३. वाचकाना अमुद्रित साहित्य हाताळायला अवघड जाते.

निष्कर्ष :

२१व्या शतकामध्ये पारंपारिक ग्रंथालयाचे डिजिटल ग्रंथालयात रूपांतर करण्याची प्रक्रिया सुरु झाली असून ग्रंथालयातील ग्रंथ दूर्मिळ वाचनसाहित्याचे तसेच इतर छापील साहित्याचे डिजिटल स्वरूपात परिवर्तन करून त्याचे जतन व संरक्षण करणे गरजेचे आहे. डिजिटल ग्रंथालये ही ई-मेल, बुलेटिन बोर्ड सर्व्हिस, फाईल ट्रान्सफर, प्रोटोकॉल, वेब ओपॅक, माहितीचे निवडक प्रसारण सेवा अशा विविध सेवा या कमी वेळेमध्ये डिजिटल ग्रंथालयाद्वारे वाचकांपर्यंत पोहोचवण्याचे काम केले जाते. डिजिटल ग्रंथालय माहिती तंत्रज्ञान जगात एका प्रकारे क्रांती झाली आहे. आजची ग्रंथालये ही ग्लोबल नॉलेज रिसोर्स सेंटर होत आहे.

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(IV) Future Role and challenges of Academic Libraries

Future Role and Challenges of Academic Libraries

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Abstract

In the modern Era libraries are changing as the content of information is created or generated in digital form. So, the library user's need and behaviour of seeking information are also changed. Rapid advances in technology innovation, affordable high bandwidth networks and availability of more and more digital resources, increasing open source platforms greatly transforming the future role of academic libraries. The present paper gives the overview for the role of academic libraries and discussed the required skills for modern librarians. This paper also discussed about the strategies to be adopted to manage the future of academic libraries.

Key Words: Academic Libraries, Digital skills, scientometrics, QR code, Bibliometrics

Introduction

¹Now, in the 21st century, with the emergence of ICT and Web 2.0 technologies, libraries have a new, more dynamic role in knowledge society and as the individual is affected by ICT, in the same way, the individual can also influence the technology (Bradley, 2010).¹This quote tells us how the digital content affects the basic nature of libraries. Digital information resources are growing rapidly and they have more potential to easily accessible simultaneously by many users. Due to this change traditional libraries have facing variety of challenges for their existence. They have to cope up with new technologies and the staff of modern academic libraries should have developed technological techniques to satisfy the needs of their users.

Creating digital libraries, Institutional repositories and having knowledge about open Archives are the new trends in the present Era. According to ²Fabunmi, Paries and Fabunmi(2006), Library digitalization has become part of the work of Librarians and most libraries are involved in digitalization projects.²

In the technological Era libraries are changing in three ways. Firstly, they are changing in traditional aspects. It means from acquisition to circulation work libraries are now depend on different software. The knowledge of these administrative software is the most essential tool. Secondly, libraries have to change in providing the information services. For satisfying the information needs of users libraries have to develop digital databases as per requirement. For this purpose, Librarians have to learn the skills of creating databases and mining skills to find out digital contents as per users need. Thirdly, modern knowledge society is a research society and competitive society. In this environment libraries play very important role with providing awareness of research databases and citation databases. It also gives the researcher the knowledge about many types of bibliometric and scientometric indicators. In the present paper, the future role and challenges of academic libraries are discussed in detail.

Objective of the study:

1. To discuss the changing scenario of traditional work in academic libraries
2. To discuss the impact of modern technology on services provided by academic libraries
3. To understand the required skills of Library staff to satisfy the needs of modern Library users.
4. To understand the impact of technology and expected changes in the nature of Library services.
5. To reflect and critically discuss the impact of technology on the role and challenges in academic libraries.

Academic libraries in modern technology Era:

Many studies show that traditional libraries are increasingly viewed as outdated and under rated with the use of modern web-based services. Libraries are not piles of books anymore, the general library environment has been changed from analogue to digital. With the help of computerized library catalogues, libraries provide easy access to their collections. Now web based OPAC can access anywhere form the globe. So, the information of available required books in physical form is getting by user in his/her mobile. So, the traditional work of catalogues are replaced by OPAC with the help of MARC (Machine readable catalogue) system. For the administrative work from acquisition to circulation many paid as well as open source software are available. Librarians have to nourish and cultivate the required skills for handling this software. For the ranking based education system these software are useful for providing utilization of

Library reading material. It gives you many online feedbacks for improving the quality of reading materials. These software are very useful for the management of serials, periodicals. With the help of these software user can mine the Metadata and understand the details of available research articles in hard copy. It increases the utilization of preserved hard copy research articles or periodicals. Apart from this, these library administrative software reduce the work of Librarian and Library staff by providing the data of vendors, automatic alert systems, SMS and email services for library user, keywords Indexing facilities etc. All these features change the role of traditional library work and the quality and efficiency of work is more dynamic, fast and accurate. For cope up with this change Librarian and library staff should acquire these skills of handling administrative software. Nowadays KOHA is much popular in academic libraries.

The modern academic institutions are not remain only as learning centres but they have tremendously involved in research activities. For this purpose, dissemination of knowledge has always been one of the goals of academic libraries. For enhancing the research activities in academic institutions library has to play crucial role. For this purpose, academic libraries should upgrade their services and provide education of high quality by storing resources in various forms and maintaining easily accessible for online use among academic community. This would be possible by implementing a digitalization project. ⁴According to Pandey and Mishra (2014), “Academic libraries are digitizing materials because they know the continuing value of library resources for learning, teaching, research, scholarship documentation and public accountability.” (p. 137)⁴For creating digital content, library has to play two important roles with the help of technology. Firstly, library has to develop its own institutional repositories. In the present Competitive environment, many academic institutions create digital materials in the form of ppts, Notes, videos, manuals etc in digital format. Library has to create digital archive of these materials with the help of repository software. Many such software like Dspace, EPrints, Greenstone, NITRC resources Registry etc. are available. All these are open source software. With the help of these software libraries can manage the digital materials as per the vision and mission of Institute and requirements of its users. For creating such repositories librarians have to understand the skills of Metadata techniques and database structures. Now a days even National Institute Ranking Framework (NIRF) and National Assessment and Accreditation council (NAAC), these ranking government agencies also enhance such institutional repositories. These helps the user to get the high-quality information for which they are seeking for.

Secondly, library play very important role in providing the relevant information from the ocean of digital data available on internet. As we known internet have huge scattered information and it requires search skills to get relevant information within short span. Librarians with the help of Metadata harvesting and conservation skills creates the relevant database under the same institutional repository. Metadata harvesting is the process of retrieving Metadata information from other repositories and storing it in local institutional repository. For this purpose, Librarian must know Open Archives Initiative Protocol for Metadata harvesting (OAI-PMH) Standards. It helps the library users to search relevant information at one place. It saves the time of users and provide accurate information with high efficiency and effectiveness.

In the modern Era the publication rate is tremendous. No library is capable to procure all the database available in particular field and the problem of Interdisciplinary branches are much more complicated. In this situation library users demand cannot satisfied with particular economic budgets. Neither user can search all relevant materials at one place. For this purpose, creating QR catalogues on particular subject is somewhat give the user relevant collection at one place. For creating relevant reading materials in library, library staff should play two types of role. Firstly, find out the relevant open source digital materials with the help of survey, questionnaire, expert interviews, bibliometric analysis, keyword analysis and create QR code of URL of the materials available on internet. Such kind of catalogue will be available in print or digital formats. In this way we provide the relevant information to the user. Secondly, for the enriched information you can conduct small bibliometric research for finding out leading authors, leading country, leading institutions, leading journals, collaboration in particular field and many more information in particular subject. With the help of these techniques you can give priority to procure the most important to least important reading materials.

As already stated this is the era of educational competition which is based on ranking system. NIRF and NAAC ranking is emphasised on research activities. In the same way many government educational policies are depend on many types of research outputs. Librarians can play vital role in creating awareness and providing correct path to all academicians by explaining many kinds of scientometric indicators. With the help of such indicators we can present the research output of particular subject or Institute. These kinds of ranking is essential for getting funds from government, non-government and international agencies. Librarian can explain researcher level indicators like h-index, i-index, i10-index, g-index and so on. Librarian can help to all academicians to create account as research ID and Google

Scholar ID which is an important thing to make our researchers and institutions visible at global level.

Role of Librarian in the digital Era:

In the above discussion all the roles of academic libraries have been carried out by Librarians. Therefore, academic Librarians are supposed to have various technological skills in order to provide services to students. For this purpose, one has to have information literacy. In the digital era When we talk about information literacy, we mean teaching skills that includes computer skills. ³According to Kulkarni information literacy in digital environment means:

“The ability to use digital technology, communication tools or networks to locate, evaluate use and create information. “The ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers. (Kulkarni, 2014)³

Conclusion

The discussion in the study shows how the rapid development of technology has changed the way Librarians work and interaction with library users. The libraries and Librarian role and challenges in academic libraries have more deal with technology. Through the study we understand how the traditional administration of libraries replace by many software. The main challenge in front of Librarians to acquire the literacy skills which deal with teaching as well as computer skills. The challenge to create, manage the digital content are very important. For making the libraries resources user-oriented librarians have to cultivate many skills like learning to create institutional repositories, having knowledge of ranking system, bibliometric and scientometric indicators, QR code etc. Not only this but Librarians have to make such database which have the quality of effectiveness, efficiency, usability, accessibility and user satisfaction is ultimate goal.

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Information Literacy Initiatives by the Librarians: A study of Colleges in Thane District

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Introduction -

In order to master learning and teaching program and to demonstrate the expected outcomes, students must have an adequate degree of knowledge, skills and attitude that essential requirement of the program. In order to be academically successful, students require, besides discipline-related skills, general skills for example thinking, writing and information skills. Hence information literacy is considered as a critical building block in the process of developing life-long learning skills. Considering the vital role of information literacy in the academic environment the National Knowledge Commission, Government of India in its report (July 2007) recommended that the Information Literacy program should be conducted vigorously and effectively.

Need for the study -

It has been observed that there have been major gaps in students' information skills. The students may appear to be more comfortable in technology intensive environments than are their teachers, but it does not necessarily mean that they have adequate knowledge and critical thinking skills to effectively locate, filter and evaluate the information. The studies conducted reveal that students do not even possess basic information skills required at undergraduate level which are very much essential to face the challenges posed by the modern knowledge society and being a information professional the major responsibility of librarian to take-up responsibility of inculcating information skills among the students. Hence it is required to investigate the efforts taken by the librarians of respective colleges to inculcate the information skills and find out the shortfalls to improve upon. But review of earlier studies indicates that though there are there number of research conducted at international level on information initiatives by the librarians; very few are undertaken in Indian context and hardly any in the Mumbai University affiliated colleges of the Thane district. Very less is known about the ability of students and faculty of identifying and specifying their information need, their awareness level about different sources of information, their ability in retrieving the required information from printed and electronic information resources, their ability to access and evaluate information in different kind of resources, how much they are satisfied with the library orientation/Information. Information Literacy Programmers provided by their libraries, and how they can be helped to exploit better the information resources available to them. The existing gap in the research justifies the rationale of the study. The findings of this study would provide the useful analysis of the existing information initiatives as well as the views of the librarians that might help the librarians and the concern authorities in development of Literacy Programs in the colleges.

Objectives of the study -

- i) To investigate the current information literacy initiatives at the University of Mumbai affiliated colleges in Thane district.
- ii) To find out the lacunas in the presently employed tools and techniques for imparting information literacy skills.

Research Methodology -

In order to investigate the existing situation the survey method is adopted to collect the data. A well-structured questionnaire was designed and administered to the librarians of the government aided Arts, Science and Commerce colleges of Thane district with their prior permission during the academic year 2015-16. All the colleges are affiliated to the University of Mumbai. The data was collected by personal visit to the institution as well as online tools.

The survey method was selected as the most appropriate design tool to obtain a large sample (Babbie, 1986). The survey method relies on a questionnaire instrument and it is the most common method used in social science research (Ary et al., 1996), and as well as in library and information science research (Barnard, 2000), and for studies of use and gratification (Parker and Richard, 2000). Julien (1996) found that 54 per cent of all researchers have used survey research method for their information user studies.

Scope and limitations -

The study focused on information literacy programs or initiatives taken by the librarians of the

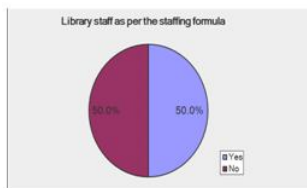
government aided Arts, Science and Commerce colleges affiliated the University of Mumbai in Thane district.

Data Analysis -

Description of Sample -

A total of 10 college librarians responded to the questionnaire of the government aided colleges affiliated to the University of Mumbai from Thane district. The data has been collected and analysed using online tool survey monkey and Microsoft excel.

Library staff as per the staffing formula - To provide quality services to the student's proper qualified staff is required hence the librarians were asked whether they have staff as per the staffing formula. Out of 10 colleges participated in the survey 5 (50%) colleges libraries have adequate staff whereas 5(50%) do not have the required qualified staff which is required for smooth functioning of the library.



Computerization of the library -

All the libraries have networked their computers. Out of 10 colleges participated in the survey 9 (90%) libraries are computerized and 1 (10%) not yet computerized. majority of the libraries are using SOUL software which is developed by INFLIBNET and others are using software such as SLIM, LIBSYS, KOHA etc.

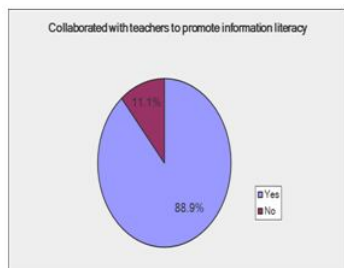
Library Services -

The librarians of the colleges were asked about the library various services they provide to their users the responses received shows that 90% provides lending, internet browsing and newspaper clipping service while all the 10 libraries provides book-bank and reference service, 70% libraries rendered -Inter library loan, bibliographic and reprographic services, 80% provides Current awareness service, 60% E-document delivery service, 50% Selective dissemination of information and CD- writer service, 40% Image/ text scanner service, 30% CD-ROM databases/search, indexing/ abstracting service and 10% provide online journal database and translation service.



Collaborations with college teachers for information literacy -

Collaboration among teachers and librarian is required for effective implantation of the information literacy training hence librarian were asked, have they collaborated with teachers to conduct information literacy training. 8 (88.9%) among 9 respondents say yes whereas 1 (11.1%) do not ever collaborated with teachers for conducting information literacy course.



Incorporation of research / information literacy skills -

Further they were asked how they incorporate research / information literacy skills among the students all the (100%) librarians say they provide instructions to the students, 56% says teachers do it, 33.3% says they provide links to online tutorials and supporting material, 11.1% says the information literacy skills taught in another course common to all, 77.8% do it in collaboration with teachers together

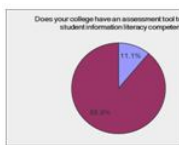
implement it, while 11.1% believes that students already possess the required skills hence no need to incorporate it.

Librarians’ opinion on acquiring information literacy competencies -

Librarians were asked whether the undergraduate students acquired certain information literacy competencies during their course all the 10 (100%) says yes they should. This clearly indicate that the librarians have understood the importance of such skills at undergraduate level. Further they were asked about the specific information literacy skills they incorporate in their information literacy program 90% taught internet searching skills, 60% use of electronic databases, 50% online databases and search strategies, 40% identification of appropriate sources, 30% evaluation of sources and only 20% librarian orient the students about ethical use of information.

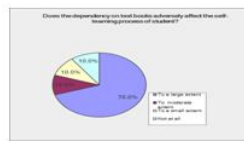
Assessment of information literacy -

To get information about the information literacy assessment the question was asked have an assessment tool to determine students information literacy competency 11.1% says yes they have locally created assessment tools to determine the information literacy competenes of the students while 88.9% do not have any asesment tool. This clearly indicate that information literacy assessmet has not considered seriously.



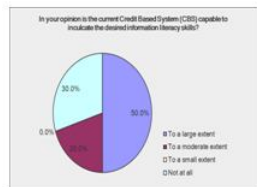
Dependency on text books and self-learning process -

This question aims to investigate whether dependency on text books adversely affect on self-learning process. 70% librarians’ feels that to a large extend it affect adversely, 10% each feels that it affects to a moderate extend, to a small extend and does not affect at all.



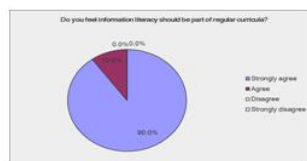
Current Credit Based System and information literacy -

The opinion from the librarians are sought about the effect of Credit Based system on information literacy skills. 50% respondent librarians at the opinion that the current Credit Based System is capable of inculcate the desired information literacy skills to a large extend, 20% to a moderate extend, and 30% feels that is not at all capable of doing so.



Information as a part of regular curricula -

Librarians were asked whether information literacy should be a part of regular curricula all the librarians are at the opinion that it should be part of regular curricula out of which 90% librarians strongly recommended information literacy as part of the curricula.



Conclusion -

The study was undertaken with the objectives to assess the current information literacy initiatives, to find out the shortfalls or lacunas in present tools and techniques and to suggest remedial course of action if required. This survey reveals that 50% do not have the required qualified staff which may affect the quality service and facilities provided by the libraries to its users as well as the information literacy initiatives, even though almost all the colleges provide various services to their users. Though all the

participant colleges libraries are equipped with networked computers 10% are yet to computerized their library housekeeping operations and services.

Though 80% colleges provide information literacy training 75% each conduct library visit and library orientation, 25% each are using optional information literacy course or library research course and display of guide cards and instructions to the students, 37.5% displays library plan for users while no one make use of online instructions through online institutional portal and an educational technology course. Though all (100%) the participant feel students should acquire certain information literacy skills during their course 20% institutions does not conduct any type of information literacy activity for their students. Only 11.1% institutions assess information literacy of their students by using locally created objective test rest do not employ any assessments tools or techniques hence are not able to find the information literacy of the students. It has also been observed from the data that dependency on text book adversely affect the self-learning process. The current credit Based System is not capable of inculcating the desired information literacy skills. Majority (90%) librarian are at the opinion that information literacy should be part of regular curricula.

It has been accepted and proved by the researchers that information literacy skills are crucial for students to succeed in their carrier and modern information society. Hence information must become the possession of every individual and it is the responsibility of the colleges and university to help the students to become information literate. After analyzing the received data it is proved that the information literacy program in the colleges of Thane district are not taken desired shape the reasons for this are absence of information literacy policy at the university level, absence of collaboration among teachers and librarian, no formal provision for information literacy in the time table, absence of information literacy evaluation tools and techniques, students are heavily depend on text books.

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The Nature of OERs, MOOCs and LIS Education

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Abstract -

This research paper focuses on Open Educational Resources (OERs), Massive Open Online Courses (MOOCs) & LIS Education. In today's stressful life, students and researchers are experiencing time constraints and a lack of resources for study. This creates numerous barriers to study, resulting in students and researchers failing. In a changing era, the above problem has been discussed and researched internationally and this has led to the emergence of resources like OERs & MOOCs. This led to major changes in the study and research work. This resource provides users with both traditional and digital information as well as allows for convenient use. Along with OER & MOOC, Library and Information Science education are needed to make a good career in the field of library and to provide emerging and excellent services to library readers. Library and information science education are available at various levels.

Keywords- OERs, MOOCs, LIS, Education, Courses, Resources, Students, Research, Information, Nature, Etc.

Introduction -

In today's era, if you want to get an education, you have to pay a hefty fee, so the possibility of restrictions on education cannot be ruled out. In such cases, the exclusion of poor students does not exclude the possibility of depriving them of education. As an alternative to this, many researchers / institutes have sought to find solutions, which aim to create a more sophisticated and easy-to-manage operating system. The research was done keeping in mind that the masses can be affordable and the students / researchers / trainees will not be denied any education. As a result of this, the Open Educational Resources system was created in the digital era. OERs This system was used in 2002 with the help of UNESCO and subsequently it was widely used in various nations. In order to reduce the cost of education and to get education or training at a reasonable rate, the function of OERs has been primarily considered and implemented. The OERs system is a system of education or training at a reasonable fess and there is no restriction so anyone can get Access. This system is the source of online education through online education which reduces the time and labor practically, so that students / researchers / trainees are more interested in learning or training through OERs. To use the OERs system, user id and password have to be paid for the fee, and through that id and password, various online education, training, guidance etc. are available on the computer in digital form. It has text, media and other digital services. Downloading options are also available.

Similarly OERs, MOOCs (Massive Open Online Courses) are also a popular methodology through which students and researchers can learning various courses online or digitally. MOOCs began operating in 2007. Similar to OERs, MOOCs courses are available in short order and can be operated openly in the form of IDs and Passwords. The purpose of the above methodology is to transmit courses running online and in-country, from city to village, at a minimum cost, so that no one is deprived of information or education. One of the best examples of MOOCs courses is the current self-contained portal, this portal is taught online and tested online, so it focuses on practical education as well as the students or researchers specializing in various vocational courses and it is remembered for their longevity. At the government level, efforts are underway to develop such a system. Distance education is also a result of MOOCs and there is no limitation.

In the information age, libraries are helping to convey the information that every component needs in different ways. LIS Education (Library & Information Science) is required to run libraries or information centres and manage staff. The study of the library builds on the ability to handle the library and enhance the information sources. LIS Education is also essential for a good career in the library field.

The scope of the library has existed since time immemorial and the movement of the library in India has really started in the 1950s. Library and information science courses are available at junior college, graduate, postgraduate, diploma level. Libraries are becoming computerized and more digital in the modern era, so readers are getting the information they need faster.

Objectives of Research - The objectives of this research article are as follows:

- 1) To find out the nature of OERs, MOOCs & LIS education.
- 2) To study different scholar opinions about OERs, MOOCs and LIS education.
- 3) To understand the advantages of OERs and MOOCs.
- 4) To analyzing what should changes in LIS education in the digital era.

Methodology -

The research articles presented will be studied and evaluated by the findings of various researchers, for that information will be collected through websites, magazines, newspapers, books, research articles, etc.

Definitional Analysis -

- 1) **OERs (Online Educational Resources):** “UNESCO” (2002). Open Educational Resources (OER) are teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions.
- 2) **MOOCs (Massive Open Online Courses):** “Dave Cormier” (2008) A Massive Open Online Course (MOOC) is a free Web-based distance learning program that is designed for the participation of large numbers of geographically dispersed students. A MOOC may be patterned on a college or university course or may be less structured. Although MOOCs don’t always offer academic credits, they provide education that may enable certification, employment or further studies.
- 3) **LIS Education:** “Kent State University” Library and Information Science is a meta-discipline, spanning what are considered traditional academic research disciplines (e.g., economics, biology, history, etc.). The theories and practices in library and information science are applied across disciplines. They are varied and many.

Review of Literature -

Mengual-Andres, S., & Payà, A. (2018). The expansion and growth of OER initiatives, as well as the amount of students they attract, together with their social benefit, may be an indicator of a coming revolution in education and learning (Tuomi, 2013). One of the fundamental roles of OERs is to bring education to the highest number of people possible, but also, and not less importantly, to transform education and educational systems. OERs require open educational resources, but also open technology and open practices, and especially new learning methodologies and a significant change in the role of the teacher. And when we speak of a new role, we should not forget that we are speaking of a feeling of loss of power, and this is always difficult to accept, although in reality, the power of the teacher in the classroom is not lost, it is transformed. Educational technology and the Open Knowledge movement have promoted the adoption of new teaching roles from a variety of perspectives (León-Urritia., Cobos, & Dickens, 2018). Nonetheless, this way of learning without the mediation of the teacher can promote the non-formal learning what implies a necessary education revision. The teaching roles do not disappear but are transformed beyond self-learning, for example, as a guide (Torres, Santa & Lorenzo, 2018).

Debate on OERs involves much more extensive reading regarding the broad strokes outlined in this paper. Studying the potential revolution of OERs and Open Knowledge involves carrying out an analysis of the social, economic, and historical contexts into which OERs are attempting to integrate. But as Hal Plotkin stated, it is extremely difficult to think of policies and strategies and act in the middle of a revolution. In any case, more in-depth analysis of OERs is necessary. The lack of theory on open contents and their consequences causes confusion, disagreements and bad practices. OERs are contents. In no case are they an educational model or practice per se. In any case, OERs are a lever of change for models and practices. They are criticized for their lack of pedagogy and methodology; perhaps now is the time to associate them with an open learning that includes, by necessity, these elements.

Bralic, A., Divjak, B. (2018). Blending a MOOC in a traditionally taught course resulted in multiple findings and opened further research questions. Although the model described in this paper is similar to certain models and researches in blended learning, there are several key elements that make this model unique and successful.

Recommendations to teachers based on this research include -

- 1) Sourcing several interesting MOOCs for students and allowing them to choose one they are most interested in, which positively affects motivation,
- 2) ECTS load should be carefully examined before suggesting and finalizing online portion of the content to ensure reasonable workload and expectations from students
- 3) learning outcomes should be taken into considerations to properly connect online and offline

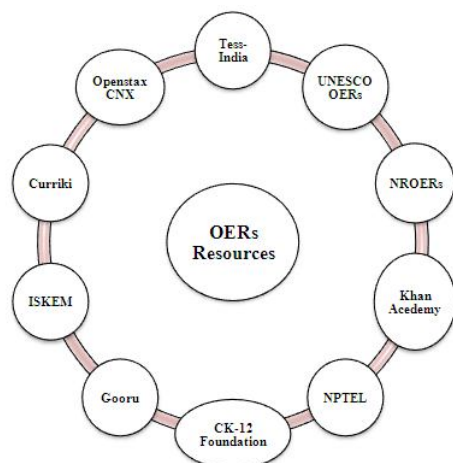
- learning and to create an environment that ensures achieving those outcomes
- 4) If completion of a MOOC required, it tackles the problem of high drop-out rates in online learning, which could also motivate students and empower them to complete further MOOCs.

This research is a starting point for further research in blending MOOCs in traditionally taught courses, to detect trends, progress, and generate guidelines for a successful implementation of online content from strategic point of view, in a way that supports the deep approach to learning.

S.P. Singh. (2003). Today, the LIS profession has attained the status of a full-fledged discipline in India. However, it has low recognition and has not been regarded at par with other well-known professions. As a result, most students do not opt for librarianship as a first choice of study. National bodies such as ILA, IATLIS and IASLIC should give serious thinking to find the timely solutions for the problems prevailing today. There should be a National Accreditation Body to apply rigorous parameters before granting accreditation to a library school. This will help to establish quality control in LIS schools. Attention should focus on the adoption of relevant and up-to-date curricula, high quality faculty, willing students and good infrastructure in needed in every school. This is necessary to improve the quality of the products, creating better job opportunities for graduates and raising the social status of the LIS profession.

The Nature of OERs, MOOCs and LIS Education -

1) OERs - As you have seen the function of OERs, it is important to note their nature & it is also important to look at what resources are currently available in Online Educational Sources.



Source: Open Educational Resources

- 1) **TESS-India** - This event is run by the Open University and Save the Children India Courtesy and funded by UK Aid. It is a vocational training program for various linguistic teachers and is specially provided free of charge. The purpose of this initiative is to support India's national educational policy. The aim is to expand the quality of OER education, language, English, literary, science, mathematics with the cooperation of various education experts, policy makers in India and the UK.
- 2) **UNESCO OERs Congress** - UNESCO OERs Congress In order to make the education system more comprehensive, the public sector educational institutions should obtain the license of free education so that it can reach the students who cannot afford traditional education. For this, every nation should take the initiative.
- 3) **NROER (National Repository of Open Educational Resources)** - NROER system provides educational resources for primary, secondary and junior college level students through various digital methods. It uses Video, Image, Audio, Document and Interactive tools, so that it can also be repository. This system was developed by CIET and NCERT.
- 4) **Khan Academy** - This educational initiative was started by actor Salman Khan on the basis of no profit or loss. The purpose of this program was to create short lessons online to reach out to students through YouTube in order to generate interest in student learning.
- 5) **NPTEL (National Programme on Technology Enhanced Learning):** IIT Madras has created this NPTEL system to improve the quality of education in India. The purpose of NPTEL is to produce engineering lectures, conferences, etc. in video format and provide it for students to study. All IITs in India are involved.

- 6) **CK-12 Foundation:** The CK-12 Foundation is a California non-profit organization. The purpose of this institute is to reduce the cost of education and to create an education system that can provide the common good. The organization is working to expand education and allow more people to use educational resources. This organization is also networked in the US and other nations.
- 7) **Gooru:** Goru is a free personal learning solution that helps teachers discover, remix, and share a collection of web resources on a variety of K-12 topics. It also guides teachers and students for teaching and learning.
- 8) **Institute for the Study of Knowledge Management in Education (ISKME):** ISKME is an open and easy learning reward system that works for free. Education is an ongoing process that works with the aim of creating innovation and quality and conducting quality research. ISKME encourages schools, colleges, universities, etc. to collect information and develop the ability to open and share information so that education can be accessed and consumed in general.
- 9) **Curriki:** curriki is an online and open education as well as free running facility. The system is designed to provide open education, which is used for teachers, vocational teachers, students, parents, as well as adult and continuing learners. Various types of education, training, guidance can be taken through this system and this system can be handled through the website. The purpose of this system is to supply e-resources to create it through education.
- 10) **Connexions-Openstax CNX:** OpenStax CNX has access to materials from different languages around the world. Contains not only literature from a specific school or university but also international literature. Works to collect information for K-12, Community College, University, and Industrial Training Institutes and so on.

Advantages of OERs -

- 1) Today the Price of textbooks and other written material is expensive due to the high inflation rate. As OERs learning is Web-Based. Textbooks and other course are written material cost is saved. And the content of material available is more up to date then the textbooks.
- 2) Due to OER and freely available quality resources students are motivated to learn new things as information is provided in multiple formats, which benefit their success.
- 3) OER provides affordable material to its learners and allow their faculty to enhance their own work and provides faculty with content for classes.
- 4) As OER are open, they permit students to return to their course content before and after the completion of courses.
- 5) OER provides a great way of alumni to stay connected with them and continue with the program of lifetime learning. Thus OER provides peace of mind for its all users, learners, and students.

MOOCs-

- 1) **Swayam:** Swayam is an initiative of the Government of India and is designed to create three basic principles of education, access, equity and quality. Its main goal is to bring trainees to the best pedagogical learning resources through the Expert Board. Self Portal is trying to make e-literate through self means to people who have not been digitally literate till date.
- 2) **NPTEL:** IIT Madras has created this NPTEL system to improve the quality of education in India. The purpose of NPTEL is to produce engineering lectures, conferences, etc. in video format and provide it for students to study. All IITs in India are involved.
- 3) **MooKIT:** IIT Kanpur entered the MOOC space quite early, way back in 2012 with a course on Software Architecture for the Cloud. Since then there has been a lot of work in this space, not only in delivering MOOCs but also in developing tools and technologies for delivering MOOCs. One such effort is mooKIT, a MOOC management system. The first requirement to deliver a MOOC effectively is a powerful platform. The existing software in this space is complex to host and manage, complex to change and adapt to local needs and also expects high internet maturity from the end-user. mooKIT is built to addresses all these issues. mooKIT is a lightweight MOOC Management System conceived, designed and developed at IIT Kanpur targeting towards developing nations. It has been used in more than 60 courses so far in India and abroad.
- 4) **IITBombayX:** IITBombayX is an open online learning platform aimed at alleviating some of the issues of access and quality issues in higher education in the country. IITBombayX offers four types of MOOCs to meet personalised requirements of scholars in different phases of their lives. We present courses for academics/education (EduMOOCs), for working

professionals and others desiring to pursue life-long learning (LifeMOOCs), for skilling and vocational training (SkillMOOCs) and for teacher training (TeachMOOCs). In order to provide maximum flexibility to our learners, all courses are available in one or more of the selected modes of delivery such as instructor-led (Instructor-paced MOOC), instructor-paced with face-to-face interactions (Hybrid MOOC) and at learner’s own pace with flexibility to join and complete the course

- 5) **IIMBx:** IIMB started offering massive open online courses (MOOCs) in 2014 through its digital learning initiative, IIMBx, in partnership with edX – a not-for-profit online initiative of Harvard and MIT. Apart from edX, the programme offers courses on its own platform, IIMBx, and SWAYAM. IIMBx offers MOOCs in all areas of management – data and insights, economics, finance, marketing, people management, operations, and strategy. We also have programs for every kind of learner, ranging from first-generation entrepreneurs to college educators looking to teach better. The IIMBx programme is founded on the philosophy that everyone – irrespective of financial or regional constraints – should have access to quality education. Led by IIMB faculty, IIMBx uses digital learning tools to enable anytime, anywhere learning in a global classroom. The vision of the IIMBx programme is to use digital learning to enable widespread access to management education.
- 6) **AgMOOCs:** Agriculture is a critical sector that is vital for the growth of the Indian economy. It is also the sector where the need for improved skills is the greatest and most massive. Considering this urgent need, a consortium of leading institutions has launched Massive Open Online Courses called agMOOCs. AgMOOCs is an online platform designed to help students, professionals, and organizations to acquire and enhance knowledge and skills in the agriculture domain. The platform provides free access to numerous high-quality courses online offered by renowned faculty from the premier institutes of the country. The intent is to reach out to thousands of learners through these MOOCs thus enabling them to access higher agricultural education.

Participation and Competency certificates will be awarded to qualifying students based on their involvement and performance. The certificates will be issued by the Centre for Development of Technical Education, IIT Kanpur and Commonwealth of Learning (COL), Canada.



Sources: Massive Open Online Courses

Advantages of MOOCs -

- 1) Moocs is an online learning course, which benefits higher institutes, Professor and students. Access to sign up for MOOCs is free of charge or minimum fee is charged to obtain completion of the certificate.
- 2) Thousands of students enrolled from around the world. It does not take any educational degree to enroll. As it makes education easily and more accessible to many people as possible.
- 3) Due to MOOCs learners get opportunities to learn from world Class University and renowned expert instructors without being the student of their respective universities while sitting in any part of the world.
- 4) There is no need for the learners to go anywhere for the knowledge but they develop their skills at their own place.
- 5) MOOCs create opportunities and platform for sharing ideas & knowledge and also help for improving lifetime learning skills by providing easy access to global resources.
- 6) MOOCs open the facility of free of cost “statement of accomplishment signed by the instructor of course. Anyone can show at the time of interview for job application. The employer can go to the corresponding MOOCs database provider to get the information about the candidate.

3) LIS Education -

The scope of library and information education is immense, so it has come to be known as the branch of all subjects. We can find from the evidence that libraries existed from ancient times. Earlier, he was referred to as a library with a separate room where books, ancient notes, prints, manuscripts, stamps, letters, copper plates, etc. were being preserved. Later, the nature of the library continued to grow and over time the libraries changed. Over time, the scope of libraries began to increase and the importance of education was gained in daily life. The demand for educational materials increased, so the importance of natural libraries increased. There was a need to manage a large number of educational materials and for that, it was necessary to really manage the library. Library and information science courses were started to train the library staff. After the 1950s, the Library Movement came into being in India and various laws were enacted to create library co-operation at the government level.

Library education can be learned from the study of library and theology, exchanging educational materials, maintaining books or tools, financial planning for the readers to request books, providing prompt and appropriate services to the readers. Although the Library of Teaching Studies is different, it is a sub-discipline of all subjects; it has a collection of books of all subjects.

Courses Available for LIS Education -

- 1) Certificate course in Library and Information Science.
- 2) Diploma in Library and Information Science.
- 3) B.Lib.Sc./BLIS (Bachelor Degree in Library and Information Science).
- 4) M. Lib. Sc. /MLIS (Master Degree in Library and Information Science).
- 5) M. Phil (Master of Philosophy) in Library and Information Science.
- 6) Ph. D (Doctor of Philosophy) in Library and Information Science.
- 7) D. Litt in Library and Information Science, etc.

Advantages of LIS Education: (Library & Information Science)-

- 1) As modernity continues to grow, technology is evolving. Therefore, it has become necessary to change the library science education program. Various library science centers are now offering a wide variety of facilities for this, out of which digital libraries have been created based on 21st century technology evolution. This library is getting quality and practical education which will surely benefit the coming generations.
- 2) A good and well-equipped library enables the individual to obtain knowledge through reading, and therefore the opportunity of interacting with society's wealth.
- 3) LIS Education is an education system that complements the library and provides a great opportunity for a career in the library. Therefore, it is in the hands of the librarian to manage the library whether traditional or modern. LIS education provides the opportunity to work as a professor, librarian, library assistant, library clerk, etc.
- 4) It is possible for the students who have studied Library and Informatics to manage the Library, besides what is the need of the readers? What books do they want? They know so much about it. For this, they can properly manage, cataloging the books of the library so that the readers do not waste time.
- 5) Libraries have become more hi-tech in the era of competition, so now print libraries are being replaced by the information tools available online, so libraries are now providing facilities through different software. As a result, the importance of modern education has increased and numerous alternatives to quality education are created.

Conclusion -

In evaluating the above research articles, traditional teaching methods in quality of life are insufficient in stressful life so it is not possible for students, researchers, trainees to acquire sufficient knowledge. To solve this, systems like OERs, MOOCs have been created so that the practitioner has no obligation and can get the information wants anytime and anywhere. The format of this information comes from text format, audio, video, online conversation, thus helping to get quality education. As well as OERs and MOOCs, LIS Education also provides information on educational tools. Also, all aspects of library management, budgeting, circulation, acquisition, staff training etc. is available in LIS Education so that readers can get the information they need quickly. In the modern age, the scope of the library is increasing because of the concept that digital library is becoming more widespread and every nation is striving for it.

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eBooks Management Using Open Source Softwares

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Abstract -

Keeping pace with the technology is a big challenge for modern libraries. Reading habits and requirements of the library users are changing. Libraries have to provide access to the varying forms of information available. In addition to the conventional book lending, users should be given access to e-books. This article examines how to manage e-books in a library using e-book management software.. This free software can be used in libraries for developing e-book based content server, archiving news, converting e-book formats etc.

Keywords - e-book management, calibre, Adobe Digital Editions, Alfa eBook Manager, eXtreme Books Manager, Lucidor.

Introduction -

Libraries have been playing the role of a provider of learning resources to the learning communities. Drastic changes in the technology and the way internet is evolving has changed the attitude of users towards learning resources. The role of libraries as a facilitator by providing access to the electronic resources like e-journals and e-books using the modern technology is widely encouraged. According to Linda Ashcroft, the past few years have seen a growth in the provision of electronic resources in both academic and public libraries. Many of the initial issues regarding the introduction of e-journals, such as raising user awareness, bundling, proliferation of passwords and consortia purchase, have been resolved and they have become a firm provision in academic libraries in many countries. E-books provides many advantages, views Armstrong. There is no need of physical space and hence the problem of shelving or re-shelving doesn't arise. E-books cannot be damaged or mutilated; stock taking or missing will not be a problem. The most important advantage is that, the same book can be used by many at a time. If the ebooks are made available through library the portal, users need not have to visit the library to access books. There are many applications for managing music, pictures and documents online or at one's desktop. But, E-book management applications are very rare. People usually store their e-books as files in computer or storage devices. When, the collection of books grows, retrieval and classification becomes a nightmare. Managing e-books as a personal collection or in a library is not an easy task

An electronic book, also known as an e-book or eBook, is a book publication made available in digital form, consisting of text, images, or both, readable on the flat-panel display of computers or other electronic devices. Although sometimes defined as "an electronic version of a printed book", some e-books exist without a printed equivalent. E-books can be read on dedicated e-reader devices, but also on any computer device that features a controllable viewing screen, including desktop computers, laptops, tablets and smartphones. E book management system. The software provide the visitor, customer and administrator a easy and efficient way to buy and manage books in online: software provides some facilities to customer: facilities easy shopping online. Provides e-mail facility for future correspondence.

eBook management software can be used for managing your ebooks on Windows PC and tablets. Most noteworthy, eBook management software supports online reading as well thus improving the reading culture. Hence, authors have compiled a list of top five eBook management software for you.

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Lucidor - Finally, this eBook management software for your Windows PC is ideal for book lovers new to the idea of managing and organising their eBooks. Although, this Lucidor only supports eBooks in the EPUB file format and OPDS catalogue files; Windows user can convert their eBooks from other file formats to EPUB format using eBook online converter.

Some of Lucidor thrilling features include -

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- Organise eBooks in a local bookcase
- Advanced search tool
- Search for and download eBooks from the Internet
- Convert RSS feeds and web pages into eBooks
- Tabbed interface (open multiple eBooks at the same time)
- Customize library appearance by changing themes
- Comes with built-in user manual

Finally, this eBook management software also has extensions for Mozilla Firefox, Wiki and Moodle applications. However, Lucidor runs well on Windows Operating System.

Conclusion -

Instead of providing the link of various e-book websites, it will be more helpful to give users some books, so that they can carry and read the way they wish to. The open source Softwares are definitely good tool to manage e-books in the library. With the features available in these Softwares like the inbuilt web server, metadata harvesting etc., its a promising and a must know tool for librarians.

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Use of Mobile Technology in Library

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Abstract -

This paper describes mobile technology applications in library & Information services. Now a day's mobile phones are becoming an necessary part of everyday life and are changing the way any one connects and interacts with the world. In this changing scenario, Mobile Technology will be massive help to libraries towards providing improved user oriented services to existing users. This paper explores the Library services that can be provided via mobile technology, Advantages of implementation of mobile technology in libraries.

Keywords - Mobile technology, Mobile library services, Mobile technology and Library.

Introduction -

Last decade technology has affected every organization and every field of human beings. Revolution of Mobile technology is changing education in more basic ways than just providing a new gadget that delivers information. Mobile devices, particularly tablets, are changing the way we learn and think about learning. Libraries are using new technologies to provide effective and efficient services to their user. It is possible to save the time of user and staff by using such type of technologies as per aim of libraries and S.R., Ranganathan Fourth law. Effect of information and communication technologies (ICT) and mobile technology libraries are shifting their services traditional to digital modern, mobile, PC based or online etc. Today there is an impact of

ICT and mobile Technology due to those modern libraries can provide web base and Mobile base services for library user. Technology has important impact on every aspect of modern life. Particularly ICT has provided faster access to information and it is also demanding the libraries to reorganize and modernize their services adopting the technological changes. Libraries are adopting every possible new technology like ICT, Wi-Fi, mobile communications, etc. The libraries can adapt to this information technology to make the libraries easily accessible via mobile devices.

Mobile phones are used by the majority of people as devices for making phone calls and chatting, messaging, so they often don't associate them with other activities, such as information seeking. However, people are increasingly dependent on their mobile phones and there is a growing minority who do use them as diaries, for taking notes and for e-mail and internet access. As a result there may be an increase in expectation from Library users that libraries will provide some services in a mobile friendly way.

Mobile technology -

Mobile technology is exactly what the name indicates – technology that is handy; it refers to any device that you can carry with you to perform a wide variety of works. It includes the use of a variety of communication media such as radio wave, microwave, infra-red, Global Positioning System (GPS), Wi-Fi, Bluetooth to allow for the transfer of data via voice, text, video, barcodes and more. Some examples of Mobile devices are laptop, computers, smart phones, mobile phones. Smart Phones, Global positioning system (GPS) devices, Wireless fidelity (Wi-Fi) wireless devices, Bluetooth are connects mobile devices easily without wire.

Mobile technology expands computing and the internet into the wireless medium with greater flexibility in communication, collaboration, and information sharing in networks. It has also provided secure access to a network. Mobile technology provides unique learning opportunities with advantage of portability and mobility. Academic, public and special libraries could use mobile technology in service innovations, m-learning, instruction in mobile device, web lectures, reference services and catalogue searching (Sudhir Ramdas Nagarkar)

Mobile Technology and Libraries -

Mobile phones are usual tools of Information Communication Technology. Use of mobile phones to provide library and information services will open new pathway towards this trend. This can be a means to outreach the users, enabling user to access library resources and services from anywhere any time. For this purpose the use of technology is very important. This technology has become boon to the libraries. A library may reach the remote users efficiently by adopting of mobile technology in their

services. The traditional library services are now transforming to mobile library information services. There are the challenges in providing the necessary information to users at the right time. The adoption of mobile technology changes the traditional relationships between libraries and their users and introduces novel challenges to reader privacy. Learning process have moving from distance learning to e-learning and now from e-learning to mobile learning, which will be good reform of education in India.

The future of books is electronic and, more specifically, in mobile devices, therefore a country like India with high population and high density of mobile use can develop an ecosystem for consumption of digital content through hand held devices. Today libraries aim to provide access to the digital resources to as many of its patrons, and it is possible through mobile devices. At present e-books consumption in India is much slower than UK or US but future of e-books is promising due to the fact that India is the world's third largest English speaking country with a huge English language book market.

The mobile friendly value added digital content; affordable cost of mobile handsets and cloud platform are restructuring the libraries access system and replacing out-dated pen-and-paper method with mobile access platform. The all-time mobile friendly information is on demand; mobile devices like iPod, smart phone have potential to bring learning and entertainment literally into the palm of the hand. Today librarians are seriously thinking on how to mobilize library's catalogue, and develop mobile version of library websites which can be viewed on smart phones.

Present days most of the library users have mobile phones for their personal uses as well as they also use the mobile phones for some other applications. Librarians are in move to resolve how these devices are affecting information access and ensure that they are communicating with users and providing web content in the most appropriate ways. Librarians are utilize the mobile technology, and put their efforts to increase the market and demand for mobile access to information anytime, anywhere one's own handheld device. Now a day's Libraries and users are occupying maximum technologies given by mobile industry. Mobilizing library contents in a portable form suitable for small screen and delivering services in the form of contents and information with device's multiple searching features. Librarians will need to become capable in using these devices to enable users to access information and services the many where from anyplace.

People use a mobile phone as their primary interface for surfing the Web, listening to music, watching television, reading books, and interacting with friends. So the mobile phone has become one of the major interfaces people use to access and share information. The wireless technology and mobile phones are becoming an integral part of everyday life. Mobile phones have wide variety of applications. Mobile technology has made communication and information access very convenient and timely to users from the comfort of their own homes and offices. Already mobile devices have made significant impact on banking, tourism and health services. As today s cellular phones have more features and capabilities than ever before.

Library Services That Can Be Provided To Patrons Via Mobile Technology Are -

Library services that can be provided via mobile technology are as follows.

- 1. SMS/Texting** - Library Instant Access - Many libraries are using SMS for a different type of purposes and services like notification for items available to collect, due date reminders, information of availability of library collection, and others. Some libraries are offering services for simple questions by SMS, which can be answered with a brief response from library to user question. Libraries can be providing the latest events, news and notices via SMS and MMS to library users. The users can get notified instantly with notice alerts such as alerts on bringing new books to the notice of users for suggest new books. Library can inform new arrivals of books and magazines, reminders to return library items, outstanding fines, renew books, library circulars, e-journals subscribed, change in timings, information about important events, loan request etc. Such type of text message alert notifications can be generated automatically using integrated library management system or software. SMS messages can be sent to group of users at the same time through many free applications, and intermediary websites.
- 2. E-Books and Databases** - The publishers are started to convert printed reading material like books, reports, periodicals etc into an electronic format for online use on mobile, laptop, desktop and other special devices. Some e-book reading apps and devices are Kindle, Nooks, Sony e-book reader, smart phones, and other e-book reader's devices. These devices give a great reading experience for the user. Google has worked with major publishers to bring e-books and different e-resources online. Some publishers are already delivering e-books (both text and audio) that are accessible via mobile phones. It offers access to a variety of databases

and digital resources such as e-Books, e- Journals, Web databases, dissertations, audio books, streaming music, films, images and article databases which can be used on mobile. These collections can either be downloaded from the library websites on user's own mobile devices or libraries lend mobile devices with th collections already on them. A large collection of audio books both free-and subscriptions based are available for download and also transferable to mobile devices. Most of the e-book publishers provide 24x7 accesses to the library subscriptions within the campus one computer and mobile portable devices.

3. **Mobile applications** - some libraries have developed mobile applications for Smartphone's to provide e-resources and many different services at anywhere and anytime to their users. The District of Columbia Public Library, for example, has developed an iPhone application, It has contains a mobile OPAC and the ability to place items on hold. It has also provides information on hours and locations of local libraries.
4. **Mobile collections** - Third-party content providers are associated with libraries to deliver e-books, audio books, films, animated learning materials, images, and other multimedia, that can be used on mobile devices also. Such type of services is supported on many mobile devices and has developed an application for Smartphone's.
5. **Mobile library instruction** - some libraries are started to deliver library instructional materials and resources via mobile platforms. For example, East Carolina University's Research First Aid is a series of podcasts and e-resource for library researchers on mobile.
6. **Mobile databases** - Libraries are made available many databases on mobile platform. PubMed for Handhelds is a mobile web portal for the National Library of Medicine.
7. **Mobile-based Library Lending Service** - As like banking and financial sectors, libraries can organize regulations for using mobiles for circulation of reading materials and maintenance of users account. Some wireless solution enables staff to assist patrons in the stacks, check out materials while off site, such as at community or campus events, and update inventory items while walking around the library.
8. **Cataloguing Service- OPAC (Open Public Access Catalogue)** - This service has to present library collection in front of their user in the form of bibliographies. It has also provide required information to their users. Libraries are providing OPAC access on mobile phone to their users. User can search how many titles are available, how many copies are available in the library for a particular material on mobile. Through this service library users are able to know their access, their library account, and renew their items on their own mobile device. Libraries are providing access to their OPACs via mobile-optimized websites.
9. **Reference Service** - Reference services in libraries today are becoming increasingly and easily working due to such type of modern technology. Majority of library user are living in remote area, they can access information by reference service with is introduced by their libraries through instant messaging, e-mail and SMS text messaging etc. Such type of technology is making easy to transform traditional services to modern. Ask-a- Librarian services can be offered to mobile patrons, enabling them to submit their research questions remotely by text and get answer on their mobile phone.
10. **Current Awareness Service** - Current Awareness Service (CAS) is a form of service can be from different new latest e-journals articles. It can be made available to the users through wide range of mobile devices. They can access and search the same on their mobiles.
11. **Formal, Distance Education and E-learning** - Students are very versatile in using their mobile phones and various mobile applications. Academic libraries can connect the advantage to lead implementation of library services through mobile devices to support distance learning, and research activities in eLearning environment by making availability of information sources everywhere. Library services should also combine with teaching and research practice in educational institutions, scientific community.
12. **Mobile document Supply** - Mobile technology can support online transaction processing, online funds transfer, e-marketing, data interchange, online marketing, and automated inventory management systems. The mobile technology present new opportunities to libraries for sending document, images, audio files, films etc to respond user query. It has also monitoring the use of collections.
13. **QR Codes on Mobiles** - Libraries are using the QR code technology include contact information for librarians or the research desk, sending patrons to a librarian text/chat service, or directing users to mobile Web pages. QR Code of E-Resources that consists a link to audio file, videos

file, websites, documents etc. or other information that increase the display.

Advantages of mobile technology in libraries -

Advantages of implementation of mobile technology in libraries are as follows.

1. User-friendly
2. Personalized Service
3. Ability to Access Information
4. Time Saving
5. User Participation
6. Location Awareness
7. Limitless Access
8. Access to Print-disabled
9. User has pleasure to see and browse their library on mobile.

Limitations / Barriers of Mobile technology -

There are some shortcomings; one of them is costs involved in equipment and some time training required to make use of mobile devices. Mobile IT devices can expose valuable data to unauthorized people if the proper precautions are not taken to ensure that the devices, and the data they can access, are kept safe. (Sharma)

Although mobile Technology holds great promise for library services, there are some limitations or barriers in providing library services such as

1. Problem of e-resource ownership and licensing,
2. Saving problem - limited memory of mobile devices
3. Challenges to readers Privacy- Mobile technology is changing the relationship between libraries and their users by expanding services and creating new challenges to reader's privacy.
4. Issues related to trust and security – hacking, use of library resources by user etc.
5. Lack of appropriate mobile-friendly academic content to meet learners' needs.
6. Technology side effects- The use of wireless devices is increasing rapidly, yet there is concern in the scientific community that this technology could have adverse side effects.
7. Lack of staff awareness and familiarity with modern technology like mobile.

Conclusion -

Now a day's mobile phones are necessary tool for everyone for information communication purpose. Human being in information society depends to use mobile phone to communicate information, facts, thoughts, news and conversations. Libraries especially use several tools and techniques to circulate the information to the user community. Use of such type of modern technology is very essential to promote library services and to reach end user. For this, libraries can adopt mobile technology to provide its services in a better way and effectively for the remote users. Libraries are providing different type of services by using mobile technology. These are e-content delivery, OPAC, SMS, reference etc. Libraries has to utilize new technology in a more effective way to promote and integrate them into the design of future library services in a cost efficient way. It is hoped that from this study, librarians should apply mobile technology in their respective organization/ institution in order to improve and enhance the library services so that it is available to users at any place and any time. It is very essential for libraries to be dynamic and change their outlook to adopt new technologies and to develop new kind of relationships with users.

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Information Literacy: An Overview and Models

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Abstract -

In order to be able to provide quality services to the users, the library has to adopt best and information literacy is one of them. An attempt is being made here to discuss the concept of information literacy, its significance and role of IL in LIS profession. In addition, the methods of IL in College Libraries are also mentioned. Further the paper highlights some of the information literacy models also.

Key word - Information Literacy (IL), Information Literacy programmes, LIS profession, IL models etc.

Introduction -

In the twenty first century, Information literacy is widely recognized as a key part of lifelong independent learning. It is common to all disciplines, to all learning environments, and to all levels of education. Information literacy empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their goals. Information literate people are those who have known how information is organized, how to find information, and how to use information. Information Literate peoples are able to recognize need of information, to search and access the needed information, to evaluate the information and to use the information. During the last few years an extensive amount of literature has been published on information literacy and emphasizes the different aspects of the phenomenon. Without information literacy, the information society will not be able to achieve its full potential. The main objective of Information Literacy is to bridge the information gap. Many professional associations like ACRL (Association of College & Research Libraries) are associated with this burning issue and have issued the guidelines and standards for the Information Literacy. Information Literacy augments student's competency with evaluating, managing and using information, it is now considered by several regional and national accredited associations as a key outcome for college students. Information literacy is a survival skill in the information age. Hence, this calls for a restricting of the learning itself, rather than curriculum.

Definition of Information Literacy -

The most commonly cited and used IL definition is the one adopted by the American Library Association (ALA), 1998: "To be Information literate, a person must be able to recognize when Information is needed and have the ability to locate, evaluate, and use effectively the needed information. The Information literate individuals are those who have learned how to learn".

Significance of Information Literacy -

In the 21st century Information literate citizens are the building stone for a society that is equitable and possesses economic growth potential. People need Information skills for their professional, personal and even their entertainment activities. Librarians, teachers, technologists and some policy makers have recently recognized the need for Information skills training and teaching on all levels of education. All people need to be prepared for lifelong learning and teaching individuals appropriate Information skills that will have a major progression in the direction. IL endeavors are needed to understand the complexity, long-term effects and importance of preparing people for effective Information work. Today the IL has become a global issue. In education, teachers, librarians and others are working to integrate Information skills instruction into the curricula to achieve relevant learning outcomes.

Role of Information Literacy in LIS Profession -

LIS professionals need to play an important role in the education process by making people aware of a need and motivating the use of Information a new knowledge and a new ability. The role of libraries in initiating the Information literacy campaign is rooted in the concepts of library instruction and bibliographic instruction. Libraries and LIS professionals are Information literacy change agents. Information Literacy is important beyond the domain of libraries and librarianship. Therefore, librarians can serve as change agents to help other domains to develop and put their Information Literacy policies, programs and projects in place. In this context the librarian can serve as an expert consultant and should not hesitate in offering his/her services in other domains.

Methods of Information Literacy in College Libraries -

In academic libraries faculty wants to see an improvement in the quality of student work and students want to become more confident in their ability to complete assignments, carry out projects and become active, independent learners. Following are some of the information literacy programmes for academic libraries:

- i. Library Brochures
- ii. College Prospectus
- iii. Users Education Programme (Library Visit):
- iv. Book Talk
- v. Counseling Center
- vi. Readers Club
- vii. Aid in Educational and Research Work
- viii. Aid in Co-Curricular Activities
- ix. Book Exhibitions
- x. Resources for user education
- xi. Publication devoted to the subject
- xii. Communication Events: Conference, Workshops, Symposium, etc.

Information Literacy Models -

Lupton (2004) identifies three classes of information literacy models to conceptualize information literacy in educational terms, viz. Standard based, Process based and Relational model. Some of the major internationally accepted information literacy models developed by experts and organizations are discussed below, which can work as information search/process and problem-solving models.

Kuhlthau, Information Seeking Model (1993) -

This information search process (ISP) model was developed by Carol Kuhlthau, which depicts users' approach and level of confidence towards information (research) processes by directing probable ways of minimizing the negative approaches that occur while undertaking research. It has six step processes applied at different level's viz. Initiation, Selection, Exploration, Formulation, Collection and Presentation.

Generally, task initiation is the first step which is uncertain where needs and priorities are to be defined to accomplish the task followed by selection of possible topic(sources) to overcome the problem. Observing available information on the topic is the third step named as zone of intervention. Predicting and optimizing the foci at a customary level is the fourth turning stage of ISP. The fifth step is compilation of information from different sources/ types of information with searches on the focused topic while the sixth step involves presentation of information in simple and reasoned format. While reviewing the literature, it is noticed that some of the information sources addressed for the incorporation of final step along with the first six i.e. Assessment to know the outcomes and pitfalls of the entire process. This model is popular in information seeking flow as it is tested empirically and it is linear in nature.

Bruce's 7 Faces (1997) -

"Christine Bruce (1997) developed a relational model conceptualizing information literacy as seven inter-related faces (components). These seven faces are:

- i. Information technology conception;
- ii. Information source conception;
- iii. Information process conception;
- iv. Information control conception;
- v. Knowledge construction conception;
- vi. Knowledge extension conception; and
- vii. Wisdom conception"

The refined outcome statements of the above seven faces have been stated below-

- Use IT for IR and communication
- Find information independently or via an intermediary
- Use information processes
- Control information
- Build a personal knowledge base in a new area of interest
- Work with knowledge and personal perspectives to gain new insights
- Use information wisely" (Bruce, 2003).

This model is significant as it provides insight framework of information literacy in real sense and assist in understanding the value of information society so that self-instructed and self-determined learners will grow up. The seven faces provide a portrait of information literacy apart from general lists of skills and

attributes so that students will get experience to apply these forms of information literacy which is pertinent and specific at different circumstances as each face comprises of unique phenomenon regarding use and apply of 'information'.

Eisenberg and Berkovitz, Big Six Model (1998) -

This model was developed by Eisenberg and Berkowitz in the year 1998. It is a process model in which the information problem is solved by following six steps.

- i. Task definition
- ii. Selection of information searching strategies
- iii. Location and access to resources
- iv. Information use
- v. Synthesis and
- vi. Evaluation

This model helps to identify information seeking priorities, use, pertain and assess relevant information. The key factors are so influencing that the model can be applied at universal level for teaching information and technology skills in a systematic manner and for all age groups.

Society of College, National and University Libraries (SCONUL) – Seven Pillar/Seven Faces Model (1999) -

This information learning skill model was the outcome of SCONUL paper -Information skills in higher education: a SCONUL position paper.

Later, this model was updated and expanded considering the relevance of different user groups, specialization and ages and then recognized as a 'core' model and 'lenses' model for higher education. The Lenses include:

- SCONUL Seven Pillars of Information Literacy: Research Lens
- SCONUL Seven Pillars of Information Literacy: Digital Literacy Lens; and
- Seven Pillars of Information Literacy: Open Educational Resources Lens

The core model consists of 7 pillars viz. Identify, Scope, Plan, Gather, Evaluate, Manage and Present, which is in resemblance with earlier pillar statements and research lens model.

Empowering-8 Model (2004) -

Empowering-8 model was discussed at an International Federation of Library Associations and Institutions- Action for Development through Libraries Programme (IFLA-ALP) sponsored Information Literacy workshop at National Institute of Library and Information Science (NILIS), University of Colombo, Sri Lanka in the year 2004 and designed especially for Asia-Pacific region for the promotion of information literacy. This model consists of following eight key components as shown in Fig 3.5.1:

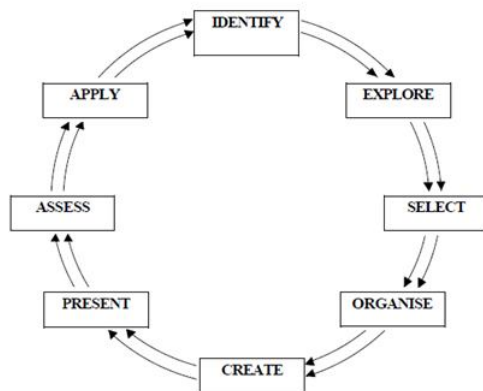


Figure-3.5.1 Empowering-8 Model

Russell Bowden (2005) tried to elaborate these 8 steps. Identify a need is the first step to know the subject matter, audience and keywords that will help in understanding a problem. Then 'explore' the problem with available information and resources required to develop search strategy. Based on that 'select' the relevant sources of information that matches with the problem from which information can be obtained or by citing the appropriate sources. Then 'organize' the information from earlier selection which expresses the relation between fact, fiction and opinion. With this 'create' information in one's own words, revise and edit and create bibliography, if required and present this new knowledge in the desired format to share amongst the appropriate audience. 'Assess' the refined new information through feedback, self-assessment and assessment with teachers. Then the last step is applying the generated new knowledge

towards next learning activity/problem.

Pathways to Knowledge Model (Pappas/Tepe) -

This model is based on American Association of School Librarians (AASL) and Association for Educational Communications and Technology (AECT) information literacy standards. In 1977 Marjorie Pappas and Ann Tepe developed this information process model named as 'Pathways to Knowledge' model. Later on, it was expanded as 'Pathways to Knowledge and Inquiry Learning' model in 2002. This model is the combination of two perceptions such as inquiry learning and an information process to complete the information search process by the users. It consists of following six stages:

- i. Appreciation
- ii. Pre-search
- iii. Search
- iv. Interpretation
- v. Communication
- vi. Evaluation

Users may continuously explore and reassess at each step as this model is based on non-linear and recursive processes. It is useful to solve information seeking problems and inculcate the students in lifelong learning chain by adopting constricting knowledge techniques.

Louisiana, Information Literacy Model for lifelong learning -

This model provides an intellectual framework in the information search cycle. It is made of following seven steps and each one of these have been explained below.

- i. Defining/Focusing
- ii. Selecting Tools and Resources
- iii. Extracting and Recording
- iv. Processing Information
- v. Organizing Information
- vi. Presenting Findings
- vii. Evaluating Efforts

Defining or focusing the problem by identifying the needs, devise the questions based on nascent information which is particular to the topic and preliminary decisions is the first step. Selecting appropriate 'tools' (search strategy) and 'resources' (print, non-print or digital) focused on the formulated problem is the second step tracked by 'extracting and recording of information'. It includes use of various access and retrieval methods for information processing based on selected tools and sources of information to cover relevant factors. The fourth stage is 'processing' of information with regard to issues of concerns like accuracy, significance, reliability of information and avoids use of ambiguous and wrong information by analyzing the processed information. 'Organizing' the information in lucid and systematic manner by applying critical thinking and problem-solving methods to complete a task is the fifth stage of this model followed by 'presentation' of the findings.

Conclusion -

Information literacy is widely recognized as a key part of lifelong independent learning and it is common to all disciplines, to all learning environments, and to all levels of education. In the age of competition, every library has to identify and introduce best practices like information literacy, to enhance the use of the library. Developing and introducing IL, at a regular interval will result to continuous improvement in overall performance of the library and the whole institution. Thus, the IL should bridge the gap between the library and the users for effective and maximum utilization of the resources, which will result in the advancement and promotion of higher educational goals and the vision and mission of the library. Information literacy empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their goals.

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Information Literacy: Use full Education for Higher Educational

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Abstract -

Information Literacy is a growing concept in library and information science. Many libraries especially academic libraries in developed countries are offering Information Literacy Education to their users as a regular programme. Many libraries are also offering as a need-based programme. In the Indian context, as regards of 'Information Literacy' there is a long way to go. It is still in the nascent stages. An individual to be information literate is pertinent on many accounts. For instance, in the age of information explosion, it is very difficult for anyone to tap the right information at the right time until the individual is information literate. This paper aims to discuss the dimensions of Information Literacy Education for higher educational institutions in India It also attempts to throw light on how it could be made a regular programme of all the libraries in higher educational institution in India.

Keywords - Information Literacy, Higher Education, Competency, Dimensions of Information Literacy

Introduction -

The essence of the term 'information literacy' is brought out or felt due to information explosion. Gone are the days when the problem was lack of information. Today in the age of information, information explosion is the problem and hence the information professionals are expected to guide the users for using the right information at the right time. Therefore it is the responsibility of the library and the educational institution on the whole to frame the Information Literacy Education based on the nature of their institution and the level of the students. Number of schools, colleges and universities are offering information literacy programmes as a regular programme at various levels in the developed countries like USA, UK, Australia, and New Zealand. Indian educational institutions too have to start building the programme for making the students as information literates and life-long learners.

Information Literacy and Higher Education: Library orientation is the preliminary step to introduce the library, its various resources and services to the users. Information literacy is much more advanced to locate, evaluate and use the information. The term Information Literacy was first introduced by Paul Zurkowski in 1974 (Spitzer, K.L, 1998) and is being used in the field of library and information science since then. In Indian literature, the term appears only in the recent years but related concepts, services are present in research and practice during 1990s (Ramesh Babu. B, 2006). In simple terms, Information Literacy is a competency to seek and evaluate right sources of information and use it. As per Association of Colleges and Research Libraries (ACRL), Information Literacy is 'to recognize when information is needed and have the ability to locate, evaluate and use effectively the information need' (Association of College and Research Libraries, 2000). So information literacy is not only finding right information, it is also about evaluating and using the information effectively. Therefore to use the information effectively and have the optimum utilization of resources, information literacy and its programmes become essential.

Moreover, higher education students need to be competent not only in their studies but also in their professional and personal life, hence being information literate is inevitable. Peter Drucker, well-known management guru stated that "executives have become computer-literate... but not many executives are information literate" Eisenberg, Michael.B. (2008). As on March, 2005, there were 342 Universities and 17,625 colleges available in India (Sakthi Regha, V. & Gunavathy, J.S, 2007). Ministry of Higher Education, Government of India has to have some initiative to make these institutions to offer Information Literacy Programmes similar to the Sarva Shiksha Abhiyan programme of the Government of India that seeks to achieve education for all (Mani, M.N.G, 2006).

Information Literacy and Library Professionals: Librarian or Information Librarian in a library requires good teaching and communication skill to teach information literacy to the students. He / she also need to collaborate with library and other academic staff to integrate the information literacy into the regular curriculum to make the teaching-learning process more effective. Thanks to the Government policy of having an established library and qualified library professionals in all the higher educational institutions, the information literacy educators are already available to start the job. What needs to be done is to put them on the job, impress upon the authorities of colleges and universities to understand the need for

information literacy and enlist their support for the programme.

Information Literacy Competence: Information Literacy empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. Information literate people are able to access information about their health, their environment, their education and work, empowering them to make critical decisions about their lives (portal.unesco.org). Competence is the ability to perform a specific task, action or function successfully (Wikipedia). Therefore acquiring information literacy or being information literate is Information Literacy Competency. According to the Information Literacy Standard of Australia (Council of Australian University Librarians, 2001), an information literate person is the one who is able to

- 1 recognize a need for information
- 2 determine the extent of information needed
- 3 access the needed information efficiently
- 4 evaluate the information and its sources
- 5 incorporate selected information into their knowledge base
- 6 use information effectively to accomplish a purpose
- 7 understand economic, legal, social and cultural issues in the use of information
- 8 access and use information ethically and legally
- 9 classify, store, manipulate and redraft information collected or generated
- 10 recognize information literacy as a prerequisite for lifelong learning

Dimensions of Information Literacy - ACRL has given a set of standards which also includes certain Performance Indicators and outcomes (Association of College and Research Libraries, 2000). However to frame the dimensions of Information Literacy in a simple way, the concepts used in ACRL definition alone has been used and discussed here. These dimensions can facilitate the Indian educational institutions developing the Information Literacy Programme/ education.

Dimension 1: NEED

Dimension 2: LOCATE

Dimension 3: EVALUATE

Dimension 4: USE

1) NEED - How students recognize his/ her need for information? When a task, say an assignment or a presentation or a research study is given to a student, he/ she recognize that he/she is in need of particular information. The student is also to identify what is needed and also define the need. Here defining the need is to see the area, scope and applicability of information.

2) LOCATE - After identifying the information need, the student has to locate that information. Locating particular information entails the following:

- 1 Identifying the sources of information – student has to be aware of various sources of information like primary and secondary sources and the ways to locate them
- 2 Knowing the various forms of information – information is available in various formats like print, online, CD-ROMs and so on
- 3 Understanding the related concepts of information – to search for particular information, always one has to be aware of the related concepts to explore more relevant results
- 4 Formulating search strategies by using various search techniques like Boolean operators (AND, OR, NOT) and so on
- 5 Possessing library skills. Library skill is a skill which helps to locate a resource in the library by using a system of classification of resources

3) EVALUATE - In the period of information explosion, information is available in abundance. Hence the students have to be educated to evaluate the collected information. The collected information can be evaluated based on

- 1 Authenticity – it should be found out whether the collected information is authentic or not. It can be checked by author, publisher or the institution from whom the information came in.
- 2 Accuracy – it can be checked to avoid certain bias and prejudice
- 3 Up-to-date – it has to be ensured that the collected information is the current

4) USE - After going through various dimensions of Information Literacy like Need, Locate, Evaluate, the collected information has to be used to satisfy the purpose for which the information was looked for. Using the information also includes reporting of the information in an appropriate way or medium and by abiding by legal and ethical considerations.

Example - To highlight the interplay of these four dimensions the following example is presented.

Task - A student was asked to conduct a small research study on “Analyzing the websites of all the

State Governments in India”.

- 1 The student has to define his/her research problem first and to recognize that he/she needs information on website analysis. Here the information need of a student is – i) to recognize various criteria to analyse a website ii) present details available in the websites.
- 2 To locate the information regarding criteria to analyse a website, the student has to search his/ her library and / or Internet for materials about Website Evaluation. To locate the details available in various state governments’ website, all the State Governments’ website have to be accessed.
- 3 After collecting the information for the above needs, the collected information has to be evaluated whether all the criteria have been taken into account to analyse the website and all the websites have been gone through based on the criteria mentioned.
- 4 To complete the process of analyzing the websites of all state governments in India, collected information has to be used in the context i.e, all the websites have to be analysed and reported based on the analysis made. While reporting the analytical study, ethical and legal issues like giving credit to the cited work, not violated the copyright, etc have to be taken into consideration.

Conclusion -

To overcome the issue of Information Overload, every student has to be taught to search, access, evaluate and use the information effectively by taking into the consideration of the ethical and legal issues. This whole process is possible through Information Literacy. Hence Information Literacy Education is very pertinent in each and every educational institution especially in the higher education side. When the students become information literates, they will not only gain academic achievement but also become successful in whatever field they enter into, apart from their personal life. This can be substantiated with the popular sayings ‘Information is Power’ and ‘Information is Wealth’. “Education is the most powerful weapon you can use to change the world”, - Nelson Mandela (http://www.thinkexist.com/english/Author/x/Author_3763_1.htm). It is not an exaggeration to say that this quote of Nelson Mandela, is more realistic when the term ‘Education’ includes ‘Information Literacy Education’ too.

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GIS Based Decision Support Systems in Agriculture

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Abstract -

A central issue in agricultural development is the necessity to increase productivity, employment, and income of poor segments of the agricultural population, and by applying GIS in agriculture, this situation can be addressed. GIS tools and online web resources are helping farmers to conduct crop forecasting and manage their agriculture production by utilizing multispectral imagery collected by satellites.

Decision Support Systems (DSS) provide a framework for integrating database management systems, analytical models, and graphics, in order to improve decision-making process. Because of lack of computer software to develop user friendly interfaces in the past, GIS have not been used as part of SDSS. Instead GIS have been used to generate and store spatial data which were then used as inputs for the analytical models. GIS was used independently to display maps by inputting results of the analytical models. The other SDSS applications discussed in this paper are on watershed management, crop productivity management and policy decision analysis.

Keywords - GIS, Decision Support Systems (DSS), Agriculture

Introduction -

Increasing food demands due to high rates of population growth and major changes in political and economic and social systems have created an urgent need to develop new and revise many existing agricultural systems and practices. India is characterized by a high population with a larger growth rate (~2%/annum). The restless onslaught of demographic pressure (16-17 additional people each year) on India's natural resources and high production gains limited to well endowed irrigated areas, have however put a question mark on the stability and sustainability of Indian agriculture (Katyal et. al, 1996). Now, more than ever, decision makers at all levels need an increasing amount of information to help them understand the possible outcomes of their decisions and develop plans and policies for meeting the increasing demand of food requirements without damaging the natural resources base.

Decision Support Systems (DSS) are "interactive computer based systems that help decision makers utilize data and models to solve unstructured problems" (Turban, 1995). These tools improve the performance of decision makers while reducing the time and human resources required for analyzing complex decisions. Spatial Decision Support Systems (SDSS) deals with spatial dimension through digitized geo-referenced spatial databases. Agriculture is essentially a spatial phenomenon which is not independent of 1 location. GIS is the tool and technology that handles various spatial databases, and is a young area of information technology. This spatial information technology allows to examine and analyze a wider range of agricultural related resources such as soil, weather, hydrology, various socio-economic variables simultaneously and accurately. Simultaneous examination of these variables in a GIS environment leads to a better understanding of how agricultural systems function and interact over space and time. This understanding leads to developing stable and sustainable dynamic agricultural technologies.

DSS with GIS tool can better organize and analyze spatial data, address the problems related to spatial and temporal variability of various natural resources on which the performance of agricultural systems depends. Spatial databases developed in GIS as input to analytical models such as simulation models and statistical models enables to model agriculture from field to national and global scales accurately. Output on area action plans at different scales can be viewed through maps. These maps provide insight and understanding of spatial and temporal interactions of various agricultural systems and resources over time. Linking of spatial analysis and simulation models to GIS databases is one of the current areas of active research in many parts of the world. These spatial information systems and decision support systems help to manage various agricultural systems efficiently over space to meet the changing food demands without damaging our natural resource base. In this regard GIS can be looked as an essential and central tool for developing spatial decision support systems. In this paper some applications of SDSS and in agricultural research are discussed.

Spatial Decision Support Systems for National and Regional Policy Decisions -

We come across number of papers in scientific literature on the applications of time series analysis to the data collected by the State Directorate of Economics and statistics and other Government Statistical organizations. For example studies on agricultural growth and assessing the dynamics of cropping pattern, land use, livestock, population, irrigation, fertilizer use etc., are common. Invariably the data are available at district level but the analysis is being performed on the aggregate data at national or regional or state level depending on the study. But analysis of aggregate data does not infer about location specific trends and spatial patterns which are very essential for agricultural policy, planning and management.

Katyal and Narayana Reddy (1997) studied the changes in area and productivity of rain fed crops Sorghum, Pearl millet, Pigeon pea, and Chickpea etc. by linking the time series district-wise data to district map of India. Further Agro-eco regions were (Siegal et al, 1992) overlaid. These maps reveal the spatial trends in area and productivity of rainfed crops in different Agro-eco regions apart from temporal trends. Their study brings out the need to revitalize the efforts on stabilizing and accelerating the productivity levels even in Agro-eco Region, which is the major sorghum area. Resource characterization is one of the important applications of GIS in agriculture. Overlaying the maps showing the spatial distribution of various crop statistics such as productivity, irrigation, fertilizer etc., against resource characterization maps enables to assess crop performance with respect to resource capabilities.

Spatial Decision Support Systems for Crop Productivity Management - Productivity of Management at Regional Level -

Regional Productivity analysis involves evaluating spatial soil and weather variability, identifying optimum crop management practices, and predicting productivity of the region under different climatic and management scenarios. This analysis can help regional planners and policy makers in delineating acreage and distribution of areas with high productivity and developing management recommendations for different crops. Lal et. al, (1993) extended the scope of applicability of site-specific crop simulation models such as DSSAT (decision support system for agro technology transfer) to regional planning productivity and policy analysis by combining their capabilities with ARC/INFO GIS. An interface was developed to combine DSSAT models with ARCVIEW.

Productivity of Management at Farm Level -

Generally we conduct field experiments in some statistical design, which helps to infer the results based on statistical significance tests. The unaccounted variability called experimental error is attributed to uncontrollable environmental factors. On the other hand computer based decision support systems such as DSSAT are developed to understand the interaction between various crop management options and environment.

Spatial Decision Support Systems for Watershed Management -

Crop Planning based on Watershed, as a unit is very important for optimizing the use of limited Water resources for maximizing and sustaining the productivity under rain fed conditions. Geographical information systems have been successfully integrated with distributed parameter, single event, water quality models such as AGNPS (Agricultural Non-Point Source) and ANSWERS (Areal Nonpoint Source Watershed Environmental Response Simulation). These aspects are very well discussed by Garg (1994). Other widely used models include EPIC (Williams et. al, 1983), CREAMS (Knisel, 1980) and SWRRB (Arnold et. al, 1990). The amount of time, expertise and cost required for acquiring input data for running the models are greatly increased. For example, a simple model like USLE requires only six inputs, while a spatially distributed, single - event model like AGNPS requires 22 inputs for each cell or grid within a study area. The need can vary significantly between and within models, depending on the questions to be answered, thereby tremendously increasing the cost, time and complexity of analyzing results. The integration of GIS with distributed parameter models can eliminate many of the limitations associated with the use of these models particularly for input data preparation. Srinivasan and Engel (1991) integrated the AGNPS model to display and facilitate analysis of model output. Rewerts and Engel (1991) integrated the ANSWERS model with the GRASS GIS to build inputs to run the model. Both AGNPS and ANSWERS are single-event-distributed-parameter models that require a watershed to be divided into square grids and resample like a raster-based GIS., where the data are sorted in a grid - like array. There are significant differences between the single-event and continuous-time distributed models, both in methods of extracting inputs and methods of analyzing and displaying outputs, due to time component involved in continuous-time modeling.

Continuous-time, distributed-parameter models consider the basin or watershed divided into sub-basins based on topography, soil and land use and thus preserve the spatially-distributed parameters and homogeneous characteristics within a sub-basin. Collection of inputs for such models is often

difficult due to the level of aggregation and the nature of spatial distribution. To overcome this problem Srinivasan and Arnold (1994) developed a GIS interface to automate inputs to a continuous-time, distributed-parameter model called the Soil and Water Assessment Tool (SWAT). Digital elevation model (DEM) created in GIS is an important input to this model. Given an input surface such as DEM, the hydrologic modeling tools can be used to generate grids that encode the flow direction and flow accumulation for each cell or grid representing local and natural watersheds and drainage network. Jain and Saraf (1995) used GIS ILWIS (Integrated Land and Water Information System) to predict average soil loss through USLE (Universal Soil Loss Equation) model.

Spatial Decision Support System for Precision Farming -

The extent and rate of change now occurring in the development of information technologies have opened the way for significant change in crop production management and agricultural decision making. This vision is reflected in precision farming. Precision or site specific farming aims to direct the application of seed, fertilizer, pesticides and water within fields in ways that optimize farm returns and minimize chemical inputs and environmental hazards. These precision farming systems utilize some combination of GPS receivers, continuous yield sensors, remote sensing, geostatistics, and variable rate treatment applicators with GIS. GPS (Global Positioning System) is one of the many new technologies contributing to precision farming, and is the one that really puts the precision into farming for most site specific operations.

Precision farming technology allows farmers to make informed economic decisions about input use, while reducing or avoiding long-term environmental degradation. Adoption of this technology requires accurate geographical maps showing physical and chemical properties and the tools to apply the inputs as per the spatial variability. The concepts embodied in precision agriculture offer the promise of increasing productivity while decreasing production costs and minimizing environmental impacts. Precision agriculture is considered a suite of technologies consisting of crops, weather, pest complexes, and marketing arrangements rather than a single technology. All these components have the common feature of increasing the information intensity of agriculture.

Precision farming/agriculture requires new approaches to research that are designed explicitly to improve understanding of the complex interactions between multiple factors affecting crop growth and farm decision making. The generation of massive amounts of data on farm will enable dynamic experimentation that could supersede the use of traditional experimental plots. The agricultural systems may need to evolve so that innovation and learning can exploit both traditional research plot experiments and information captured from actual field operations. Incorporating information about variability in soils, moisture, nutrients, and pest populations into decision making requires an understanding of crop growth in an environmental context. Traditional plant and soil science research has not been designed to provide this kind of information. The current paradigm is that of the controlled experiments, in which one or more factors are varied while other are held constant. Such an experimental design corresponds poorly to a real farm context, in which multiple factors vary simultaneously. Such experiments provide little information about how responses to variations in any one factor change as other conditions change.

New information technologies will be required to make the more detailed and timely decisions necessary for precision agriculture. Introduction of new sensing techniques will enable the collection of an unprecedented number of soil, crop, pest and weather observations. Maps created using GIS software can be used during field operations to make more precise and timely application of inputs. Multidisciplinary research will be needed to match measurement methods and analytical techniques with crop production questions of interest to effectively understand and use information about the true variability of measurable parameters within farm fields. Database management and image processing methods are needed to extract useful information from very large data sets. Geo-statistical methods must be advanced both to more effectively sample and to more accurately interpolate sparse data. Spatial analysis methods and spatially explicit components in crop models should be evaluated and calibrated under field conditions, and linked to GIS to facilitate accurate analysis and inference from collected precision agricultural data.

Summary & Conclusion -

In the twenty-first century, agricultural professional using information technologies will play an increasingly important role in crop production and natural resource management. Increased use of fertilizers, pesticides and other chemicals have contributed to the enhancement of agriculture's productivity in recent decades. But currently, agriculture production is facing many challenges such as increased cost of production, shortage of irrigation water, adverse impacts of agriculture on the environment etc. For countries like India it is a challenging task to meet the food demands of the growing population in future. Further, to survive in the highly competitive world market of agricultural commodities in view of

globalization, agricultural producers must produce highly quality products at low prices while using environmentally sound practices. In this context GIS has a significant role to play in the decision making process in agriculture at various levels i.e., field, regional, national and global levels. GIS is one of the important tool of Information Technology (I.T) highly relevant to agriculture. This technology allows to examine and handle a wider range of spatial data bases such as soils, hydrology, weather etc and integrate with socio economic variables. Simultaneous examination of these variables leads to a better understanding of various agricultural related process and their interactions over space and time. This leads to characterization of resources accurately and to identify appropriate domains to target new technologies from time to time. Linking of simulation models such as crop simulation models, hydrologic models, and statistical models to GIS databases is one of the current active areas of research. By interfacing these models, GIS is emerging as a powerful spatial decision support system.

SDSSs described in this paper would point towards a flexible integrated system, built on a GIS platform, to deal with spatial data and manipulations and an analysis module which could switch from exploration to explanation in an interactive, iterative and participatory way.

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Marketing of Library and Information Products

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Abstract -

Library products and services which provide benefits for users and which answer users most important needs are the core business of the library and information service. Marketing is a systematic approach to planning and achieving desired exchange relations with other group. Marketing is concerned with developing maintaining, and regulating exchange relations involving products, services, organizations, persons, places or causes. Marketing is a process which carries goods from producers to ultimate consumers.

Keywords - Marketing, Information Product, Library Services, Marketing of Library & Information Services

Introduction -

The library has many products and services that can be promoted. Each library required to identify what it wishes to market and how. Marketing is not just about developing and promoting new services and products but also bringing awareness to clients of existing services and products and determining their appropriateness. Marketing is directly linked to the planning process. Having a formalized plan and direction of where the library is going as opposed to being reactive to change and problems that arise enables managers to successfully develop marketing strategies and successfully identify new services and products.

Marketing -

Marketing is a stance and an attitude that focuses on meeting the needs of users. Marketing is not separate from good practice. It is good practice (Smith, 1995); Advertising is the examination, arranging, execution and control of painstakingly planned projects intended to realize willful trades of qualities with target markets to accomplish hierarchical destinations. It depends intensely on structuring the association's contribution as far as the objective market's needs and wants and on utilizing successful evaluating, correspondence, and dispersion to advise, inspire and serve the business sectors.

3. Products of Libraries -

The products that libraries provide are mixed and ever changing and consist of core, palpable, and augmented products. Kotler's (1982) definition of product is "anything that can be offered to a market to satisfy a need. It includes physical objects, services, persons, places, organizations, and ideas". Products include all of the services made available through the library. These products might include materials owned by the library and services provided by staff of the library, but increasingly the products might also be such things as contracted services from other providers for which the library serves as a type of agent for the client. Products might be electronic information or access to information actually held by other libraries. The ways in which libraries package information and organize access points between the client and the information are also products of the library.

Therefore, cataloging, classifying, OPACs, indexes, and remote access to its own, and those of other libraries, collections, are also part of the library's product line and are directly related to the client market.

Marketing of the Information Products/Services -

It is necessary to market the commodity that is to provide the information products on the shelf for the purpose of satisfying the demand of the community regarding the information products and also it will be useful to take the feedback from the user community about the products/services. Following Principles of Marketing for Library and Information Products/Services:

Assortment of information -

The first and foremost principle of marketing information products or services is to develop a Well-balanced collection or storage of information or data which can help to satisfy the needs of users/customers.

Organizing information -

As a marketable commodity it is necessary to repackage the information by using various processing techniques such as indexing and abstracting information, etc.

Determine the target user group -

The idea of a target community consists of identification of the target customers or user group that the information centre decides to serve.

Four Ps of Marketing Mix -

All marketing decision-making can be categorized into four strategy elements, discussed to as the marketing mix or the four P's: - Product, Price, Place, and Promotion (Dhiman & Sharma, 2009).

Product -

A product is whatever can be offered to a market to fulfill a need. Item implies the Satisfaction of the client as opposed to a physical decent. The idea of item isn't restricted to physical articles – anything equipped for fulfilling a need can be known as an item. Notwithstanding unmistakable merchandise, items incorporate administrations, which are exercises or advantages offered available to be purchased that are basically impalpable and don't bring about the responsibility.

Place -

It represents the circulation channels that an association uses to pass on its own physical items or administrations to the end clients. The circulation of the library's items alludes to 'When' 'Where' and 'how' administration is made accessible for the client. 'When' infers the timespan in which data is given. 'Where' demonstrates the area of the administrations and 'How' establishes the kind of appropriation.

Price -

Pricing is the marketing movement that controls the price of the product on the basis of costs as well as market factors such as circulation channels, discount structure, competitor's prices, and ability of customers to pay, and so on. The following are questions to ask during pricing.

- What are the costs involved in the generation of services and products?
- What factors need to be considered in arriving at costs?
- Should the information services/products be given free? If so, to whom and why?
- What would be the impact in relation to the value of a product, if given free?
- What should be the criteria for pricing?

Promotion -

Promotion is the action that covers all aids to sales. Promotion encourages demand and increases sales. Usually promotion moves the product toward the customers. It involves mechanisms that inform the target groups about the resources available, services and products offered by the libraries/information centers.

Marketing Techniques -

Management is required to control the application of a range of skills and techniques in marketing, generally derived from practical industrial experience and from modern social sciences such as economics, statistics and applied psychology. Marketing skills and techniques can be divided into four broad groups. Those used in order to obtain data about the market

- Those used to create and stimulate demand
- Those used to analyze costs and other marketing factors
- Other practical skills and techniques

Marketing Strategy -

Not all enterprises can afford to use all the marketing techniques. Furthermore, different situations require different techniques. The marketing manager must be able to select those techniques that are necessary for a particular product in a particular situation. Therefore, successful marketing includes the art of deciding which techniques to use in different situations. Marketing strategy also means selecting various techniques in proper proportion and balance.

Barriers of Marketing -

The following can stand as a barrier of marketing

1. Structural: Staff coming into the contact with users is not information professionals; hence there is no staff to think from the user point or side.
2. Systematic: Library and information system don't seem to allow the client or client point of view inside the system.
3. Attitudinal: Libraries remains happy with satisfying a limited user that too when asked for.
4. Environment: The culture still believes in that information should be free.

Professional Skills for Marketing -

Library personnel require the following professional knowledge and skills for marketing information and library services:

- Perception of user needs and ability to obtain feedback from users

- Technical knowledge, such as ability to use the Internet
- Knowledge of various marketing strategies for promoting information skills
- Factors which characterize the difficulties of marketing information services are:
- The relatively low level of knowledge and lack of agreement on user requirements, wants, and needs.
- The subsidized non-market environment in which most scientific and technical information products and services are used.
- The virtual impossibility of estimating the value contributed by information products and services to the efficiency and conduct of research and development and the advancement of scholarly pursuits
- The general economic unsophistication of those, mostly schooled in the humanities and the non-market-oriented library school environment, who purchase information products and services

Conclusion -

Marketing is essential in making the proper planning, designing and use of such services and products for the better and optimal use of information. The library should give priority to provide excellent customer service enhancing its image as information provider in the information era. The library and information services should be user-oriented especially when we are designing them to satisfy the information needs of industrial people. Marketing of library and information services includes user's priorities, expectations, individuality, responsiveness, relationship, quality of services, professional skills and competencies, value-added services, etc. Therefore, university libraries must develop a process for understanding the information needs, wants and opinions of users, and develop products and services which satisfy those information needs

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Outsourcing Service in Library Automation Libraries in Beed City A Study

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Abstract

The role of librarian is very most important in modern age. Branch of knowledge is created in large of form. So there is need of fame to give maximum knowledge to reader in less time, labor, money, so it has become the new of age to computerization of library.

In library management to use outsourcing is the aim of this short paper. So the researcher topic is problem outsourcing of Beed city. In Beed city there are arts and Science College 37, 32 librarian has been given the response findings and recommendation has been found outsourcing.

Introduction:-

Beed dist. is one of 36 districts in Maharashtra of India. It is in middle of Maharashtra state it is also known as sugar cane factory workers district. It is back word district other than Maharashtra dist. It is mostly drought area. There are 37 colleges in Beed district which are affected to Dr. Babasaheb Ambedkar Marathwada university, Aurangabad out of 37 colleges, me researcher has selected 32 arts, commerce and science colleges. Due to NAAC evolution there is library computerization is needed Luck of miniaturization of little knowledge of computer of skill of library staff or lack of proper computer software, these are the things for improper development but technical need is important. For example system study, analysis and development, programming program logic, data base development, data grammas, math dater, web page.... etc. ITC facilities are important according to this rule library automation is faced some problems. So it requires the help of out sourcing.

Definition:-

Baounew and baned: (1997) the definition of out sorting is broadly different form somebody doing something easy for you to do out sourcing is an offsetting prussic for outsider 1

Concept:-

Outsourcing means external source or to appoint any person on contract basis to source.

Affiliated collage:-

Affiliated college means a college which has sanctioned by university for affliction.

Library:-

Library means a collection of books.

Librarian:-

A person who has appointed as per UGC rules through university in a college library.

Library computerization:-

Library auto motion means to do various activities with the support of computer i.e. computerized knowledge, computerized training, ICT services mate data, data base development, data format, webpage creation....etc. it is important to accept human resources and technical in computer 2

Outsourcing:-

Outsourcing means external or through other words means other person or organizations service on contract basis. In 1900 the library of congress has started to give cards in library in India also started its own working outsourcing for example Ahmadabad textile industries research association has started to tack care books in its library dong by reference books, classification and proper system .3

Importance:-

Need of computerized library, to make planned structure, tool of computer and luck of training means while computerizing there is need of human sources in management and need of in a form of technical outsourcing. Socially catalogue, classification, book, card, database. It is essential to give proper payment for trained person. Sometimes it is done by appointing a person on contact basis (3500 to 400/)

Importance of outsourcing:-4

- To control the expender.
- Luck of skill for regular worker.
- To get on low rate skillful persons.

Use of outsourcing college library computerization.

- Need of computerization of library
- Use of outsourcing in collage library
- Implication of computerization method/system
- Use of ICT/internet in library computerization
- While using outsourcing in library computerization outsourcing educational qualification.
- In library computerization technical and human resources of outpourings use

Library outsourcing services. 5

As per 2010

- Catalogue card
- Book card
- Book pocket
- Cataloged card
- Book repairing
- Library automation
- Database management
- Network management
- Barcode
- Website designing

Purpose of using outsourcing:-

Gupta and Sharma (2012) have started the importance of outsourcing as follows.

- to save human resource
- to save time and energy
- to less responsibility of staff/worker
- to increase satisfaction of user

Objective of study:

- 1 To know the present situation of computerization in college library of Beed district .
- 2 To know the use of outsourcing in Beed districts colleges libraries.
- 3 To study the services in libraries of college in Beed districts.
- 4 To study the implication of computerization in library of Beed districts.

Hypotheses

1. Affiliated college libraries are computerized of Dr. Babasaheb Ambedkar Marathwada university.
2. To make computerization of library there are problems
3. To make computerization of library there is need of outsourcing.
4. Some college libraries need help of human sources in the form of outsourcing.
5. Libraries of Arts, comers ,and science college in Beed districts .

Research till/ statement of problem

"Outsourcing Services in library Automation of Academic libraries in Beed City A Study"

Research methodology:-

The researcher has studied of search methodology of survey.

For analysis 32 methods is used

Data collection:-

The researcher has using rules 32 for information collection.

Observation tool has used for research

Selection of sample:-

The researcher has selected 32 granted arts, commerce and science colleges out of 37 in Beed district. 32 libraries have response out of 37 the libraries have selected on the basis of 32 samples.

Study

The researcher has used a percentage tool for data analysis

Data analysis:-

Data collection has been done by using survey method. The researcher got findings using percentage tool for analysis.

1. Library of Arts commerce and Science College in Beed districts.

Sr. no	College library	Response	Percentage
1	37	32	86%

1] computerized college libraries

Sr. no	Computerized libraries	Response	Percentage
01	Yes	24	75%
02	No	08	25%

Table no 1 shows that there are 24 [75%] libraries are computerized and 08 [25%] libraries are without computerized

2] Who has done the computerization of your college library?

Sr. no	Library computerization	Response	Percentage
01	Library staff/worker	09	28.12%
02	System	06	18.75%
03	Out source	09	28.12%
04	Without computerization	08	25%

As per table no 2 there are (9) 28.12% library staff/worker, (18.75) system operating, computerized colleges are 08 (25%) without computerized colleges are 08 (05%)

3] Which ICT basic facilities are there in library?

Sr. no	Basic facilities	Yes	No
1	Computer server operating system general application input/output	24	08

As per table No. 03 out of 32 library colleges from beed district only 24 (27%) colleges has the following facilities computer server, operating system, general application, input, output etc. and 8(25%) colleges have not basic facilities.

4] Are there sufficient computers in college library?

Sr. no		No	No
1	Sufficient computer	24	05

Out of 32 colleges, there are only 24 (75%) have sufficient computers in college library but 8(25%) college library has not sufficient computers.

5] Which operating system has used for computerization library?

Sr. no	Operating system	Response	Percentage
01	Soul software	07	21.87%
02	Lib man software	15	46.87%
03	Software library in-house		
04	Library management	02	06.25%
05	No operating system	08	25%

As per table No. 05 (21.87%) soul software is used in college library, 15(46.87%) lib man software is used and 02 (06.25%) library management has used in college library. At the same time 8(25%) colleges have not used any operating system in library.

6] Which problems of you face at the time of librarian work?

Sr. no	Computerized problems	Computerized response	Percentage
01	Yes	22	68.75%
02	No	10	31.25%
	Total	32	100%

As per table No 6, there are only 22 (68.75%) colleges have nit facing the problem of library computerization and 10 (31.25%) colleges have been facing problems.

7] Which problems are arises?

Sr. no	Computerized problems	Yes	No response %
01	Tools of computer	05	-
02	Luck of training	10	-
s03	Luck of internet	10	-
04	Luck of electricity	07	-

As per table no 7 there are problems in tool of library computer. There are 05 (%) problems in computer tool. 10 (51.25%) of luck of training is related problems of computer tool (21.25%) college library has no internet service 07(21.87%) college library has no electricity facility.

08] For online work which internet browser is used in library?

Sr. no	Internet browser	Yes	No
01	Google chrome	10	-
02	Mozilla fire fox	05	-
03	Internet explorer	10	-
04	Above all	07	-

As per table no 8 10(31.25%) college Google chrome is used for online work 05 (15.62%) colleges Mozilla fire fox, Internet browser is used 10 (31.25%) colleges internet explorer is used and 7(21.87%) colleges above all facilities are used for online work in library

Findings:-

- 1 Out of 37 colleges there are one 24 (75%) colleges are in Beed districts which are library computerized and 8 (2.5%) colleges are without library computerized
- 2 In Beed district 24 (75%) colleges are computerized 8(25%) colleges are not library computerized.
- 3 In Beed districts 9(28.12%) work has been done library computerized by operating system. 9(28.12%) work has been done by outsourcing.
- 4 In Beed districts there are 24 (75%) ICT basic facilities available in college and 8 (%) colleges are without ICT basic facilities.
- 5 7 (11.75%) colleges have used soul software and 15(46.87) colleges are using library management software and 8(25%) colleges are found without any software these are not using software.
- 6 05(15.62%) problems are arise of computer 100% while doing computerization library work in library 10(31.25%) problems are related to luck of training in library and 7 (21.87%) are problems in college library computerization
- 7 10 (3125%) colleges Google chrome is used for online work. And Mozilla fire fox is in (15.62) colleges used for online work 10(31.25%) are using internet explore for online but in 07 (21.87%) colleges are not using any internet browser for online work.

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Future Role and Challenges of Libraries/LIS Education Reader Advisory Service : A Future Role of Libraries

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Abstract

Reader Advisor can be a successful future role of Librarian. Reading Advisory service will help user to understand what to read. Because most of people don't read because they don't know what to read. Reading Advisory service will increase reader's growth.

Keywords: Reader Advisory Service, Library Services, Future Libraries, Librarian Role

Introduction:

In between 1876-1920, Reader Advisory Service was invented. Reader Advisory service is a service which involves or carry out work of suggesting fiction and nonfiction title /book to reader. This is fundamental library service. This is service to match right reader to right book.

Defining Reader Advisory Service:

Reader Advisory service are defined as the library staff providing suggestion and guidance in finding interesting materials for readers in the library. (Libsuccess.org)

Reader Advisory Service A Libraries Role:

In this Information Explosion , information overloading world reader can't find reading material to read . There is reading material but which is qualitative, helpful, good, profitable to read can't decide.

As we see Tax Consultant (Advisor), Doctor's as medicine advisor. Who will advise? Who will guide? What to read, Librarian? Yes ! off course Librarian should do this. Librarian is perfect personality to guide what should user/people read. People will welcome this service because it is needed. A psychology term FOBO (Fear of Better Option) is present in reader/user also if reader search books he/she got 5 books will they stop searching? No they will go on searching thinking that we could find better book than this. It is fear of better option we think better option would be there. In this case librarian can provide better option by reader advisory.

Advising people for reading, librarian should have knowledge of reading sources, books, topic, Information consolation can help librarian to keep ready answer to user's question. Information resources consolation is a one type of book about book contain summary's of books. Example- One thousand one books you must read before die. It contain 1001 books should read. For reader advisor you should have collection of book list, Information of books. Librarian should give suggestions what to read, when asked what should I read? by user. To suggest book librarian should known about book this book about book's help to know about books. By reading this book u can talk on books present in it or give proper information of books present in it.

To serve user you should know user. personal librarian can know user much better. This is a concept mostly used in foreign countries. Example- Yale University (USA) they provide personal librarianship, which help to know user more. In school and college library , staff is less so we can't provide personal librarian but, reader advisory service we can. Right book to right user at right time will definitely increase their interest in reading.

Advantages of Reading Advisory Service:

- People will not get confused what to read.
- Increase interest of reading. If librarian gives books to read which user wanted or user is interested in which it will boost reading interest.
- Supply creates demand, principle of Donald's Urquhart in library management. If we provide user good reading material which satisfy his/her need then obviously they will demand you more books. This supply creates demand principle clears there is good scope for reader advisory Service.
- It will increase satisfaction of user toward library and user will increase in library.

Conclusion:

Reader Advisor can be a successful future role of Librarian. Reader Advisory Service will help user to understand what to read because most of people don't read because they don't understand what to read. Reader Advisory Service will increase readers growth. As said 'gym is to body, reading is to brain'

reading is brain exercise. Reader advisory service can develop reading of user and use of library, if librarian is giving reading advisory service. I would like to suggest trend for reading, like there is trend in India.

#Digitalindia, #Fitindia we should start #Readableindia , everyone should read for better future , because it is said,

"Today's Reader , Tomorrow's Leader"

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Education Policy in India and Libraries

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Introduction:

Policies are important because they help to establish rules and procedures and create standards of quality for learning and safety, as well as expectations and accountability. Without these, schools would lack the structure and function necessary to provide the educational needs of students. Educational policies are rules that are intended to help schools teach students efficiently, fairly and safely. These rules determine how students are taught, what they are taught, and how schools manage students and school personnel. Educational policies can also help keep students in school. The National Policy of 1968 marked a significant step in the history of education in post-independence India. It aimed to promote national progress, a sense of common citizenship and culture, and to strengthen national integration. It laid stress on the need for a radical reconstruction of the education system, to improve its quality at all stages, and gave much greater attention to science and technology, the cultivation of moral values and a closer relation between education and the life of the people.

The National Policy on Education (NPE-1968) was prepared to improve the quality of education in the country and was focused on providing education facilities to all the citizens of the nation. The policy has been reviewed in the subsequent years. It was further updated in 1992 to spread knowledge and freedom of thought among the citizens of the country. Though education is in the concurrent list of the Constitution of India, the State Governments play an important role in the development of education especially in the primary and the secondary levels.

NPE-1968

According to the National Policy on Education-1968, the government of India had formulated certain principles to promote the development of education in the country. Former Prime Minister Indira Gandhi has announced first National Policy on education in 1968 which was recognized as "radical restructuring".

Key highlights of 1968 NPE:

- Compulsory education for all children up to the age of 14, as specified by the Constitution of India.
- Better training and qualification of teachers.
- Pay more attention on learning of regional languages, outlining the "three language formula" to be applied in secondary education and that was:
 - Hindi
 - English
 - Regional language
- Because of Hindi was adopted as the national Language the policy put wait on learning Hindi to promote it as a common language for all Indians.
- The policy also stimulated the teaching of the ancient Sanskrit language, which is an essential part of India's culture and heritage.
- The NPE of 1968 also include increase in education spending to six percent of the national income.

NPE -1986:

In May 1986 the new National policy on education was introduced by Prime Minister Rajiv Gandhi as earlier announced in January 1985. It was named as "Special emphasis on the removal of disparities and to equalize education opportunity". The main objective of this policy is to provide equivalent opportunity for all including Women, ST and SC communities to study.

Key highlights of 1986 NPE:

- Expand scholarships.
- Promote adult education.
- Employing more teachers from the SCs and STs Communities.
- Provide incentives for poor families to send their children to school regularly.
- Develop of new institutions.

- Provide housing and services.
- For primary education the NPE called "child-cent red approach", than "Operation Blackboard" was launched to expand primary schools nationwide.
- Under this policy the Open University system was expanded with the Indira Gandhi National Open University, which had been created in 1985.
- The policy was also recognized as "rural university" model, based on the philosophy of Indian leader Mahatma Gandhi, to encourage economic and social development at the grassroots level in rural India.

NPE-1992

In 1992 the 1986 National Policy on Education was modified by the P. V. NarasimhaRao Government and Prime Minister Manmohan Singh has adopted it in 2005 which was recognized as "Common Minimum Programme".

Key highlights of 1992 NPE:

- All India bases common entrance examination for admission in all professional and technical programmes in the country.
- Under this Government of India vide Resolution dated 18 October 2001 has laid down a Three - Exam Scheme For admission to Engineering and Architecture/Planning programmes:
- JEE
- AIEEE at the National Level
- SLEEE State Level Engineering Entrance Examinations
- State Level Institutions have option to join AIEEE.
- With this problem of overlapping and also reduce physical, mental and financial burden on students and their parents which was very high due to multiplicity of entrance examinations

The National Education Policy Draft -2019

The Committee for Draft National Education Policy, chaired by Dr K Kasturirangan, submitted its report on May 31, 2019. The draft was prepared by the 11-member committee headed by eminent scientist Dr K. Kasturirangan through consultation with various stakeholders for almost two years.

Here are the key highlights:

- The National Education Policy-2019 envisions an India-centered education system that contributes directly to transforming our nation sustainably into an equitable and vibrant knowledge society by providing high-quality education to all
- The draft policy is divided into four parts namely, School Education, Higher Education, Additional Key Focus Areas (technology, vocation, adult & language education) and Transforming Education (RashtriyaShikshaAyog)
- Unlike earlier policies, the policy does not start with the focus on 6 to 14 but gives utmost importance to "Access for children aged 3 - 8 years to a flexible, multifaceted, multilevel, play-based and activity-based education"
- The mandate of the NCERT will be expanded to include the development of a Curricular and Pedagogical Framework for Early Childhood Education
- A prestigious National Tutors Programme will be instituted across the country to enable high-quality peer tutoring among students
- Restructuring school curriculum and pedagogy in a new 5+3+3+4 design: 5 years of the Foundational Stage: 3 years of pre-primary school and Grades 1, 2. 3 years of the Preparatory (or Latter Primary) Stage: Grades 3, 4, 5. 3 years of the Middle (or Upper Primary) Stage: Grades 6, 7, 8. 4 years of the High (or Secondary) Stage: Grades 9, 10, 11, 12
- Students will be given increased flexibility and choice of subjects to study across the arts, humanities, sciences, sports, and vocational subjects; no hard separation between 'arts' and 'science' streams, or between 'academic' and 'vocational' streams
- Special Education Zones will be set up in disadvantaged regions across the country
- Higher education will happen in multidisciplinary institutions with teaching programmes across disciplines and fields to ensure optimized resources, integration across disciplines and vibrant, large education communities
- A liberal and broad-based undergraduate education will be accompanied by rigorous specialization in chosen disciplines or fields in order to develop deeper expertise in one or more subjects
- Masters, doctoral, professional and vocational programmes will also be significantly enhanced by being located in vibrant multidisciplinary institutions, by the breaking of silos, and via the

overall liberal education approach

- A new National Research Foundation will be set up through an Act of Parliament, as an autonomous body of the Government of India, to fund, mentor, incentivise, and build capacity for quality research across the country in all disciplines, primarily at universities and colleges, both public and private
- All teacher education will happen in multidisciplinary institutions - teacher education will be an integral part of the higher education system
- The practice of setting up stand-alone universities for professional education will be discontinued. All institutions offering either professional or general education must organically evolve into institutions offering both seamlessly by 2030
- Each higher education institution will be governed by an Independent Board to ensure a clear chain of responsibility and accountability within;
- Institutional governance will be based on full autonomy-academic, administrative and financial-for all higher education institutions with financial certainty and backing
- The functions of standard setting, funding, accreditation and regulation will be separated and be conducted by independent bodies, eliminating the concentration of power and conflicts of interest
- The National Higher Education Regulatory Authority will be the only regulator for all higher education including professional educations
- The National Educational Technology Forum will be a platform for free exchange of ideas on the use of technology to improve learning, assessment, planning and administration
- Regulation must be responsive and minimalistic - light but tight - to ensure public spiritedness, equity, excellence, financial stability and probity, along with good governance
- RashtriyaShikshaAayog will be created to implement the entire policy with integrated approach.

On 3rd January 2019 the Draft National Education Policy was kept before the public for their comments. This is just a draft and after feedback from the general public and consultation from the state government, the draft shall be finalized. The National Education Policy is an extensive, inclusive and highly participatory process. It moves towards a common minimum goal of providing quality education to all.

On the basis of recommendations of Kothari Commission, the first National Education Policy was released in 1968. This policy had called for a National School System, which meant that all students, irrespective of caste, creed and sex would have access to education of a comparable quality up to a given level.

The National Policy on Education-1986 was modified in 1992. It is a comprehensive frame work to guide the development of education in the country. The principles included in the NPE-1968 are also included in the new policy with some modifications.

The new education policy will give emphasis on retention of children in the schools at primary level. Greater attention should be given to the backward classes, physically challenged and minority child for their development in education. Major emphasis will be laid on women's education to overcome the poor rate of illiteracy among female. They will be given priority in various educational institutes and special provisions will be made available for them in vocational, technical and professional education. Institutions will be provided with resources like infrastructure, computers, libraries. Accommodation for students will be made available especially for girls students. Teachers will have the rights to teach, learn and research. Non-government organizations will be encouraged to facilitate the education in the country. At the same time steps will be taken to prevent establishment of institutions for commercialization of education.

The library profession is one that serves the educational system of any nation, therefore both the educational and library systems must be in nexus if effective and efficient formulation and implementation of policies will be established. The impact of the library can be felt at all levels in the education sector, starting from the grassroot, that is, School libraries in primary and secondary schools to the Academic libraries in the tertiary institutions. Hence the importance of the library in the educational development of a country cannot be over-estimated. (Itsekor 2019) Itsekor (2011) stated that librarians should see themselves as stakeholders that can restructure and ensure the implementation of the education policies.

Conclusion:

Education is the process of obtaining knowledge. Education leads to knowledge which is essential for human begins. Early primary and higher education is important in all aspect of life. Education helps in the process of socialization. Education plays an important role in molding the character and personality

of a person. But education needs proper planning and policy which predefines set of rules, regulations and curriculum. For this institutions are involved for imparting education. India is one of the ancient civilizations of the world. Indian education system can be divided as Ancient Period, Pre-Independence, and Post-Independence. The new draft of education policy is comprehensive and covers solutions to majority of problems that ail the Indian education system. Focus has been on modernizing the curriculum whilst keeping the traditional values intact. More focus has been given on Indian civilization.

To disseminate all these information libraries plays an important role. Libraries are one of the most important service providing institutions. Policies are written agreement meant to be followed to the latter for the purpose of accomplishment of specific tasks. They are standing plans that provide guidelines for decision making. According to Adomi (2008) a policy is a deliberate plan of action intended to guide decision and achieve rational outcome(s). Oyeniyi and Olaiya, (2013) noted that the library can also help in gathering feedback on government policies from the library users. If the government can get adequate feedback on her policies, it will help her in the formulation of new policies as well as improving existing ones.

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Mobile Technology Using in University Library

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Abstract

In this new age, the re-evaluation of digital technology is a challenge for library information science not only in India but also abroad. User satisfaction is a very important and challenging task in the library. Librarians have to show the tendency of the various services that patrons need. This is the vision for the 21st Century Library. The quality of LIS professionals for the output of new dimensions has also improved. The use of information and communication technology (ICT) should be enhanced and developed. This paper discusses the using mobile technology in university library services.

Keywords: - Mobile Technology, University Library, Mobile Library services.

Introduction

Today, it is practically impossible for any library to become independent in the atmosphere of information and publishing blasts. Under the increasing demand of readers and low levels of financial resources, no library is able to obtain all the content on demand. And so the new technology in library services is transforming mobile computing, which is how people find, receive and interact with information every day. Smartphone ownership has increased in the last few years, and the popular use of e-readers is on the rise. These advanced mobile devices provide portable, instant access to information, world topics, disciplines and industry boundaries. Libraries are fully adapted to the growing demand for electronic collections and the ongoing acquisition and archiving of digital content in birth. Supporting mobile access to these resources is the next step and mobile efforts are underway. While it is a challenging financial time for librarians to take on new technological initiatives, libraries across the country and internationally are seeking creative solutions to provide mobile library services. Link the physical and virtual collections offered by the library to the mobile user - thereby enhancing the user experience and expanding the library's rich and diverse archive. The technical skills and ability of programming are shown as a number of obstacles in the implementation of mobile technology.

Internet and Mobile technology

Mobile technology is changing and expanding the way we communicate, do business, teach, learn, entertain ourselves and make consumer decisions. It's bringing the Internet into your daily life, enabling recovery and transmission of information from anywhere. With mobile connectivity, information gets deeper into your life than when you're sitting on a desktop or laptop computer.

Mobile devices today can run increasingly sophisticated software, interact with cloud services, play rich multimedia content and interact with advanced users. New hardware and technologies such as Bluetooth, accelerometers and multi touch screens, as well as text messaging, smart phone software applications, mobile websites, global positioning systems (GPS), Wi-Fi and media creation and capture tools are all part of this Mobile environment. Most mobile devices today are "always on," that is, connected to the wireless network by default.

There are some places where users are truly disconnected from wireless networks. Even air travel - the last refuge for no connectivity - is seeing the use of Wi-Fi in aircraft. That way, mobile devices can send and receive information at any time, at any time. One result is a change in the traditional notion of anonymity and privacy. While telephone conversations once took place outside and in the office relative to the relative privacy of the phone booths, mobile technology has allowed us to live in public for at least this part of our lives. Mobile technology is making widespread use in our daily life. Timely access to medical information is on the rise in emergencies; Providing immediate information about product reviews and pricing; Facilitating the sharing of information in a crisis or natural disaster; And to enable citizens to report traffic problems, pits or downed power lines to community officials in real time. Mobile devices make your life easier by accessing useful information like weather forecasts, bus schedules, bank accounts and grocery lists. They travel by providing on-the-go access to entertainment, such as e-books, games, podcasts and streaming videos, or make other downtime enjoyable. They keep us in touch with family, friends and colleagues through e-mail, text messaging and access to social networking applications. And it enhances the ability to provide access to teaching and learning, rich multimedia resources and student-

centered mobile applications.

Develop a library to provide comprehensive services for users

Libraries can better serve their users by monitoring the growing capabilities of mobile technologies. They can promote and expand their existing services by providing mobile access to their websites and online public access catalogs; Providing mobile reference services on the go; And providing mobile access to e-books, journals, videos, audio books and multimedia content. So audio / video archives are no longer designed to be mere physical units but are increasingly in demand or downloaded, with content moving around in urban, suburban and rural libraries. Therefore, mobile devices and services provide tremendous flexibility for those who wish to take advantage of library services. With a simple 3G connection, a user lying on the beach can access e-books and multimedia content through his or her local library. If a smart phone can always access a network, the content can be continuously streamed over the network, providing the content on demand and making it unnecessary to maintain a local copy of the content. Going mobile, a library takes a grand step toward becoming a square service. The mobile environment can also offer new places for young people and adults to teach digital literacy skills and help librarians reach out to them as consumer educators. With the continued adoption of mobile technology, library services can potentially engage with traditional underworld groups. For example, while ethnic minority populations are connected to broadband less than other demographic groups, they carry cell phones at the same rate and access the Internet through mobile devices at a higher rate than whites.

University Library and Mobile Technology

According to Webster's dictionary, "a university is an institution of higher learning providing facilities for teaching and research and authorized to grant academic degrees; specifically one made up of an undergraduate division which confers bachelor's degrees and a graduate division which comprises a graduate school and professional schools each of which may confer master's degrees and doctorates.

Mobile devices raise privacy concerns that do not arise in the library's physical environment, as there are limitations to tracking physical content. In the past, patrons have had to check books and other materials to access card catalogs, ask librarians questions, and attend job workshops or library events. Even though they had to take some time off to go to the library building, they could use the library service in a fairly anonymous way. Libraries have developed private privacy protections for their users, especially in relation to recording. When examining books, magazines, or multimedia materials such as physical media, they can be assured that the library will not disclose their circulation records or other personal information without a court warrant. In addition, the nature of the content - physical book, magazine volume or DVD - prevents the library or other elements from collecting more information about how this material is being used. Information technology, by contrast, offers an almost limitless ability to obtain granular information from users and content usage, with significant implications for freedom of inquiry. Although many large data networks are relatively secure and many libraries care about securing their Wi-Fi network, communicating outside the library may be through texting, emailing, or sending / receiving other information over insecure networks. In addition, the widespread connectivity of many mobile devices enables them to understand how content is being used and from whom data is collected and transmitted.

E-book readers have the ability to read back information about users' reading habits and search queries. Similar services can be compelled to share information collected with law enforcement or sell data to marketing organizations. A user of a library service who thinks he or she is being monitored may not be able to follow specific queries. Users need to be sure that the source information provider does not track their readings and research through a mobile device called "phone home." Some groups warn that obscure information gathering techniques that combine user information into various services provided by the same company create a rich "digital dossier" that may be vulnerable to exploitation by law enforcement agencies, vendors or identity thieves. Digital technology provides users the ability to mine accounts and perform detailed data analysis and profiling. Some mobile technologies automatically collect and transmit user location information in the background. With increasingly powerful digital technologies, libraries or third-party content vendors with whom they partner - have the ability to determine which digital media is boring and for how long, as well as how long a user has viewed each element of content.

New Issues in Mobile Technology

Some issues generated by the mobile environment are new to the library community. Many aspects of mobile devices that make them powerful - such as widespread connectivity, location awareness and close integration with social networks and online profiles - call for careful scrutiny. Mobile devices and services distribute or interact with digital content that is more easily tracked than other forms of information

and is relevant to individual users. In addition, the relationship between libraries and their users is changing with access to online content and services. The constant evolution of physical, personal interaction with patrons and content, primarily from physical, personal, to digital and mobile interaction, poses unique challenges to libraries.

Mobile technology and Library services

Mobile technology has become a ubiquitous presence in the lives of today's students and teachers. With the maturity of this technology, we have become more and more comfortable in a world where digital information flows seamlessly from screen to screen as we move towards our daily lives. This evolution presents both risks and opportunities for academic librarians, working in the field of imagination in the public sphere and at the same time devoted to the passion for freedom, dissemination and access to information.

Kumar & Chitra, (2008) says Following are possible ways to send SMS from libraries, SMS alert services

- Outsourcing the contract to a vendor to send alert services.
- Plug-ins integrated with library email system to enable email to SMS messaging.
- Few Library automation software provide option to send SMS alerts for reserved items, due items to users. For example, Libsys 0.7

SMS alert service

Libraries might use SMS services in the following domains (M-Libraries, 2012).

- Web OPAC service.
- To send SMS to collect the requested books
- Acknowledging the user about renewal of a book.
- Users may request the opening and closing hours of the library.
- Reminding the user if, book is due in his/her account; informing user about the exact fine.
- E-mail services via mail.
- Online Issue Return Services through library portal service
- Information about new arrivals and library programs

Conclusions

Mobile phones are indispensable tools for information communication. People in the community use mobile phones to communicate thoughts, facts, conversations, in general, information. The dissemination of processed information is a common component of a cultured society. Many organizations, such as libraries, document centers, are involved in this process. Libraries typically use a number of tools and techniques to reach the user in the community. Libraries should also be promoted. The use of technology for this purpose is extremely important. Mobile technology is a boon to libraries. A library can effectively reach remote users by adopting mobile technology in its services. Also in today's age, the benefits of this service are huge for saving the reader time, instant service available, and user service experience. In the coming days, when the digital library is being used in university libraries, this facility will be very important and it seems to have started.

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Information Literacy Model for Higher Education

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Abstract

This paper provides a brief summary of what information literacy instruction (ILI) is and what it has become in most academic libraries. The chapter also defines the many forms available in academic libraries today. It outlines the different modes of instruction including traditional lecture/demonstration, active learning, computer-assisted, learner-centered and self-directed.

Key words: Information Literacy, Information Literacy Modules

Introduction

Higher education institutions are pioneers in society to provide higher education to the people's society. They must meet society's requirements by producing highly skilled people. They act as a leader for societal change and set an example for society to follow. The educated graduate of the 21st century should be one, who must be empowered with various skills and abilities such as lifelong learning skills, enquiry and research skills to carry out systematic investigation for finding solutions to complex problems, employability and career development skills to succeed in the rapidly changing working place, capacity to survive in the present globalized society, communication and information literacy skills, ethical, social and professional understanding, capability to think independently, exercise personal judgment and taking initiatives and good collaboration, teamwork and leadership skills. Universities and other institutions of higher learning should be responsible for producing such graduates. Information Literacy (IL) plays a very significant role to produce such skilled graduates in the present rapidly changing technological era. IL is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. It helps the learners to master content, become self-sufficient and take greater control over their self-learning. It also helps learners to become independent, critical thinker and life-long learner. In the present paper, authors describe the significance of information literacy education in higher education environment and discuss some important information literacy models developed throughout the world. Further, authors describe the present Indian higher education environment and suggest an IL model for it.

Information literacy

The term 'information' is used interchangeably with the area like information science, information technology, information management, information literacy, etc. Literacy is to literate, or to train. The term information literacy was first coined by Paul Zurkowski in the year 1974. In simple words, information literacy means to know, to find, to evaluate and use of information. It is common to all disciplines, to all learning environments, and to all levels of education. As stated by ALA "Information literacy is a survival skill in the Information Age". Further, Information Literacy is the ability to find, evaluate, use, and communicate information in all its various formats (Eisenbery, Love, Spitzer, 2004).

INFORMATION LITERACY MODEL:

It is primarily for the following studies to shape out how to consider information instead of to get pre-bundled actualities or resources in increasing information-based society. The massive six critical thinking approaches is an instructional philosophy used to combine information recovery straight into any subject educational programs. It created essential and investigative reasoning abilities by applying the student's own particular ability and experience to the underlying issues tackling and information improvement. At any point, a time after time increasing number of under studies start on their reality result, by using web crawlers on the WWW, college or school instructors may be closer by a more essential part in the sequence of essential thinking capacities by giving a care about information literacy as a little piece of the learning policy. The massive six critical thinking approaches are prominent amongst the most vital instructing procedures that can take normal circumstance and make taking in circumstances from them. This approach is utilized the intuitive application to draw in the gathering of students full by acquainting genuine reproduced issues with being unraveled. As the educator presents particular issues, under studies start the way toward detailing a speculation and discovering information to help their thoughts on the proposed arrangement. The most likely to these arrangements are tried now and then by experimentation

and answer the greatest tackles the issue is advertised.

Critical of MODELS:

- 1) Models help us to plan thoughts
- 2) Provide a system to design against
- 3) Give is phrasing to start a dialog
- 4) Help us to quantify advance
- 5) Allow us to express the result
- 6) Give an unmistakable structure and shared objectives
- 7) Prove guides into other expert fields
- 8) Need to be adaptable and versatile

Information Search Process-Kuhlthau:

The Information Search Process (ISP) gives us an inclusive perspective of information searching for from the users' point of view in different six phases "assignment start, determination, investigation, center detailing, gathering, and introduction". All the six-phase model of the Information Search Process joins three domains of experience; the reaction of the psychological and the physical normal to every stage. The ISP depicts regular encounters throughout the time spent looking for an unpredictable task that has a discrete start and finishing and that requires significant development and figuring out how to be sophisticated. The model uncovers a hunt procedure in which a man is looking for importance over the span of looking for Information. From the client's point of view, the essential goal of information looking for is to achieve the errand that started the hunt, not simply the gathering of information as an end in itself. The ISP presents looking for information as a way to achieve an objective.

Pitts and Stripling Research Process model: 1988

The REACTS Taxonomy created by Barbara Stripling and Judy Pitts centers around basic reasoning in the exploration procedure: This model spotlights on procedures for guaranteeing abnormal state considering and coming about quality items. The REACTS Taxonomy incorporates the accompanying components:

1. Recalling
2. Explaining
3. Analyzing
4. Challenging
5. Transforming
6. Synthesizing

Big6 Eisenberg and Berkowitz Model: 1990

Made by Mike Eisenberg and Robert B. Berkowitz, the Big6 is the most extensively known and by and large used data training approach to managing demonstrating data and development aptitudes on the planet. The Big6 is a data and development proficiency show and instructive projects, executed in countless through cutting edge training. A couple of individuals call the Big6 a data basic reasoning methodology because with the Big6, understudies can manage any issue, assignment, decision or errand. Big6 is a six-sort out a model to empower anyone to deal with issues or settle on decisions by using data.

The 8Ws Model for Information Literacy: 1990

The 8Ws Model for Information Literacy was created by Annette Lamb in the mid-1990s. The model is relatively crafted by Eisenberg, McKenzie, Kuhlthau, Pappas, and Tepe. However, a fun similar sounding word usage was utilized to stimulate understudy intrigue and spotlight on the understudy's point of view. The understudies know about the 5Ws (who, what, when, where and why), here are 8 new ones:

1. Watching
2. Wondering
3. Webbing
4. Wiggling
5. Weaving
6. Wrapping
7. Waving
8. Wishing

Pappas and Tepe Pathways to Knowledge Information Skills Model: 1995

The Pathways to Knowledge show supported by Follett was created by Marjorie L. Pappas and Ann E. Tepe. Intended for youngsters and youthful grown-ups, the creators push the significance of addressing and real learning. Their emphasis is on a nonlinear procedure for discovering, utilizing, and assessing information

The PLUS model 1996

Concocted by James Herring, PLUS is an information literacy display which encourages the school understudies to enhance their learning by making them more information educated. In addition display fuses the components, for example, reason, area, utilize and self-assessment. The PLUS model is seen as an iterative model and not a direct model as understudies may need to come back to a before organizing in the model amid their information definition, hunt and utilize the process.

The Seven Pillars of Information Literacy: Core Model for Higher Education: 1999

In 1999, The SCONUL Working Group on Information Literacy distributed "Information aptitudes in training: a SCONUL position paper" (SCONUL, 1999), presenting the Seven Pillars of Information Skills show. From that point forward, the model has been embraced by curators and educators around the globe as a method for pushing them to convey information abilities to their students. Nonetheless, in 2011 it was felt that the model should have been refreshed and extended to reflect all the more unmistakably the scope of various wordings and ideas which we now comprehend as Information Literacy. All together for the model to be important to various client groups and ages, the new model is exhibited as a non-exclusive 'center' model for Higher Education, to which a progression of "focal points", speaking to the distinctive gatherings of students, can be connected.

Definition and Core Competencies Model: 2001

Digital Information Fluency (DIF) is the capacity to discover, assess, and utilize computerized information viably, productively, and morally. DIF includes knowing how computerized information is not quite the same as print information; having what it takes to utilize specific apparatuses for finding advanced information, and building up the attitudes required in the computerized information condition. As instructors and bookkeepers build up these aptitudes and show them to understudies, understudies will turn out to be better prepared to accomplish their information needs. The accompanying DIF show speaks to the discoveries of the give program's progressing research around 21st Century information, attitudes and states of mind should have been fruitful online students. Advance evaluating DIF information and aptitudes is spoken to by the accompanying outline. The Digital Information Fluency Model comprises of various choice focuses, every one of which adds to discovering, assessing and utilizing information adequately, effectively and morally. The procedure isn't exactly as straight as the model delineates, however, to define skills required and evaluation openings, the model is adequate.

Empowering 8-NILIS: 2004

National Institute of Library and Information Sciences (NILIS) of Sri Lanka under the sponsorship of IFLA/ALP in 2004 sorted out a universal workshop on 'Information Skills for Learning' which brought forth Empowering-8, an information education demonstrate. Enabling 8 can be characterized as a model which can be utilized to take care of any information issue successfully utilizing eight phases with a few sub-organizes under every part. It isn't important to finish these phases in a straight request, yet one can enter the cycle from any point and continue in a patterned way. Be that as it may, one is taken through all phases in a fruitful information critical thinking circumstance.

DIALOGUE Model for Information Literacy

The Dialogue demonstrates includes the accompanying territories that spell Dialog:

- 1) **Define** - Explore/Identify the requirement for the information; Determine the essential inquiry
- 2) **Initiate** - "Upsetting obliviousness"
- 3) **Assess** - Identify watchwords, ideas, and conceivable assets; Consider information education abilities; Tapping earlier information and Building foundation
- 4) **Locate** - Identify conceivable wellsprings of information; Develop a hunting technique; Locate and recover accessible assets
- 5) **Organize** - Identify the best and most useful information sources; evaluate the information in good condition.
- 6) **Guide** - Search log or diary; Student help and audit; Educator help and survey
- 7) **Use** - Determine introduction design; Present outcomes; Communicate information
- 8) **Evaluate** - Evaluate the task/comes about; Evaluate the procedure; Assess the instructing and learning

Conclusion

Concluding it can be said that higher education institutions in India have an opportunity, and a challenge, to prepare students to meet the demands of the information age. Institutions need to identify what graduates should know and be able to do. Recipients of a quality education share certain attributes: critical thinking, problem solving, a global vision and a multicultural perspective, preparedness for work and good citizenship. Institutions must be accountable for how far their students go from the freshman

year to graduation. The educated graduates of the 21st century should be the information literate graduates, one who should be able to find, evaluate and apply needed information. Universities and other institutions of higher learning should be responsible for producing such graduates. Administrators must set the tone for the entire campus, by incorporating information literacy into the curriculum and developing IL programs effectively using model and standards that immerse students into information literacy throughout their higher education. Higher education institutions should go beyond the goal of producing graduates who are not simply equipped to enter the workforce, and broaden their scope to produce enlightened graduates who are able to freely lead happy lives and shape the information society of which they are a part.

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ICT Application and Innovative practices in Academic libraries

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Abstract

IT is the boon for mankind. It gives accessibility to information at fingertips. The advents of communication technology have revolutionised the activities of library and information system. The use of ICT in Libraries has tremendously increased because it provides effective and quality of library services & enhanced user satisfaction, cost effectiveness, rapid responses & easier operational procedures. It is a way of considering Innovative Practice for wide range of users of computers, websites and associated technology.

Key Words: Library, Academic Libraries, Information, Information communication Technology, Innovative practices, Best practices.

Introduction:

In the age of 21st century IT playing a symbolic role in the society. Global information networks are now an integral part of the way in which modern business & organizations. Internet is the best example of trend, it reduced the distances & lead to a global village. Information technology is a generic term that covers the acquisition, processing storage & dissemination of information. It involves the application of computers & communication Technology in the task of information handling & information flow from the generation to the utilization levels.

Information and Communication technology is (ICT) have made a tremendous impact on the functions of the academic libraries because the emerging communication technologies especially the interactive digital devices will drive the information future. The technology can handle the data overload but human being cannot. It is the use of information technology that will give libraries as audience, an attitude, an application of self that will raise their status in life.

Definitional Analysis:

Library:

A collection of books & films, photography & other non - book materials, plastic or metal tapes & disks, computer tapes, disks and programs. All of these, as well as printed & manuscript documents, may be provided in departments of one large library or they may be provided in collections restricted to one type of material.

Academic Libraries:

Libraries in educational establishments at any level Universities, Colleges, research associations etc. although the term is less often associated with school or college libraries. Such libraries have a role in educative process for beyond the provision of materials; students centred & self-programming methods through a heavy demand on libraries & staff will be part of faculty teams to plan learning processes. Academic libraries are increasingly the location for IT resources for student use, & there may be convergence between management of the library and computer facilities.

Information:

An assemblage of data in a comprehensible form capable of communication. This may range from content in any format - written or printed on paper, stored on electronic databases, collected on the internet etc - to the personal knowledge of the staff of an organization. Information is a term that covers many interrelated activities which use the skills of librarianship. Knowledge management is the latest manifestation of the extent of the value & power of information.

Information communication Technology (ICT):

ICT the wording currently in favour replacing the older 'IT' and the briefly fashionable 'C & IT' to express the combination of computing hardware & software with the capabilities of communications networks that provides new opportunities for teaching, learning and training through the delivery of digital content. The expression is used particularly in an educational context and the UK governments has used it extensively in documents such as the national grid for learning & new library.

Innovative practices:

Innovative in its modern meaning is a new idea, creative thoughts, and new imagination in form of

device or method. Innovation is often also viewed as the application of better solutions that meet new requirements, unarticulated needs, or existing market needs.

In short Innovation means doing things differently exploring new territory. It is taking risks, there is nothing that pulls Innovations as much as a challenge that captures the imagination. An Innovation is something original and more effective and, as a consequence, new that 'breaks into' the market or society.

Best practices:

A best practice is a method or technique that has been generally accepted as superior to any alternatives because it produces results that are superior to those achieved by other means or because it has become a standard way of doing things.

Need of Innovative Practices in Academic Libraries:

The National Accreditation and assessment council (NAAC) has make great efforts to achieve quality & excellence in higher education and advocates for enhancing the role of Library & information services in improving academic environment. However, it is institutional accreditation that the NAAC does, the assessments of a library, a vital sub unit, is a key step that integrates itself with the overall evaluation. Library is the heart of the institution & library plays a central role in each& every activity or events of the institution.

In today's high-tech or IT learning environment, the library as a learning resource is taking up increasingly more academic space & time in the life of a learner. Thus NAAC has decided to identity the set of best practices in Library and information services, with the help of a few case presentations from few selected Libraries of the accredited Universities & colleges. This is a great initiative in promoting the libraries in identifying and sharing good or best practices that can be adopted in the Indian academic environment. Best practice may be Innovative & be a philosophy policy, strategy, program, process or practice that solves a problem & create new opportunities and positively impact on organisations. Institutional excellence is the aggregate of the best practices followed indifferent areas of institutional activities. In general the use of technology & innovative ideas lead to evolve best practices in library & information environment.

The developments and changes in the ICT have changed the user's expectations from the academic libraries in different ways. The ways to build a library collection and offer services to the end users very from the recent to past exercises. Thus to effectively meet the demands& of the end users, the academic libraries need to identity and adopt good & best practices and benchmarks which will ultimately enhance the value based services of the libraries in an academic environment as suggested by NAAC (2003). In Libraries ICT can be used for:

- On line information retrieval -internet access
- Free browsing unit- internet access
- Broad band internet centre
- Library homepage for information dissemination
- A strong & dynamic library website
- Users feedback through library homepage
- Access to e-resources
- Information retrieval through webopac&webopac
- Campus - wide LAN facility
- Database creation using international standard formats - Electronic surveillance system CCTV

Traditional culture and ICT base culture of the Libraries.

Traditional culture of Libraries	ICT base culture of the Libraries.
Information resource in one medium	Information resource in multimedia
Library has its own collection	Library without wall
Procurement of information sources by individual library.	Procurement of information resource through consortia
Service in good time	Service just in time.
In house sourcing of all activities	Out sourcing of all activities.
Local reach of resources	Global reach of resources through networks
Users want print resources	User's want prints non print as well as online resource
Users go to the library	Library come to users
Local users	Users from any place, any wher or global users.

ICT and Academic Libraries:

ICT enables to capture, store, manipulate and distribute information. To introduce & provide new service faster, to provide need based services to user and utilize the user for providing better information services, to support all type of library functional. ICT has virtually unlimited potential for variety of useful application in libraries as it significantly contributes to improved quality, increased productivity, more efficient operations, better resource sharing & more effective services to the users. The proper exploitation of new technologies in library is no longer a matter of choice but a matter of survival, in an era of rapidly changing technology & global knowledge society. Today the success of a modern library is increasingly dependent on the most effective utilization & strategic management of new technologies in academic libraries. Library services need to reach to the user desk tops with the use of some of the university & college libraries that are using technology in their libraries spelt out their best practice with specific goals & objectives the process they adopted, the impact of the practice on the end users and the resource and skills that required using technology etc.

Library resources in ICT age:

1) E-books 2) E- Journals 3) E - Theses 4) E- Databases 5) E-papers 6) Digital archives 7) E- Groups
8) Library Networks & websites 9) Virtual conferences 10) web OPAC & OPAC 11) Bulletin boards
12) FAQ'S 13) Library E-consortia

ICT components in libraries:

- Computer LAN
- Library software
- Fax, printer & Xerox
- LCD Projector , DVD
- Telephone, mobile
- WWW

Regular best practices in the libraries are mainly classified are the following:

- 1) Orientation Programme
- 2) Book exhibition
- 3) Library hours before & after
- 4) New arrivals
- 5) Library brochure
- 6) Readers meet
- 7) Training Programme to use library resources
- 8) Indexing & abstracting service
- 9) Carries guidance cell.
- 10) Best library user award.
- 11) Binding & photocopy service.

Library extension service:

- External membership facility
- Inter library loan (ILL)
- Document delivery service (DDS)
- Reprography
- Newspaper clipping service
- Carrier guidance cell or notification
- Suggestion and feedback box
- Library security (CCTV, RFID)
- Library help desk.

General best Practices:

- Regular meeting of the Library Advisory committee.
- Binding of books & Periodical volumes.
- Library Information included in prospects & college websites.
- Intercom facility for easy communication among various departments.
- Pasting of barcode, spine label & stamping in a definite place on the books.
- Question paper bank of previous examinations.
- Library calendar of activities or events.
- Use of pesticides to keep the book worm away & damage of books.
- Display of New arrivals & various library charts.
- Keeping the library premises, silent, neat & clean.

ICT Based Innovative practices:

1. Library automation with library software: Libraries are using Library management software which is useful for Library automation most of the library automation software having different modules i.e. catalogue, statistics, circulation, serial control etc. Ex. SOUL, LIBSYS, KOHA, LIBRARIAN etc.

1. Online Public Access Catalogue (OPAC):

This is the computerized form of the library holding or computerized library catalogues. It provides access to the catalogue of a library on the local intranet, extranet or even the internet.

Electronic document delivery services:

E- Document delivery involves a combination of papers, digital and electronic media, it is a hybrid medium. Libraries send documents through electronic networks that can deliver documents in various format e.g. PDF to the library user's desktops.

Library website / web page:

It is a medium of information communication about libraries to their users. Most of the library website is included all library details, like, list of subscribe journals, catalogue, curriculum, scanned exam paper, photograph etc.

CAS and SDI Services:

Current awareness services in the form of table of content alerts, newspaper clipping, including the abstract & indexing. Selective dissemination of information refers to the tools & resources used to inform a user of new resource on specific topics.

E-Mail:

E-Mail is very useful for sending messages to and from remote areas with an enhanced network. It is hi tech medium of information communication.

E- Resources:

Electronic Resources i.e. E-books, E-journals & E-databases, OPAC, blogs which are accessible through electronic media or electronically.

Institutional repository (IR):

An institutional repository is an archive for collection preserving & distributing digital copies of intellectual product created by faculty, staff & research scholar of an institution, like thesis, dissertation, Reports etc.

Online reader consulting services:

Libraries implement web versions of reader consulting & reference services. It helps to find the right information reading material for the right person at the right time & to provide the best information that matches their needs, interests & reading level.

Competitive exam tutorial:

The competitive exam & entrance exam, NEET, GPSC, UPSC, NET, SET, CAT, GATE, etc. kept in a special section for the students concerned & the teachers preparing for the exams tutorial is provide in digital form.

Portal:

In the library community, portals can be defined as a fusion of services to users where the merger is achieved through the seamless integration of existing services with the help of association officers such as customization & authentication services. The result is personalized services that allows the person to access the rich content of printed & electronic systems. Portals are either commercial or free.

Conclusion:

Use of technology in designing and delivering the information products and services is always made a good result that's why ICT systems are now widely used & accepted in all areas of human endeavour. The academic libraries should take initiatives of the broad activity to enhance the socio-economic position of the books /documents in the library. Therefore they should create an environment & conditions for keeping abreast of the new and latest knowledge and use of modern technological achievements in the field, and also in the diffusion of latest information & lastly the training of professional personnel through a unified system, so that the knowledge from the source to its beneficiaries or users can be disseminated in most efficient and effective way through the adoption of the innovative practices, it can be help to improve the quality of library services and technology based services are essential to provide up-to-date information to the user community. Therefore effective implementation of ICT that bring significant changes in the improvement of the use of information sources and services & level of user satisfaction.

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SWAYAM : A MOOCs platform for Library Education

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Abstract

SWAYAM is online platform of educational courses. It includes courses of all discipline. This article includes information related to MOOC courses available on Swayam and related to library and information science. It includes role of library in Swayam.

Keywords: MOOCs, Swayam, online learning, professional development

Introduction:

Today, in the age of Information and Communication Technology, everyone using smart phone. They are using multimedia & internet for business, entertainment and communication. In the ancient age of human life, only face to face system available to provide education. Thereafter start distance education system. In this system, universities and educational institutions provide study material to the learner at home. Now e-Learning trend starts. Children are searching learning videos on internet. Students are learning without physical presence of teacher. Massive online open course (MOOC) is a new platform of teaching learning. All discipline are using this platform. Library professionals are participating in the courses available on MOOC platform. It is new form of distance education. MOOC starts in the year 2012. Now it is using in the world more than 190 countries. It becomes very popular in the field of higher education system.

Meaning of MOOC:

Massive Online Open Course: (MOOC), This term is coined in 2008 by Dave Cormier, University of Prince Edward, Island and Bryan Alexander, National Institute of Technology in liberal education. 'Massive' refer its scope, which is large scale and easy to participate. 'Open' refers open access to all over the world. 'Online' means available online mode on internet. 'Course' refers structured with a particular syllabus. MOOC courses can be use with the help of internet and access on computer, laptop, tablet or Smartphone.

MOOC in India:

Ministry of Human Resource Development (MHRD) Government of India developed a platform for MOOC known as SWAYAM. SWAYAM stand for "Study Webs of Active learning for Young Aspiring Mind". SWAYAM expected to launch 2000 courses. It is largest catalogue of online courses. Aim of SWAYAM is achieve the three principle of education policy which is access, equity and quality. SWAYAM facilitate all the courses from class 9th to post graduation which can be accessed by anyone from anywhere at any time. These courses are prepared by high quality best teachers in the country. These courses available for any learner with free of cost. SWAYAM make a frame of four quadrants for every course which includes-

1. A Video lectures.
2. Specially prepared reading material which learner can download or print it.
3. Self assessment tests through test and quizzes.
4. An online discussion forum for clearing doubts.

SWAYAM appointed nine national coordinators, which are as follows.

1. AICTE (All India Council for Technical Education) for self-paced and international courses
2. NPTEL (National Programme on Technology Enhanced Learning) for Engineering
3. UGC (University Grants Commission) for non technical post-graduation education
4. CEC (Consortium for Educational Communication) for under-graduate education
5. NCERT (National Council of Educational Research and Training) for school education
6. NIOS (National Institute of Open Schooling) for school education
7. IGNOU (Indira Gandhi National Open University) for out-of-school students
8. IIMB (Indian Institute of Management, Bangalore) for management studies
9. NITTTR (National Institute of Technical Teachers Training and Research) for Teacher Training programme

SWAYAM offer courses for school certificate, diploma, undergraduate and post graduate. All the above coordinator assigned responsibility of delivering courses based on their types

1. NIOS and NCERT offering courses for school education
2. IGNOU and NITTTR offering courses for out of school learner.
3. NPTEL, AICTE, CEC and IIMB offering for undergraduate education
4. NPTEL IMDB and UGC offering courses for post graduate education.

Advantages of Swayam:

1. **Open access:** Anyone can enroll for any course from anywhere. Learner may be enrolling for more than one course. There are no any charges to learning, But if learner wants certificate of course, he should pay minimum fee of examination.
2. **Online mode:** Learner can access audio-visual and multimedia type of study material on internet. Study material can be stored for future uses. Learner can use computer, laptop, tablet or Smartphone to complete the course.
3. **Online discussion forum:** Each course has a discussion forum for learner. Learner can ask doubts and discuss with other learner enrolled in the same course.
4. **Assessment and quizzes:** every course contains online test and quizzes for learner. Who enroll for certificate, are compulsory to attend self-assessment test and acquire minimum score.
5. **Choice Based learning:** Learner can choose any course as per his choice and area of interest. It means student of social science can enroll in a language course and learn new language. Choice Based Credit System designed by University Grants Commission, which implemented in this system.
6. **No fees:** All the courses of any institution need pay some fees, but SWAYAM course need not pay any fees for any course.
7. **Accessible on Smartphone:** Today, every student in higher education have Smartphone. Swayam developed an app which can be installed on Smartphone and enroll for Swayam course.

Role of library:

Library professionals playing important role at the time of creation and learning MOOC courses.

1. **Assistance to the developer:** MOOCs course developers are related with educational institution. Library provide educational resources at the time of creation of course. Library staff help to course developer with collecting and providing open educational resources.
2. **Infrastructure for user:** Library have available infrastructure of e-learning. The computers, with has strong internet access, are provided by library. Student can access MOOC course on this computer. Library also provide educational environment.
3. **Useful for professional Development:** Swayam is most useful for library professionals. There are so many courses related to library profession. It is useful for develop skills learn new techniques.
4. **Useful for collection development:** There are so many courses available on Swayam. Each course includes videos, Text files and PowerPoint presentations. Library professional can download and store it in the library. It effects that collection of library become strong.

The list of some courses related to library & Information Science:

	Course Title	Link Address
1.	Digital library	https://Swayam.gov.in/nd2_cec20_lb03/preview
2.	Information Sources and Library Services.	https://Swayam.gov.in/nd2_nou20_lb04/preview
3.	Library Automation and Digitisation	https://Swayam.gov.in/nd2_nou20_lb01/preview
4.	Library And Information Science	https://Swayam.gov.in/nd2_nos19_lb01/preview
5.	Emerging trends & techniques in the library	https://Swayam.gov.in/nd2_arp19_ap78/preview
6.	E-Content Development	https://Swayam.gov.in/nd2_5212-e-content-development/preview
7.	Designing Learner-Centric MOOCs	https://Swayam.gov.in/nd1_noc20_ge12/preview

Conclusion:

MOOCs Courses available on Swayam are useful for library. Library professionals are playing important role in the creation of MOOC. They assist to course developer, with providing open educational

resources. Assist to the learner with providing infrastructure. Library professionals are collecting resources for library users, which is available in electronic format, such as video lectures, text files and PowerPoint presentations.

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Academic Libraries and MOOCs Era

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Abstract:

MOOCs provide librarians with unique opportunities to help shape the higher education discourse and direct administrators, teachers, and students through these changes. Librarians need to understand the MOOCs environment in order to assume this position. The vast intellectual property that eventually remains in the owned and licensed electronic archives of libraries will be of interest to various investors. To control access and tighten Internet protections, the analysis and implementation of technology to manage and track the use of library resources by MOOC will be necessary.

Keywords: Massive Online Open Course, Benefits of MOOC, MOOC era, Role of Libraries, Mini-MOOC, etc.

1. Introduction:

From a Skype chat between two Canadian teachers, Dave Cormier and George Siemens, the word "MOOC" is widely believed to have arisen. According to the continuously updated chronology in "What You Need to Know About MOOCs" (The Higher Education Chronicle, n.d.), while some universities or even research institutions offer MOOCs on their own platforms, edX, Coursera, and Udacity are currently the leading providers, followed by Khan Academy and Udemy.

Before moving into the mass market, innovation often comes from the technology sector.

Just like iTunes for the music industry and Wikipedia for the information industry, MOOCs is the disruptive technology that has disrupted higher education. MOOCs have some clear advantages compared to courses on other types of digital learning sites such as iTunes U and MIT OpenCourseWare.

1.1 Designed for Online Learning:

A MOOC is not a face-to-face (F2F) online version. It is not a collection of recorded lectures and lecture notes in the classroom. Even if it is adapted from an existing F2F class, it is a "born electronic" class. The core of MOOCs are video lectures. MOOC providers leverage technologies to create a rich learning environment by incorporating at least one and often the majority of the following elements: professor speaking directly to the camera while accompanied by PowerPoint slides, notes or animated illustrations on digital whiteboards; in-video quizzes; additional video clips that are not part of the professor's talk; and video interviews with guests. Video performance and design vary widely across institutions. Because of a typical online user's shorter attention span, most videos are no longer than 20 minutes long. The Udacity videos are particularly impressive, not only because of their consistent and polished appearance, but also because of their user friendliness. Udacity videos are finely segmented into bite-sized chunks for easy viewing (e.g., a few minutes per segment). The segment transition is seamless; if you stop watching anywhere in a video, you can "resume" the class from that exact spot, irrespective of the device you use next time.

In addition to video lectures, MOOCs strive to compensate for the lack of synchronous interaction by maximizing the use of asynchronous discussion forums (e.g., forum participation is required in some courses); encouraging the formation of virtual study groups based on language, geography or interest; and even providing links to location-based "meetups" where students can socialize or study. Some professors offer "online office hours" using either the MOOC platform or third-party tools such as Google Hangout to answer questions voted up in the discussion forums, sent via Twitter, or raised by students participating in the video chat in real time. Computer-graded quizzes are the main method of assessment, while peer reviews, where students rate the randomly selected written works by several other students anonymously, do seem to be quite common.

2. MOOC is Massive, Free, and Scalable:

True to its name, anyone with Internet access has free access to a MOOC. There are hundreds of thousands of students in a standard MOOC. Coursera has collaborated with 62 prestigious universities since its launch in April 2012 and "registered 2,8 million students." While Udacity and edX continue to focus primarily on STEM (science, technology, engineering and mathematics), Coursera offers more than three hundred courses (mostly in English, but some in other languages such as French and German) in a

wide range of subjects from humanities and social sciences to science and technologies.

What these amazing figures actually mean is that MOOCs strive to democratize education and learning the same way that Wikipedia and blogs democratized the production and dissemination of information. MOOCs attract students from all over the world, but also from all walks of life, from high-level high school students who are ready for more and working professionals who want to acquire new skills, to career-changers who want to explore a different path and retirees with an abundance of curiosity. Even those taught by the most famous teachers, MOOCs are never complete. Unless you want a "verified certificate" (e.g. those on the "Signature Track" of Coursera), you can "un-enroll" for whatever reason at any time without any administrative hassle or financial consequences. The load of the course is totally up to the individual. The degree of freedom available to students is unprecedented.

At present, MOOCs are delivered on a course-by-course basis. With the high demand for certificates and credits, however, the roster could expand from individual courses to complete course tracks and potentially full degrees in the foreseeable future. Recognized and transferable credits for MOOCs can already be received. San Jose State University is partnering with Udacity to deliver a number of online credit courses. Recently, the American Education Council conducted a thorough review of five courses offered by Coursera and recommended all of them for college credit, although colleges will determine on their own if they are willing to recognize the credit.

What will happen to MOOCs in the future? Some predicted that "the need for customization will lead us to mini-courses that are just in time." If MOOCs continue to gain popularity, students may be able to create their "own college degree" in the future by taking the best online courses from the best professors around the world... charging only the nominal fee for the completion certificates. Employers will be able to screen candidates, instead of a generic degree, through the unique combination of knowledge and skills they possess. Andrew McAfee, a MIT Sloan School of Management research scientist, also argued that employers should stop demanding a college degree that has become too costly and does not really express the core competencies of an individual. In December 2012, Coursera launched its Career Services to connect high-performance students with employers (mostly technology firms at this point) and was popular (Jones-Bey, 2012). If employers realize that MOOC students are just as good, if not better, than "regular" university graduates and begin to fully embrace "degrees" based on self-designed competency, how will this change the student's perception of education and their ultimate choice of where and how to get it? When scaled up, the MOOC model has the potential to create a borderless "international campus" with a multitude of decentralized and linked learning groups that can be part of anybody (with internet access).

3. Benefits of MOOCs for Universities:

Philosophical Benefits:

Why do universities and colleges want to engage in MOOCs? MOOCs turn higher education into a global public good on a philosophical and altruistic level. Most teachers are inherent in their desire to share one's expertise. What's more thrilling than teaching around the world hundreds of thousands of students? What is more gratifying than being able to transform the lives of people who might otherwise have been unable to get education? What's more enlightening than hearing from these same students about different perspectives? MOOCs provide an invaluable opportunity to connect with global learners without traditional time, energy, and geography constraints.

Practical Benefits:

Nonetheless, the practical benefits are likely to be the main drivers of the rush. MOOCs create the perfect environment for "vast-scale experimenting with teaching methods." Rich data are to be collected and insightful research are to be performed on a wide range of human activities such as motivation, social communication, group coordination, and learning habits. In this hyper competitive age, brand recognition is important. For now, right colleges, MOOCs are like movie trailers, and the stars are professors. MOOCs could become featured movies in the near future. Paradoxically, instead of replacing universities and colleges, MOOCs will actually increase enrollment in the institutions that deliver them. A MOOC experience may influence the decision of a potential student to pick up a conventional degree on the college or program. If their classes are well loved, professors can attain the status of rock star. Good teachers will have a high level of retention, a high level of student engagement, and even a large celebrity-like following. Many MOOC instructors listed as optional reading materials their own published or soon-to-be published books. Whether MOOCs boost the sales of these books, it won't be surprising. Peer pressure is another variable, of course. When Harvard, MIT, and Stanford receive constant media attention due to MOOCs, will the other well-respected institutions feel that they will be left behind if they do not join this young market and set up their positions early on?

There are some questions about product dilution given the marketing value. Can teachers "water down" MOOCs to fit students with different degrees of preparedness? Needless to say. Many Coursera MOOCs estimate a weekly commitment of 4-6 hours, but some may take up to 15 hours. In fact, sometimes an online class ended up being "significantly more rigorous and demanding than the on-campus version" because by fine-tuning his teaching techniques, the instructor responded to the challenge of "captivating a vast, fickle audience." Basically, this depends on the participant and their level of engagement with the materials of the course.

MOOCs provide universities with the opportunity to tap the huge global market of eager learners in a "business" sense. There is a high level of enthusiasm in the US, but most MOOC students actually come from outside the US. Freemium, such as Coursera's Signature Trail, is a viable revenue model for MOOCs where courses are offered free of charge, while checked credentials or credits (and likely degrees in the future) are only available for a 'premium' with stringent identity checks and a fair amount of money.

Change Agent:

Maybe the MOOC movement's most important contribution to date is driving progress in higher education. While online education has existed for years, it has always been somewhat on the fringe as an "extension" or "alternative." But, with MOOCs shaking things up, colleges and universities are now engaged in serious online learning discussions and creative ways of finding a foothold in this "new" frontier. A consortium of ten top-level universities is collaborating with technology firm 2U to deliver "full online, credit-bearing undergraduate courses" that "imitate a seminar-like atmosphere in which students can face and engage with their classmates and instructors." University of Wisconsin System plans to offer "competence-based, self-paced" Flexible Option degree programs in the fall term of 2013 which will enable students to demonstrate knowledge gained from multiple channels, including on - the-job training and MOOCs. These are just a few examples among the many innovative endeavors that are inspired by the meteoric rise of MOOCs in part if not predominantly.

4. Role of Academic Libraries in MOOC's era:

The growth of MOOCs offers educational libraries new challenges and opportunities. Katy Mahraj listed in her call-to-action article "Using Information Expertise to Enhance Massive Open Online Courses" the many ways librarians can get involved in MOOCs, such as collecting open educational resources, helping with information organization and management, and teaching information literacy skills.

These are exactly the things that the MOOC pioneering librarians (or "MOOC librarians") are doing. OCLC's Mid-March MOOCs and libraries conference attracted 125 in-person and over 400 online participants (Proffitt, 2013a). The conference was the first of its kind to feature speakers from organizations offering MOOCs and provide the most detailed view of the current library environment, both educational and public, in the sense of MOOCs.

Currently, library participation in MOOCs is covered by the OCLC (2013) conference speakers in the following three categories: 1) clearance of copyright and location of alternatives such as Creative Commons materials and other free sources; 2) creation of courses; and 3) implementation of best practices and policies. Certain potential but less well-defined areas include archiving class materials, curating user-generated content such as discussion forums and student initiatives, offering leadership (not just "partnership") and teaching MOOC students knowledge literacy.

Copyright clearance, as summed up by Duke University's Kevin Smith, includes seeking permission, negotiating licenses, and determining fair use. According to the conference organizer Merrilee Proffitt, it is probably the most important task for most MOOC librarians, costing "380 hours on average." Many libraries, such as University of Pennsylvania Libraries and Duke University Libraries, are highly integrated in the development of courses, while others, such as the University of California Berkeley Library, are active in multi-institutional efforts to develop best practices in terms of material accessibility and research skills to help MOOCs.

The conference concluded with an audience brainstorming session resulting in nine groups of librarian suggestions interested in MOOCs. Check out the conference's archived videos and blog summaries on Hanging Together for more information on the challenges faced by MOOC librarians and their corresponding strategies.

5. MOOC or Mini-MOOC:

Libraries and MOOCs have one thing in common despite their many differences: the desire to share information. Librarians collectively create a massive body of work. Their intellectual production is already available and "open" to the public, whether in the form of a subject-based tutorial, a screencast on search techniques, or a YouTube video on plagiarism and quotation. In a sense, for decades, librarians have offered MOOC elements in "secondary research."

Mahraj proposed that librarians extend existing content into a full-blown MOOC by "implementing a longer curriculum filled with social media and problem-solving activities, possibly aligned with a pre-existing set of knowledge literacy requirements." Because literacy courses for credit information are already accessible from many libraries, the logical next step is to adapt an established course to a MOOC. Instead of the traditional tool-based model, librarians should focus on common subjects and emphasize basic concepts (e.g., data duration and formats), thought patterns (e.g. how to scale a topic), and transferable skills (e.g., critical thinking and information management). On Coursera or Udacity, MOOCs do not have to stay. It is a MOOC by default as long as a class is free and has open enrollment. An example of a MOOC library is the appropriately called ZSRx from the Wake Forest University Library: the Popular Web Cure targeting students, family, and anyone interested.

When running a MOOC seems too overwhelming, librarians should create competency-based "plug-and-play" data literacy modules that can be incorporated in their courses through MOOC or other online instructors. Mini-MOOCs with videos, reading materials, and pre-and post-assessments can be the modules, self-paced, self-contained, reusable, and scalable. Through asking students to go through a tutorial before an instruction session, librarians will "flip the classroom" and use the class time to solve problems and answer specific questions.

6. Librarians and MOOCs:

The reply is yes. For librarians who are not affiliated with institutions offering MOOCs, taking the initiative to obtain a basic understanding of this hot topic in higher education is all the more relevant. Through simply observing how classes are structured and administered, or better yet, through taking a few courses, librarians can benefit from a wide variety of pedagogical methods. By the same way, precious cautionary tales are things that don't work. Subject librarians, particularly those who do not have profound subject matter expertise or have not been practicing in the field for years, should enroll in a related course to familiarize themselves with the latest theories and analytical vocabulary.

Library managers or supervisors would require MOOCs to be used as a form of professional development by their direct reports. Legitimize participation by organizing a "MOOC Group" in which interested librarians can discuss and share their experiences. Encourage librarians in their teaching sessions to experiment with new pedagogical methods and share the results with the rest of the library.

7. Conclusion:

MOOCs are still relatively new, given the exponential growth. Further research is needed to assess the effectiveness of MOOCs (especially in non-STEM areas), to explore best practices in teaching design and pedagogy, and to rethink traditional universities' strategic positioning with respect to MOOCs. By working with stakeholders at all levels, academic libraries are uniquely positioned to be a viable force in the movement. Supporting student learning is ultimately a core mission of academic libraries, whether on campus or on the Internet.

The MOOC frontier provides librarians with new opportunities to provide leadership and support in advice on developments in higher education for state, teachers, and students. But first, to form the conversation around MOOCs and their descendants in a more purposeful and structured way, we need to study and analyze the world of MOOCs.

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The Role of libraries in the implementation of National Education Policy-2019 : Higher Education Institution Library Point of View

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Abstract

The library profession is one that serves the educational system of any nation, therefore both the educational and library systems must be in nexus if effective and efficient formulation and implementation of policies will be established. The impact of the library can be felt at all levels in the education sector, starting from the grass root, that is, School libraries in primary and secondary schools to the Academic libraries in the tertiary institutions. Hence the importance of the library in the educational development of a country cannot be over-estimated.

This paper is a position which reviews the aims of the National Education Policy-2019 and the roles librarians in its implementation.

Keyword: National Policy, Higher Education, academic libraries, Knowledge Society, Virtual Library

Introduction

National Education Policy 2019 draft released. It is drafted under the chairmanship of eminent scientist Padma vibuhshan Dr. K. Kasturirnanan. Every Academicians including librarian must play role to implement the envision changes.

The paper emphasis on role of Librarian in Higher education i.e. role of college and university librarian.

Highlights of draft of National Education Policy-2019 for Higher Education -

- 1) **Vision of NEP-2019 draft** - "Envision an India centered education system that contributes directly to transforming our nation sustainably into an equitable and vibrant knowledge Society by providing high quality education to all."
- 2) **Education Technology** - This policy aims at appropriately integrating technology in to all levels of education.
- 3) **Integration of vocational Education** - This policy aims to Provide vocational education must be an integral part of all education.
- 4) **Adult Education** - This Policy aims to achieve 100% youth and adult literacy by 2030, and significantly expand adult and continuing education programme.
- 5) **Promotion of Indian Languages** - It is critical to preserve the truly rich languages and literatures of India. The policy will ensure the preservation, growth and vibrancy of all Indian languages.
- 6) **Institutional Restructuring and consolidation** - A new vision and architecture for higher education has been envisaged in the policy with large, well resourced, vibrant multidisciplinary institutions.
- 7) **Towards High quality Liberal Education** - The policy support an imaginative and broad based liberal under graduate education with rigorous specialization in chosen disciplines and fields.
- 8) **Optimal learning environments and students support** - A joyful, rigorous and responsive curriculum, engaging and effective pedagogy and caring support to optimize learning and overall development.
- 9) **Energized, Engaged and capable faculty** - The most important factor for the success of higher education institutions is the quality and engagement of its faculty: this Policy puts faculty back into the heart of higher education.
- 10) **Empowered governance and autonomy in Higher Education governance** - Support to develop ethical leadership as a driver of education change.
- 11) **Higher Education Governance and Regulation** - This policy aims to set up effective enabling an responsive regulation to encourage excellence and public spiritedness in Higher Education.
- 12) **Integrating Professional Education in Higher Education** - This highlights is to build a holistic approach to the preparation of Professionals by ensuring broad based competencies and understanding of the social human context a strong ethical compass in addition to highest quality professional.
- 13) **National Research Foundation** - This policy has a strong emphasis on catalyzing and energizing

research and innovation across country in all academic disciplines.

14) Rashtriya Shiksha Aayog - This Aayog is established to fulfill the need of inspiring leadership and ensure excellence of Execution

15) Financing Education - Raising Educational investment for society's future.

Highlight of library role in Higher Education according draft of National policy 2019

1) "Enhancing access to libraries and online journals:

Access to high quality multidisciplinary libraries and online journals play a key role in liberal education and also in the performance of high quality research. The Government of India will set up a mechanism, e.g. becoming a single buyer, for online access to journals for all public institutions in the country, so as to save on costs and improve access. This would replace the present practice of funding premier institutions to subscribe to journals, which will save significant cost, and enable access for students and faculty from all public institutions." National Education Policy draft-2019,p.no.237

2) "Support services for students enrolled in open and distance learning:

Learner support services shall be institutionalized at all institutions offering ODL. These must be as effective and relevant as the ones on offer for fulltime students of the same HEI. services will include providing learning material (e.g. hosting sourceware, depositories, Open Educational Resources or OERs, MOOCs), support from help desk services, tutoring and counseling, conduct of classes (through webinars, discussion forums, webcasting), library facilities, virtual labs, e-learning modules, timely feedback on performance, online examinations, declaration of results, granting of certifications, redressal of grievances, etc."

National Education Policy draft-2019,p.no.247-248

3) "Internationally relevant education:

Indian higher education institutions must take advantage of the freedoms that will come with the autonomy that will be widely granted as a result of this Policy to create a nationally and internationally competitive education. The curriculum, its delivery, assessment processes, and the entire educational experience of students must equip them with the knowledge, skills, and competencies they need to become global citizens. The NHEQF as well as similar qualifications frameworks in professional education must be aligned with global standards so that students receive internationally recognised qualifications. These efforts towards 'internationalisation at home' must be achieved without compromising the requirements of the Indian context. Faculty in HEIs must also be assisted in cultivating a global outlook. This will require investment in quality academic infrastructure such as well equipped laboratories, libraries, computing services, and so on." National Education Policy draft-2019,p.no.250

4) "High quality specialized content to be made available in open educational repositories:

To ensure that all learners have access to high quality educational content, copyright-free educational resources including textbooks, reference books, videos (ideally with subtitles), teaching-learning materials, etc. will be created and curated from national and global sources at all levels of education and in multiple Indian languages, and made available in a single online digital repository e.g. the National Digital Library or NROER. This repository must be organised so that anyone can quickly and easily locate and download all relevant content. In order to reach the maximum number of students and teachers, distributing this content in any form for a nominal fee will be facilitated and encouraged."

National Education Policy draft-2019,p.no.351

Discussion-

1) Role of librarian to fulfill the main vision National Policy of Education-2019

As per the vision of National Policy of Education main theme is that to transforming our nation to vibrant knowledge society. library or librarian can play key role in transforming information society to knowledge society. libraries must move from defining their professional role in terms of providers of information literacy on to a role as multimodal knowledge centers encompassing information as well as entertainment, retrieval as well as production. Second, librarians need to redefine their role in the physical library as facilitators of multimodal literacy and do so in close cooperation with other partners advancing civic society.

Defining the role of the librarian as knowledge facilitator is in line with the projected function of the physical library as a knowledge centre. The librarian leaves her desk and is present amongst users; she engages in sustained processes that involve groups of users offering her professional experiences and evaluations; and she interacts with partners across disciplinary and institutional boundaries.

The term multimodal literacy (developed from Kress & van Leeuwen 2001) is gaining currency as a term that points to the rather complex semiotic competences that citizens need to develop in order to gain a formative influence on the knowledge society. Multimodal competences encompass the ability to

access, but also to use mediatized forms of communication; it denotes the ability to retrieve and receive but also to produce such forms of communication. And, most importantly, it signals that information is but one element in a multifaceted spectrum of mediatized expressions that also encompass entertainment, interaction and performance.

Knowledge for what and for whom?

If it is true that we live in a knowledge society that demands multimodal competencies most of which are mediatized, then it follows that the role of college libraries and librarians is challenged once again.

College libraries, in their physical as well as their virtual versions, are spaces that people enter at liberty and often in their spare time. In shaping new visions for college libraries in the knowledge society, perhaps this image is their most fundamental value. For it offers college libraries a unique chance of catching on to the multi-sited nature of learning in a knowledge society.

Table 1: Library innovation and socio-cultural conditions

	INDUSTRIEL SOCIETY	INFORMATION SOCIETY	KNOWLEDGE SOCIETY
Aim of library use	Cultural discrimination(taste) Personal relevance of cultural choice	Universal and free access to information Information literacy	Universal and free use of information and fiction Multimodal literacy
Definition of library/librarian	Cultural custodian Cultural guide	Information disseminator	Knowledge faciliator
Definition of material/content	Material entity, physical artefact	Non-material process Effective, reliable information processing	Material artefacts and non-material processes Information and fiction
Definition of user	Receiver of choice cultural consumer	Information producer and evaluator	Knowledge producer, cooperater and cultural citizen

2) Role with developing Virtual Library-

A Virtual library is has been defined by Gapen(1993) as, "The Concept of remote access to the contents and services of libraries and other information resources, combining an on-site collection of current and heavily used materials in both print and electronic form, with an electronic network which provides access to and delivery form, external worldwide libraryand commercial information and knowledge sources."

Virtual library establish good scholarly communication in both developed and developing countries.

Function of virtual library-

In general virtual library should-

1. Provide ICT based access to digitally available publication for education purpose available in public domain and other sources.
2. Provide access to distance education materials
3. Contribute to the efficient delivery of information of all universities and other educational institutions
4. Strengthen communication between and among learner and academician communities, nationally, regionally and internationally.
5. Offer lifelong learning opportunities.

Shifting Role of Library or librarian in higher education- The oval shape displays the changes of role library in fig.1

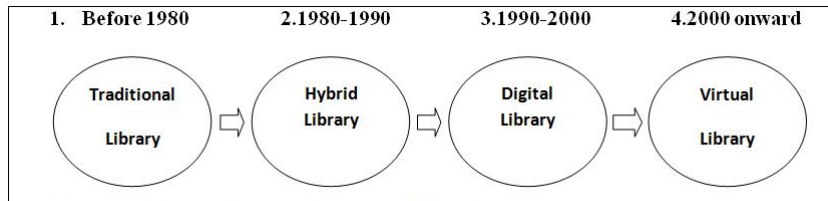


Fig.1 : Shifting Role of Library or librarian in higher education

4) Role of libraries Towards High quality Liberal Education-

In other word role of library in distance and correspondence as well as online mode of higher education system.

Many user of distance and correspondence mode of education rely on library as resource tool because they don't have the access. to tutorials as regular courses. Library resources and services have changed over the year to reflect the growth of online a distance education and with the development of new technology.

The primary challenges for libraries and librarians in distance education system is to provide library service and resources that equal to those that are available on campus for the traditional student. Many of these learners are unfamiliar with using online resources. Librarians needs to instruction and tutorials to meet their need. Information literacy is also important for distance education learners because librarian provide guidance for how to determine which resource are the most valid and reliable resource.

5) National Research Foundation

Role of libraries in Higher education for Research and Development work.- The quality base resource service of the library is one of the important elements in higher education. In any research and development project needed reference document to a large quantity. The higher education institution library has the repository and archival responsibility for scholarly publications and provides access of library materials. In all step of research process choosing topic, literature review, redefining the topic, selecting resource and citing resources library play supporting role to the research scholar. The literature search service of library can play supporting role to retrieve relevant information from databases, online journals and the web.

6) The role of library in Digital learning environment in Higher Education-

Textbooks, audio, videos lesson and tutorials in digital format transform education system. E-library is format of digital learning environment. Through E-library more accessible purposeful, resourceful and quality base material for students using computers and tablets or mobile phones

7) Internationally relevant education-

Now a days most of higher education institutional libraries using RSS FEED system for the purpose of current Awareness service for providing this service and AJAX technology is behind this. Current Awareness service, Selective Dissemination of Information and WEB OPAC with the help of computer give wide access for library material from remote country. Computer based Translation service, Document Delivery service are organised to supply article and documents possessed either by library in the country or outside the country.

8) Library maintaining archived for Higher Education-

We know that books cannot last forever so librarian have left with option of preserving these material for future generations. However the awareness and technological advancement in the field of preservation and conservation the valuable documents are preserved and digitized for further use.

Conclusion

The role of Library in the Higher education concluded as follows

- Library must transform itself to the virtual library to perform perfect role in new education policy.
- Library and librarian can give following services through virtual library to the **knowledge Society.**
 - Teaching, research, and training in the society by providing access to knowledge resources, materials and by providing through virtual library environment
 - Dissemination and distribution of information/knowledge through virtual library
 - knowledge stored in archived through developing virtual library
 - Serving as gateways to the collections of global libraries

- Supporting informal self education and learning to knowledge society.
- Librarian as Knowledge facilitator
- multimodal knowledge centers encompassing information as well as entertainment, retrieval as well as production
- Supporting education,
- This Policy envisages creation, transmission, use and dissemination of knowledge as a continuous process which is main role of Library.

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Models of Information Literacy

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Preface

It is primarily for the following studies to shape out how to consider information(literacy) about the searching of library materials , instead of to get pre-bundled actualities or resources in increasing information sources in the information centers or knowledge resource centers now it is knowledge based society. The massive six critical thinking approaches is an instructional philosophy used to combine information retrieval straight into any subject educational programs. It created essential and investigative reasoning abilities by applying the student's own particular p and experience to the focused on issues of tackling and information improvement.

Definition : Dr.Samuel Johnson says that “ There are two types of knowledge “ :We know a topic for it self ,or we know that we can search information on it. “”To know where you can find any thing that in short is the largest part of learning “ The set of integrated abilities encompassing the reflective discovery of information is known as information literacy, the use of information in creating new knowledge and participating ethically in communities of learning .”

The possession to denote , analyze and interprets information independently for life-long learners commission on colleges,south association of colleges and schools (SACS) .Criteriafor accreditation ,section 5.1.2(Library and other information resources)services.For information literate ,library users should be capable to identify when he has needed the information and use effectively the needed information after well known training program.American library association presidential committee on information literacy,Final report,1989.It is also known as information management and knowledge management.

Mission And Goals Of Information Literacy:

- 1] To educate student and staff regarding concepts and frame works for understanding information processes.
- 2] To develop and disseminate sequenced information literacy competencies throughout the under graduate and graduate curriculum.
- 3] Design information literacy instruction tools for self instruction with opportunities for practice and assessment.
- 4] To develop assessment plan to evaluate student learning of information literacy skills.
- 5] To expand campus awareness of information literacy principles through teaching circles, workshops and other learning opportunities.

Library Assistance :

1. References
2. Workshops
3. Library Guide
4. Collaboration for Designing and assignments for paper and research project.
5. Small group discussion-concerning implementing information literacy in curriculum.

Types Of Information Literacy Models :

There are different types of models of information literacy as below.For assisting the library service very essential the information literacy for library users as like students and faculty of the particular institute.

1) Information Search Process-Kuhlthau : The Information Search Process (ISP) gives us in different types of academic area by using KRC like information center for the patrons at the point of view in different six phases “assignment start, determination, analysis and interpretation of information resource.

2) Pitts and Stripling Research Process model : 1988 The REACTS Taxonomy created by Barbara Stripling and Judy Pitts centers around basic reasoning in the exploration procedure: This model spotlights on procedures for guaranteeing abnormal state considering and coming about quality items. The REACTS Taxonomy incorporates the accompanying components: 1. Recalling 2. Explaining 3. Analyzing 4.

Challenging 5. Transforming 6. Synthesizing Alongside the showing systems related to the REACTS Taxonomy, Stripling and Pitts composed a 10-step procedure to enable understudies to build up their 84 research paper from point choice to conclusive item.

3) Big6 Eisenberg and Berkowitz Model : 1990 Made by Mike Eisenberg and Robert B. Berkowitz, the Big6 is the most extensively known and by and large used data training approach to managing demonstrating data and development aptitudes on the planet. The Big6 is a data and development proficiency show and instructive projects, executed in countless through cutting edge training. A couple of individuals call the Big6 a data basic reasoning methodology because with the Big6, understudies can manage any issue, assignment, decision or errand. Big6 is a six-sort out a model to empower anyone to deal with issues or settle on decisions by using data. Two different sub-stages are a small piece of each essential class in the Big6 show:

1. **Task Definition** a) Define the information issue b) Identify information required.
2. **Information Seeking Strategies** a) Determine every single conceivable source b) Select the best sources
3. **Location and Access** a) Locate sources b) Find information on sources
4. **Use of Information** a) Engage (e.g., read, hear) b) Take out important information

4) **The 8Ws Model for Information Literacy: -**

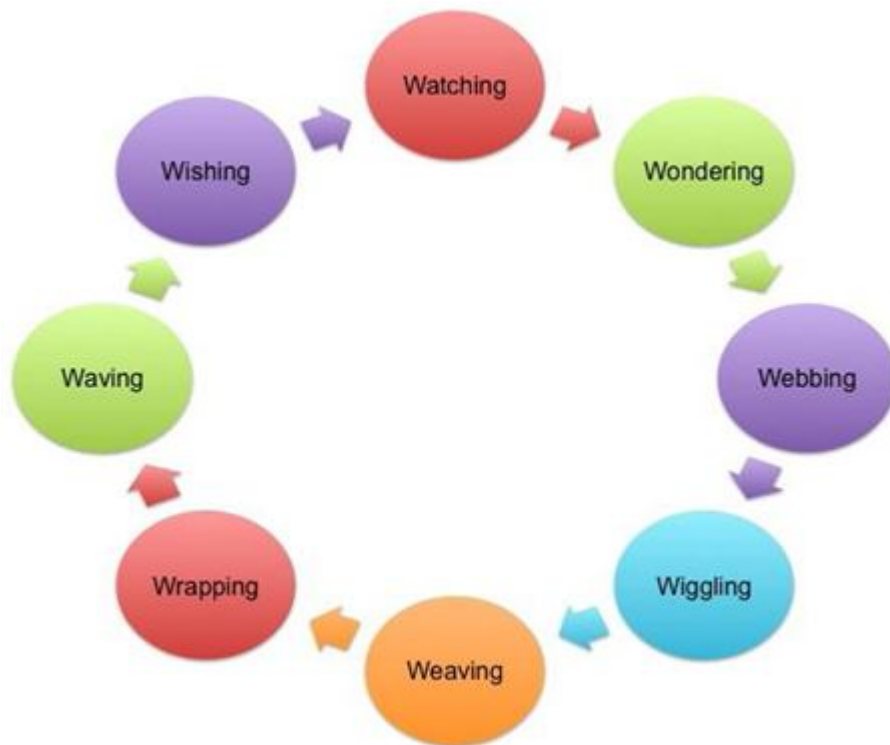


Fig: - 8Ws Model for Information Literacy

The 8Ws Model for Information Literacy was created by Annette Lamb in the mid-1990s. The model is relatively crafted by Eisenberg, McKenzie, Kuhlthau, Pappas, and Tepe. The understudies know about WH questions as like (who, what, when, where, How and why), here are 8 new ones: 86

1) Watching (Exploring) requests that understudies investigate and end up being more onlookers of their condition. It requests that understudies turn out to be more in order to their general surroundings from various types of family needs worldwide concerns.

2) Wondering (Questioning) centers around conceptualizing alternatives, it talks about thoughts, distinguishing issues, and furthermore creating questions.

3) Webbing (Searching) guides understudies to ready to find, scan for, and interface thoughts and information. One bit of information may demonstrate the best approach to new inquiries and zones of intrigue. Understudies pick those assets that are significant and sort out them into important groups.

4) **Wiggling** is frequently the solid stage for understudies. They are regularly certain about what they've found and where they're running with a venture. Squirring includes diverse execution of assessing content, alongside wandering aimlessly information searching for pieces of information, thoughts, and viewpoints.

5) **Weaving** (Synthesizing) comprises of sorting out thoughts, making models, and defining strategies. It simply centers on the application, investigation, and an amalgamation of information.

6) **Wrapping** (Creating),

7) **Waving** (Communicating),

8) **Wishing** (Assessing).

5 **Pappas and Tepe Pathways to Knowledge Information Skills Model**: Follett, Marjorie L. Pappas and Ann E. Tepe. Created **Pappas and Tepe Pathways Model**. The aims of this model to grown ups to youngsters and youthful for, the creators to push and denoting the higher education.

6 **The PLUS model 1996** : James Herring created PLUS model of Information Literacy. PLUS is an information literacy model which display encourages the school understudies to enhance their all student learning by improving them by providing more information and make their educated. For clearing the concepts about (IL) for example, reason of matter, area of problem, utilize and self-assessment. The model of PLUS is seen as an iterative model and not a direct model as understudies may need to come back to a before organizing in the model.

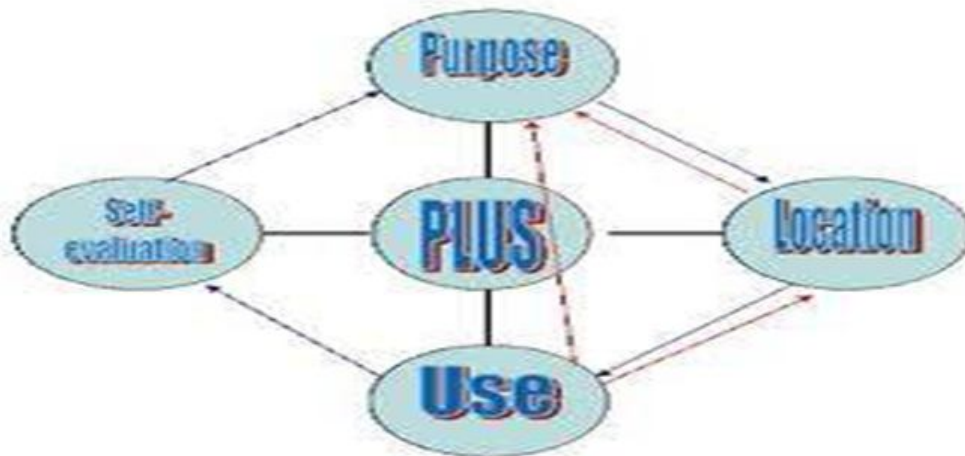


Fig-The PLUS Model

7 **The Seven Pillars of Information Literacy**: It is Core Model for Higher Education: In 1999, The SCONUL Working Group on Information Literacy distributed "Information aptitudes in training: a SCONUL position paper" (SCONUL, 1999), presenting the Seven Pillars of Information Skills show. From that point forward, the model has been embraced by curators and educators around the globe as a method for pushing them to convey information abilities to their students. Nonetheless, in 2011 it was felt that the model should have been refreshed and extended to reflect all the more unmistakably the scope of various wordings and ideas which we now comprehend as Information Literacy. All together for the model to be important to various client groups and ages, the new model is exhibited as a non-exclusive 'centre' model for Higher Education, to which a progression of "focal points", speaking to the distinctive gatherings of students, can be connected. There are seven pillars of Information Literacy as shown below : 1] Identify 2] Scope 3] Plan 4] Gather 5] Evaluate 6] Manage 7] Present These are the pillars of Information Literacy

Conclusion : Different models are proposed at National and International level stressing the combination of Information literacy inside the modules. Information Literacy from these portrayals is obviously a piece of learning and if understudies are to be instructed to gain from the assets accessible in Information rich, situations must be woven into the learning. ACRL norms are considered as a fundamental stage for every one of the countries to execute information literacy among understudies. Despite the fact that these guidelines are essential framework for faculty members and research scholars training, still there is a need to build up a model to encourage quality change in training. Information

Literacy is a constant process. For managing IL main 7 pillars are very important role as like to Identify, Scope, Plan, Gather, Evaluate, Manage and Present.

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Role and Challenges of College Libraries

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Abstract :

In this paper discussed on the relevance subject emerging new trends information communication technology which is applicable in academic or college libraries, professionals and technological colleges like engineering, medical and social work colleges so on. Use of new mechanism and equipment for developing new services or modifying existing services. New role and challenges of college librarian which is to face new technology in LIS.

Keywords- Changes in library policies, Management change process in LIS, Information technology, ICT introduced paradigm shift in LIS.

Introduction :

Due to fast-paced technological change and new skill requirements, information professionals are increasingly required to renew their skills and practice in order to gain and awareness of technological advances. In day-to-day life, we are experiencing the use of technologies and the libraries are not an exception for it. The main force that has brought revolutionary changes in functioning of the libraries is technology. In recent years, impact of technology has been tremendous on library systems. In academic environment, library is deemed as a place of intellectual stimulation and epicenter of knowledge. In 1980s and 90s the information seekers were greatly dependent on printed resources and libraries were unique places for providing such information. The past two decades have seen a great deal of change due to Information Communication Technologies resulting in a demand for new patterns of scholarly information. These technology advancements have made significant impact on growth of knowledge and in unlocking the human potential.

Evolution of Libraries :

Paper Library	Automated Library	Electronic Libraries
Collections = Paper →	Collections = Paper →	Electronic Libraries
Bib Control = Paper →	Bib Control = Electronic →	Bib Control = Digital

Changes in Library Policies :

Changes in the objectives and functions of the library and information system by the planning body would directly impact the existing plans and policies of the library. Accordingly, change in plans and policies become essential. The developmental plans and policies should be in conformity with the objectives and functions of library and information system as well as institutions in serves.

Management Change Process in LIS:

1) Identifying need for change: In the changing scenario of library (from traditional to Virtual) it is very essential to identify every need of users for effective planning and execution.

2) Elements to be change: It is very natural that the elements in traditional library and virtual library or automated library are different. So top level management should foster awareness about every element of change and communicate the relevant elements to every unit.

3) Feedback: This is very important aspect of every organization without feedback system, an organization cannot assess their customer needs and information seeking behavior as well as their satisfaction level.

Traditional Library Vs Virtual Library :

Traditional Libraries

Documents
User goes to library
OPAC
Documents (Books, Journals etc.)
Cataloguing & Indexing, Classification
Circulation (Issues & Returns)
Resource Sharing

Virtual Libraries

Internet
Library goes to users
Web based OPAC
E-Resources (E-Books, E-Journals etc.)
Search Engines & Metadata
Access direct with internet facility
Consortium

ICT Induced Paradigm Shift in LICs:

- Traditional libraries to digital libraries,
- Print on paper to digital information,
- Card catalogs to Web OPACs,
- Chains to RFID tags,
- Print journals to online or electronic journals,
- Ownership to access,
- Library access to remote and desktop access.
- Information availability from libraries - 9 – 5 or 7 to 24X7,
- Photocopies to digital copies,
- DDS being provided through E-mail instead of post or fax.
- Standalone libraries to Information networks
- Real to virtual libraries.

Recent Technology Trends in Academic Libraries

The past two decades have seen a great deal of change due to Information Communication Technologies (ICT) resulting in a demand for new patterns of scholarly information. These technology advancements have made significant impact on the growth of knowledge and in unlocking the human potential.

The following are the recent technological trends in Academic Libraries

- 1) Automation
- 2) Digitalization
- 3) Internet
- 4) Consortia
- 5) RFID Technology
- 6) Web Designing for Libraries
- 7) ICT in Libraries
- 8) Creation of Institutional Repository
- 9) E-Learning Resources
- 10) Information literacy programs
- 11) Library 2.0

1) Automation :

Library automation involves creation of database of library holdings, information retrieval, establishing the computer network and telecommunication usage for information handling, needs careful and systematic planning.

Need for Automation :

- Increasing technical processing efficiency over a manual system.
- Realization of financial savings or containing costs in certain cases where cost savings has been brought through automation.
- Improvement of library services.
- Improving library administration and management.
- As a response to a breakdown of crisis in the existing manual system.
- Facilities of savings of resources.
- Provide wide access to resources within the libraries and elsewhere.

What Do We Need For Automation Of Academic Libraries ?

We need several things for automation. We need 1. Hardware 2. Software 3. Humanware. As far

as the computer hardware is concerned, the costs are coming down day-by-day and most of the libraries can buy them without problem. Effective functioning integrated library software should be selected for automation of Academic Libraries.

Application Of Computers In College Libraries :

- Acquisition
- Cataloguing
- Serial control
- Circulation
- Management Support
- Information Services
- Stock Verification

Some Tips On How To Get Started :

- Visit a nearby library of equal standing where automation has been successful. Learn from their experience.
- Get some free software. Use it on a small collection to gain experience.
- Start building database of books beginning with finite collections like theses, project report, standards etc. As books will be in large number take it up last.
- Do not wait for a perfect solution. Do not be afraid of failure, they are stepping-stone to success.
- Do not attempt those areas where there will be no substantial gain. For instance if the number of issues in a day is about ten you can manage comfortably with manual system.

2) Digitations :

Digital Library is a library that contains material in a digitalized form. It can also be defined as the library that contains digital material. The digital library has materials stored in a computer system in a form that allows it to be manipulated and delivered in ways that the conventional version of the material cannot be.

Infrastructure Requirements For Digitization :

Digitization requires a supporting organization and infrastructure dedicated to storing the electronic files and to migrating them to new formats and/or media as technologies changes. Unless these capacities are all in a place, digital files cannot be regarded as permanent.

Tools required for digitization is as follows :

- Hardware
 - Computer system
 - Scanner
 - Digital Camera
- Software
 - Image editing software
 - File compression software
 - Optical character recognition software

Trained manpower to run the equipment and manage the digitization project.

Digital Conversion Process :

Document ⇒ Data capture ⇒ Data processing ⇒ Storage ⇒

Indexing and Processing ⇒ Retrieval and Display

Advantages Of Digital Libraries :

- Helps in Resources sharing facilities.
- Saves the Library Manpower and funds.
- Helps in Inter-Library Loan (ILL).
- Helps to reach information of their users at faster rate through on-time communication.
- Minimizes the duplication of New Invention.

3) Internet :

The Internet is undoubtedly a medium between the Information Professionals and the Information. In present day, it is an essential requirement for the Librarians to ascertain how to access the facilities in this new technology. The internet has become an expert in searching to satisfy the user needs.

- Internet is the global information infrastructure which enables the professionals to access the information and communicate to the users easily and cost-effectively through the medium like text, voice, graphics and multimedia etc.

Requirements :

The essential requirements for the connectivity to the Internet are

- Computer
- Telephone line
- Internet Service Provider
- MODEM.

4) Consortia :

The Consortia aims at providing material, information and services by different types of libraries to the needy users. These libraries may be in different jurisdictions but agree to serve one another on the same basis as each serves its own constituents. Computers and telecommunication may be among the tools used for facilitating communication among them.

• A consortium is a group of libraries that want to have a central place to store content in centralized manner and distribute to all associated libraries. Consortia is a generic term to indicate a group of libraries that are working together for a common goal to expand co-operation on traditional library services such as collection and development of electronic media. The aim of the consortia is to achieve what the members of the group cannot achieve individually.

Consortia Initiative In India :

Several library consortia have been setup over last few years to obtain licenses and to enable desktop internet access to scholarly electronic resources like e-journals and databases. Some of the major consortia formed in India over the years are :

CSIR Consortia

INDEST

UGC-Infonet

CeRA

5) RFID Technology :

RFID is the latest technology to be used in library for book identification, for self check out and for sorting and conveying of library books and also for theft detection. The aim of using RFID technology is to increase the efficiency, reduce data entry errors and free up staff to perform more value-added functions.

Components of RFID Systems :

- RFID tags that are electronically programmed with unique information;
- Readers or sensors to interrogate the tags;
- Antenna; and
- A server or docking station on which the software that interface with the automated library system is loaded. It is also possible to distribute the software among the reader and sensors.

6) Web Designing For Libraries :

A website is a collection of web pages, images, videos and other digital assets hosted on a particular domain and sub domain on the World Wide Web. All publicly accessible websites are seen collectively as constituting the “world wide web” accessible. Website in our digital era has become a publicizing media to serve information to the users from different parts of the world. The growth rate of information technology is very fast compared to other developing technologies and knowledge.

Taking the advantages of advances in information technology, various sectors of economy can develop their web pages and regularly mount information, which can be accessed through the internet. Now, libraries and information centers are being transferred to the internet for fast access and retrieval of information. Internet has become the world’s window to information and web pages serve as the information carrying documents. Almost all advanced libraries keep their own webpage as it is a media of publicizing the library functions, activities, programs, resources and services. Thus each library and information centres needs to establish its own website.

7) ICT In Libraries :

Information Communication Technology is a generic term used for a group of technologies. ICT refers to the devices and tools used in the generation, gathering, processing, storage, retrieval, communication and delivery of information. It is the convergence of computers, communication and micro-electronic base technologies. In recent years, IT has expanded so rapidly to include a wide array of devices, information products and services that transformed the role of a library into a gateway of accessing global information resources.

Impact of ICT On Library And Information Services :

Libraries are experiencing a significant impact of IT on information processing, sources and services. ICT has become integral part of all library operations and information services. This movement of using

ICT in libraries has dramatically changed the ways by which data acquisition, processing and access has been carried out and the libraries have provided information services. As this technology provides librarians with new choices, new opportunities and new challenges, there has been a phenomenal progress in the use of ICT applications in library operations and information services. ICT usage in Indian Libraries has also gained considerable momentum in recent years, which is going to increase at much faster rate in future.

8) Creation of Institutional Repositories :

Institutional Repositories are digital archives that capture, organize, preserve and disseminate the intellectual assets of a single institution or a group of institutions by forming a global system of distributed and interoperable digital libraries. The basic objective of institutional repositories is to promote wider use of intellectual output of particular institution or a group of institution. An institutional archive should follow international technical standard to ensure the open access to its contents.

9) E-Learning :

E-learning can be defined as learning anywhere and anytime through internet. It is delivery of information, training or education programs via electronic media. E-learning includes a wide range of electronic communication like Internet, Intranet, Satellite broadcast, interactive television, CD-ROM, DVD, audio & video tapes etc. Effective e-learning depends on the web usability, communication, relationship and knowledge management tools.

Use of E-Learning :

With an increase in the traditional academic institutions distance education departments and distance delivery methods such as correspondence, satellite broadcast, video conferencing, video-tape, CD-ROM, DVD delivery system etc. E-learning increased with the internet access to desktop computers and improved bandwidth for data transmission.

10) Information Literacy Programs :

• The word “Literacy” has been linked with cultural literacy, information literacy, library literacy and technology literacy, and also digital literacy and multimedia literacy. Traditionally, literacy as a basic concept has been defined as the ability to read and write. Information literacy is the ability to identify, evaluate and use the information judiciously. Information literacy is a conception of those abilities of an information user which include.

- Locating needed information.
- Determining relevance and adequacy of the information, and
- Applying information in problem solving and decision making situations.

12) Library 2.0 :

With Library 2.0 library services are constantly updated and reevaluated to best serve library users. It also attempts to harness the library user in the design and implementation of library services by encouraging feed back and participation en.wikipedia.org/wiki/Library_2.0.

“Library 2.0 is the application of interactive, collaborative and multi media web based technologies to web based library services and collection” Maness, 2006

The basic idea of Library 2.0 is to transform library service by making them more personalize, more interactive, collaborative, more web-based, driven by community needs

Components of Library 2.0 :

Wiki, Blog, Rss, Podcasting, Instant Messaging, Sms, Mms, Social Networking.

CONCLUSION :

Academic libraries are facing the challenging tasks of satisfying the increasing complex and diverse information needs of the clientele. College libraries can use today a wide variety of technology options that exist now. Fruitful results can, however, be obtained only when we make the best use of the technologies. Use of modern technology has assumed greater relevance in the context of fourth law of library science: “Save the time of the reader/staff” wherein Raganathan had underlined the need for internal efficiency of the library.

An Introduction to Information Literacy Models: A Review

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Abstract :

In today's highly networked environment it is easy to get information but it is difficult to get the right information. The present paper focuses on the introduction to the information literacy models and suggests the framework of the conceptual information literacy model - the "service model" for the education. Details information about the Kuhlthau s Information Search Process Model, PLUS Model, 8Ws IL Model, SCONUL Seven Pillars Information Literacy Model, EMPOWERING-8 IL Model, Big6 Information Process Model, Pappas and Tepe Pathways to Knowledge Information Skills Model and Definition and Core Competencies Model, DIALOGUE Model.

Keywords- Information Literacy, SERVICE model, SCONUL, Competencies, Kuhlthau s, DIALOGUE etc.

1. Introduction :

Information literacy models are like a roadmap through the process of acquiring information. They show each person an accurate way on how to find, analyze and use information, find information to find answers to questions, including resources available, how to complete the information task in your hands, find an assignment, or find something about our curious topics. They serve as a guide for developing information skills in the student community. They can help create information literacy course objectives, learning outcomes, curriculum materials and assessment criteria. Many researchers, education professionals and institutions have developed information literacy models through research and evaluation.

2. EMERGENCE OF INFORMATION LITERACY CONCEPT :

The concept of information literacy originates from educational training, which means teaching, training and training. The term information literacy was first used in 1974 by Paul Zurkowski, president of the Information Industry Association. He used the term in a proposal submitted to the American National Commission on Library and Information Science (NCLIS). In this way, information literate people are those who have trained in the use of information sources in their work. They have learned extensive tools of information, as well as techniques and skills to use primary sources in solving information on their problems. Nowadays, the term 'information literacy' has become a beautiful word and many writers use it in various ways such as infiltration, information, information empowerment, information capacity, information literacy and skills, information handling skills, information problem solving skills etc.

- According to *Chartered Institute of Library and Information Professionals, UK* defines information literacy as "knowing when and why you need information, where to find it, and how to evaluate, use and communicate in ethical manner".

- According to results of *Delphi Study conducted by Doyle*, an information literate person is one who :

- recognizes the need for information;
- appreciates the importance of accurate and complete information to make intelligent decisions;
- formulates questions based on information needs;
- identifies potential sources of information;
- develops appropriate search strategies;

- According to *Association of College & Research Libraries (ACRL) Framework for Information Literacy for Higher Education*, Information literacy means "the 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".

3. COMPONENTS OF INFORMATION LITERACY :

Information Literacy has a bunch of various literacy's in terms of components which includes- Basic Literacy, Library Literacy, Media Literacy, Computer Literacy, ICT (Information and Communication Technology) Literacy, Visual Literacy, Tool Literacy, Resource Literacy, Social- Structural Literacy, Research

Literacy, Publishing Literacy, Emerging technology Resource Literacy, Digital Literacy, Network Literacy and Scientific Literacy etc. They are called to be skill based literacy's which are collectively.

4. MODELS OF INFORMATION LITERACY :

Defining, exploring, applying search strategies, explaining, analyzing, synthesizing, evaluating and communicating are the basic objects of information literacy models. Information literacy involves many skills that can be regarded as both critical and technical. The models are classified into the following two types:

- Linear: A linear model means that the steps must be performed in a set manner
- Nonlinear: A nonlinear model means that an individual passes through different stages at different times depending on information need.

Some of the information literacy models developed by experts and organizations are as follow:

1. Kuhlthau s Information Search Process Model
2. PLUS Model
3. 8Ws IL Model
4. SCONUL Seven Pillars Information Literacy Model
5. EMPOWERING-8 IL Model
6. Big6 Information Process Model
7. Pappas and Tepe Pathways to Knowledge Information Skills Model
8. Definition and Core Competencies Model
9. DIALOGUE Model

1. Kuhlthau s Information Search Process Model:

The Information Search Process (ISP) gives us a holistic view of information from the user's perspective, searching for "starting assignments, determinations, inspections, center details, gatherings and introductions" in six different stages. All six-step models of the information discovery process join the three domains of experience; Mental and physical normal reactions at each stage. Regular startups are spent in ISPs looking for an unexpected task that has a different beginning and end and requires significant development and figured out how to be cultured. The model exposes the hunting process in which a person is searching for information important during the search period. From the client's point of view, the purpose of the information sought is to obtain information about the start of the hunt, not just collect the information itself. The ISP is looking for information as a way to achieve a goal. The model of the ISP illustrates the customer's holistic approach to information seeking in six stages:

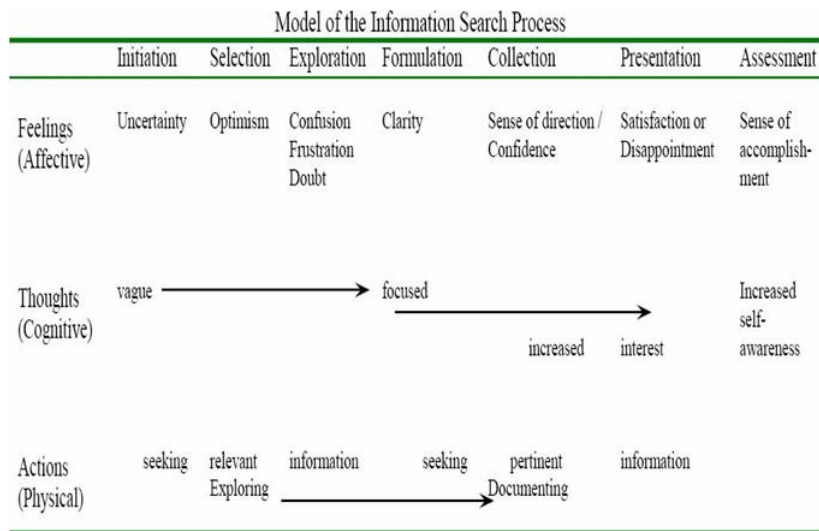


Figure-1: Model of Kuhlthau's Information Search Process
 (Source: http://comminfo.rutgers.edu/~kuhlthau/information_search_process.htm)

2. PLUS Model :

Taken together by James Haring, Plus is an information literacy demonstration that encourages school students to further their education by teaching them more information. In addition the display fuses elements, for example, causes, fields, uses, and self-evaluation. The plus model is viewed as a

tentative model and is not seen as a live model, as under students may need to go back to their model before defining, hunting, and organizing it into a model using processes.

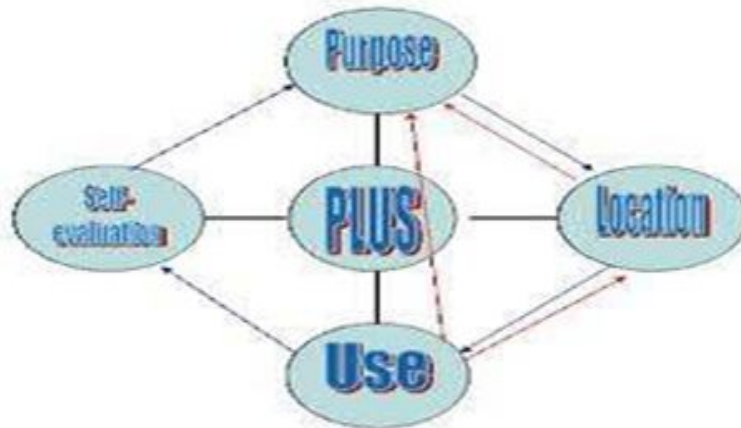


Figure-2: The PLUS Model
 (Source: <http://athene.riv.csu.edu.au/~jherring/PLUS%20model.htm>)

3. 8 WS Model:

8 WS Model 3 for Information Literacy was created by Annette Lamb in the mid-1990s. The model is relatively designed by Eisenberg, Mackenzie, Kuhlhau, Pappas and Tepe. However, the term funny similar phonics was used to encroach on the approach of Understudy and stimulate the spotlight. Understands know about 5Ws (who, what, when, where and why), here are 8 new ones:



Figure-3: The 8Ws Model for Information Literacy
 (Source: <http://eduscapes.com/instruction/5.htm>)

4. Seven Pillars of Information Literacy:1999 :

In 1999., the SCONUL Working Group on Information Literacy distributed “The Information Quality of Training: An sconul Position Paper” (SCONUL, 1999), which presented seven pillars of information skills. Beyond that, this model has been adopted by curators and teachers around the world as a way to motivate their students to access information. However, felt that the model should be refreshed and expanded, giving us an extension of the various words and ideas that are now considered information literacy. All of these models were demonstrated as non-exclusive ‘center’ models for higher education to be important to children of different client groups and age groups. Advancement of “focal points” when speaking at specific gatherings of students. , Can be connected. (Source:www.sconul.ac.uk/sites/default/files/documents/coremodel.pdf)



Figure No. 4. : The Seven Pillars of Information Literacy
 (Source: https://www.slideshare.net/infolit_group/bent-stubbings)

5. Empowering 8-NILIS: 2004 :

Sri Lanka's National Institute of Library and Information Sciences (NILIS) organized a global workshop on 'Information Skills for Learning' under the sponsorship of IFLA / ALP, which brought Empowering-8, an information education exhibition. 8 Enabling can be shown as a model that can be used successfully to deal with any information problem of up to eight stages, with some sub-organizations under each component. It is not important to complete these steps in a straightforward request, though one can enter the cycle from any point and continue in a typical way. Be that as it may, a fruitful information is taken at all stages in critical thinking (Widgetung, 2).

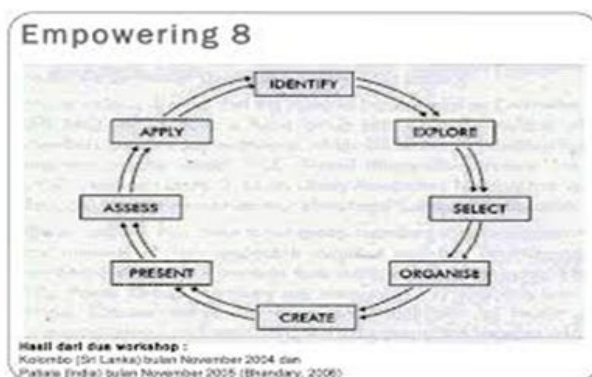


Figure-5: Eight components of Empowering 8 Model (Source: <https://sites.google.com/site/iledusrilanka/>)

6. Big6 Eisenberg and Berkowitz Model:

Mike Eisenberg and Robert B. Created by Berkowitz, the Big 6 is the most widely known and widely used data training approach to managing display data and development tools on the planet. The Big 6 is a data and development proficiency show and teaching project, executed in countless places by state-of-the-art training. Some people call the Big 6 a data base logic method because understudies with Big 6 can manage any problem, assignment, decision or task. The Big 6 is a six-type model that enables anyone to deal with problems or to make decisions using data. The two essential sub-steps in the Big 6 program are a small piece of each required class:



Figure-4.2 Big6 Eisenberg and Berkowitz Model
 (Source:<https://drbmorris.weebly.com/big6—super3.html>)

7. Pappas and Tepe Pathways to Knowledge Information Skills Model:

The Pathways to Knowledge show supported by Follett was created by Marjorie L. Pappas and Ann E. Tepe. Intended for youngsters and youthful grown-ups, the creators push the significance of addressing and real learning. Their emphasis is on a nonlinear procedure for discovering, utilizing, and assessing information. The model incorporates the accompanying stages:

(Source: <http://virtualinquiry.com/inquiry/pathways.htm>)

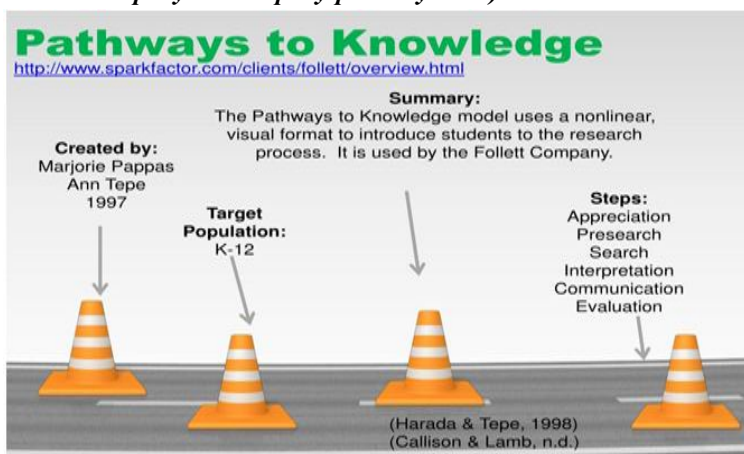


Figure No. 7: Pappas and Tepe Pathways to Knowledge Information Skills Model: 1995
 (Source:<http://www.sparkfactor.com/clients/follett/overview.html>)

8. Definition and Core Competencies Model: 2001:

Digital Information Fluency (DIF) is the capacity to discover, assess, and utilize computerized information viably, productively, and morally. DIF includes knowing how computerized information is not quite the same as print information; having what it takes to utilize specific apparatuses for finding advanced information, and building up the attitudes required in the computerized information condition. As instructors and bookkeepers build up these aptitudes and show them to understudies, understudies will turn out to be better prepared to accomplish their information needs. The accompanying DIF show speaks to the discoveries of the give program’s progressing research around 21st Century information, attitudes and states of mind should have been fruitful online students. Advance evaluating DIF information and aptitudes is spoken to by the accompanying outline. The Digital Information Fluency Model comprises of various choice focuses, every one of which adds to discovering, assessing and utilizing information adequately, effectively and morally. The procedure isn’t exactly as straight as the model delineates, however, to defineskills required and evaluation openings, the model is adequate.

(Source:https://21cif.com/resources/materials/conferences/necc_070506.pdf)

9. INFOhio DIALOGUE Model for Information Literacy :

The Dialog demonstrates includes the accompanying territories that spell Dialog:

- 1) Define - Explore/Identify the requirement for the information; Determine the essential inquiry
- 2) Initiate - “Upsetting obliviousness”
- 3) Assess - Identify watchwords, ideas, and conceivable assets; Consider information education abilities; Tapping earlier information and Building foundation
- 4) Locate - Identify conceivable wellsprings of information; Develop a hunting technique; Locate and recover accessible assets
- 5) Organize - Identify the best and most useful information sources; evaluate the information in good condition.
- 6) Guide - Search log or diary; Student help and audit; Educator help and survey
- 7) Use - Determine introduction design; Present outcomes; Communicate information
- 8) Evaluate - Evaluate the task/comes about; Evaluate the procedure; Assess the instructing and learning.

(Source: <http://virtualinquiry.com/inquiry/dialogue.htm>)

5. CONCLUSION:

Information literacy has assumed center stage in libraries to better utilize electronic resources for information resources, especially by library users. To train library users for information use, LIS professionals need to know more about information handling techniques. Interactive Learner Network (ILN) in higher education is needed to promote the IL model using new ICTs. The purpose of the conceptual SERVICE model is to act as a gateway for the use of a variety of information resources. Further the component -Information literacy need to be incorporated into the curricula of courses for its effective implementation with the support of library staff, who can work along with teaching and learning units.

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Open Source Software

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Abstract :

Open source software is computer software open source software a greater a greater degree of computing responsibility than commercial software. Open source library software's does not need the initial cost of commercial software and enables librates to have greater control over their working environment. Library professional should be aware of advantages of open source software and should involve in their devdopment for Mary libraries organizing book, catalogue system kept organized were difficult to maintain with today camping technology organizing our libraries has never been easier or more efficient.

Introduction :

Today change the concept of library from Traditional library to digital library. There are electronic resources available in CD-ROM, DVD, digital format, repositories floppies, online database, digital archives etc. Information Technology has transformed the whole world into a global village. Nowadays, many open source software are developed exponential growth of knowledge and information made a human technology developed and libraries are not an exception to it. Budgetary provisions in the libraries do not conform to the pace of technology and knowledge output to purchase commercial software it becomes costly in the terms of maintenance, most of the times librarians are not able to procure and acquire commercial software due to financial constraints. The librarians which are not able to invest their money in purchasing commercial software, one can download and use open source software, in the key for making institutional repository.

Open source software is software with source code that anyone can inspect, modify and enhance source code is the part of software that most computer users don't ever see it's the codecomputer.

Definition :

1) The term "open source" refers to something people can modify and share because its design is publicly accessible. The term originated in the context of software development to designate as specific approach to creating computer programs.

2) Open source software is any sort of computer software that's dismantled with its source code available for modification. That means it usually includes a license for programmers to change the software in nay way the choose. They can fix bugs, improve functions, or adapt the software to suit their own needs.

Types of Software :

There are tow main types of software systems software and application software, systems software includes the programs that are dedicated to managing the computer it self. Such as the operating system, file management utilities and disk operating systems.

Main two types of library software :

1) Open source Software :

2) Commercial Software : The software which is bulds up for profit making. The main aim is to earn profit by selling their product. Commercial software is produced for sale, user is unable to modify software for his own needs.

Open source software refers to software distributed in some form which can be freely modified and redistributed open source software defines free software that respects the following four freedoms. Open source software is free for anyone to have more importantly, not only is the software free, but it is also free for anyone to copy, modify. There are many different kinds of open source software solutions out there today that could be embraced by the library. There's basic operating system, document processing programs library management software and digital library software.

Need of open source software :

Thus the philosophy, flexibility, freedom cost and continuity of open source software as an ideal choice.

- i) Use without restriction and reduced cost.
- ii) Libraries outline the any software producer or vendor.
- iii) No dependence on vendor or producer.
- iv) It is more reliable, performance is better, it is more secured.
- v) Matures software.
- vi) Code of software is open to modify, improve and redistribute.

Advantages of open source software :-

- i) Lower software costs – no nay cost expenditure are for media, documentation support if required.
- ii) Lower hardware costs–
- iii) Support – freely available and accessible through the online community via the internet, many companies are now supporting open source with free online and multiple level of paid support.
- iv) Simplified license management – many time software install and many locations as you need.
- v) Quality software – Evidence and research indicate that open source software is good stuff. The peer review process and community standard. Plus the fact that source code there for the world to see.

Selection of Library Management Software :-

There are much library management software which are very popular and being used by number of libraries. Librarians may have the comprehend save study about them before taking decisions in the required. While examining the software, librarians must have the following information about the software which might help to select the right software for housekeeping operations as well as information retrieval.

Open source software for libraries :-

There are many open source software being used in the libraries.

A. Library Automation

- i) Koha
- ii) New Genlib
- iii) Evergreen

B. Digital Library

- i) Green Stone LibSoftware.
- ii) Dspace.
- iii) Eprints.

Open source software provides opportunity to develop digital Library some open source software, with is mostly used for developing digital library.

i) Koha : Koha is promising full featured open source integrated library system currently being used by libraries all over the world. It is the first free open source software for integrated library packages. It is the suitable for various types of libraries for having verifying types size nature and attributes, and maintain an ILS, and Koha is a perfect alternative. Koha is built using library ILS standards and uses the OPAC interface. Koha software can receive Tech support any party has no vendor lock.

ii) New Gen Lib : The new Genlib software was developed over a four year joint effort between professional charitable trust Keshvan Institute and a fledgling software development company first version of this ILS was released in march 2005. Later in 2008 it was declared OSS under GNL, GPL License New Gen Lib is the result of collaboration between specialists in library automation and software specialists.

iii) New Gen Lib : Evergreen Software developed by the Georgia public library service for public information network for electronic service (PINES) a state wise resource sharing consortium with over 270 member libraries in 2007. Evergreen is a an open source integrated library system. Evergreen developed team formed a commercial company of the software, equinox software which provides custom support, development, migration, training and consultation for evergreen.

iv) Green Stone Digital Library : Green stone is a suite of software, which has the ability to serve digital library collections and build new collections. It provides a new way of organizing information and publishing it on the internet or on CD- ROM. Green stone is produced by new Zealand Digital Library Project at the university of Waikato and distributed in co operation with UNESCO and the Human in for NGO. It is open source software. Available from <http://greenstone.org> under the terms of the GNU general public License.

v) D Space : Developed jointly by MIT Libraries and Hewlett. D space is now freely available to research institutions worldwide as an open source system that can be customized and extended. D space is a ground breaking digital library system to capture, stores, indexes, preserve and redistributes the intellect real output of universities research. D space accepts all manner of digital format such as articles, preprints, working paper, technical report pare books, thesis, datasets programs, video files web pages etc.

vi) E-Prints : E prints is the most flexible platform for building high quality, high value recognized as the easiest and fastest way to set up research literature, scientific data, student thesis, project report, multimedia teaching materials. E prints is developed at the school of electronics and computer science, university of Southampton school of Electronic and computer science in 2000 and realised under a GPL License for building open access.

Conclusion :

The open source software is solution to reduce the cost. Libraries can make use of open source software for managing digital content affectivity. The open source software as been found very useful in various library operations. The main features for these open source software are that they are committed to bring changes in new versions according to library changes in new versions to libraries need.

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Impact of Cloud Computing on Libraries

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Abstract :

Cloud Computing is a recent technology that is broadly used in current digital environment. Cloud computing allows to avoid automatically hosting multiple servers and equipment and certainly handling hardware and software package installs upgrades and compatibility problems. Thus, cloud computing technology is gaining strong feedback and its practical application to some extent has been started by companies. Cloud computing is surely the latest revolution in information technology field and its benefits immense. The purpose of this article is to present an overview and utilizes of cloud computing services in libraries. Further it describes cloud computing solution which will be useful to libraries. Cloud computing amplifies processes and save time and money. The impact of cloud computing is one significant in library services. Both public and private institution can use the cloud to deliver better services.

Keywords- Cloud Computing, Library Services.

Introduction :

Cloud computing is the use of common software functionally of business applications from a remote server that is accessed via the internet. Today we live in digital environment. Information technology plays a key role in the entire environment and the library has not escaped from it. Library has also accepted the new concept for its collection, storage, organization, processes, and analysis of information. Library faces several challenges within the profession owing to application of Information technology. New ideas are being added to ease the practices within the libraries. With advent of information technology, libraries became automated that is the basic need towards advancement followed by networks and a lot of effort are towards virtual libraries. Cloud computing technology has grown very fast in the last few years in information technology sector and shown its high growth rate. With the use of internet and centralized remote servers, this technology maintains data and applications for providing services. Cloud computing has given access to its consumers and businesses to use applications without installation and access their personal files at any computer with internet access. This technology allows for much more efficient computing by centralizing storage, memory processing and hand width. This revolutionary technology is the result of the continuous advancement of the data management technology cloud computing web-based applications that are stored on remote servers and accessed via the cloud the internet using a standard web browser. The new expertise tendency in library science is use of cloud computing for diverse reasons and for achieving finances in library function. Since, cloud computing is a new and core locality, the library professionals should be cognizant of it and additionally they apply cloud computing in library research.

Definition :

According to Encyclopedia Britannica, "Cloud computing is a method of running application software and storing related data in central computing system and providing access to customers or other users through the internet".

According to NIST (National Information of Standards and Technology) "Cloud computing is a model for enabling convenient, on demand network access to a shared pool of configurable computing resources. (for e.g. networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimum management effort or service provider interaction".

Advantages of Cloud computing :

Cloud computing is now evolving like never before with companies of all shapes and sizes adopting to this new technology. A list of advantages of cloud computing with a view to helping such establishment fully understand the concept of cloud computing. If used properly and to the extent necessary, working with data in the cloud can vastly benefit all types of businesses mentioned below are some of the advantages of this technology.

1. Cost Efficient.
2. Almost Unlimited storage.
3. Backup and Recovery.
4. Automatic Software Integration.
5. Easy Access to Information.
6. Quick Deployment.
7. Achieve economies scale.
8. Reduce spending on tidy infrastructure.
9. Globalize your workforce on the cheap.
10. Reduce Capital Costs.
11. Improve accession ability.
12. Monitopr projects more efficiently.
13. Less personnel training is needed.
14. Minimize licensing new software.
15. Improve flexibility.

Information Technology service and Cloud computing in Libraries :

The rapid space of change in libraries is affecting information technology service needs in both the library and parent organization. It is common for decisions about information technology platform adoption and administration to be the purview of information technology department that primarily serve the parent organization rather than the library. At the same time, libraries are adopting systems that include large scale data management component's and are turning to a wider range of information service providers. Services are key examples of data rich services being implemented in new data as a service solution.

Types of Clouds and their Applications in Libraries :

Cloud providers typically center on one type of cloud functionally provisioning infrastructure, platform of software application through there is potentially no restriction to offer multiple types at the same time which can often be observed in PaaS (Platform as a service) provides which offer specific application too such as Google, APP Engine in combination with Google DOCS. Due to this combinatorial capability, these types are also often referred to as "Components". The following are the main types of Clouds which are currently in use in libraries as.

- 1) Public Cloud: A public cloud can be accessed by any subscriber with an internet connection and access to the cloud space,
- 2) Private Cloud: A private cloud is established for a specific group or organization and limits accepts to just that group.
- 3) Community Cloud: A community cloud is shared among two or more organizations that have similar cloud requirements.
- 4) Hybrid Cloud: A hybrid cloud is essentially a combination of at least two clouds, where the cloud included are a mixture of public private or community.
- 5) Smart Cloud: Smart cloud is a line of enterprise class cloud computing technologies and services for building and using private, public and hybrid cloud. Smart cloud offerings can be purchased as self-services or managed services.

Conclusion :

Library should improve itself by adopting new technologies. Cloud computing can be a great measure in this regard. Use of this technology will definitely increase the efficiency of library services and libraries will provide more effective and efficient services to its patrons. If we consider the strategic, economic and technological aspects, cloud computing can prove very beneficial and type of outsourcing work for an organization. Cloud computing has a conservable impact even on libraries as compare with the information technology industry, technological firms and infoarmai8on world market. Libraries would have a visible change in future, in terms of housekeeping, operations, services provided and generated. Libraries have a huge scope with the implication of cloud computing to improvise their services and relevance with the information society and to come in the workflow of the information seekers.

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Roles for Libraries in the MOOCs

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Abstract :

MOOCs or Massive Open Online Courses that can be attended by hundreds of thousands of students at the same time have become wildly popular in recent years, and have begun to gain traction with libraries as well. There are potential roles for libraries in MOOCs including development, support, assessment, modeling, teaching and preservation. MOOCs gives libraries new opportunities to help shape the conversation about changes in higher education and to guide faculty and students through these changes. While members of the letter reported and speculated on the roles of libraries in the MOOCs environment. Among those noted were serving as an advocate for different resource licensing models, identifying and organizing public domain images as well as encouraging open access publishing and the use of institutional repository content, among other initiatives.

Keywords- MOOC, Libraries

Introduction :

Massive Open Online Course (MOOCs) are the latest variant of e-learning specifically designed to offer open access to courses to a large number of learners completely free. MOOCs provide an affordable and flexible way to learn new skills, advance career and deliver quality educational experiences at scale. In addition to traditional course materials, such as filmed lectures, readings and problem sets many MOOCs provide interactive courses with user forums to support community interactions among student professors and teaching assistants as well as immediate feedback to quick quizzes and assignments. MOOCs are a recent and widely researched development in distance education. There is no doubt that MOOCs maximum visibility contributed to democratization of education in a country like India. MOOC culture has brought tremendous hope for the unprivileged community deprived of formal education. India has second largest audience for MOOCs after United States of America, as such there are tremendous opportunities as well as challenges for the public and academic libraries to provide necessary support to the MOOC educators and learners. In order to impart quality and affordable education in India a specific MOOCs platform named 'Study Webs of Active Learning for Young Aspiring Minds' (SWAYAM) is launched in 2014 to offer courses in Indian Languages. MOOCs participants requirement for open sources digital textbooks and other supporting materials creates for academic libraries to work with faculty. Although these resources and services may be free to the students who are taking MOOCs to assume this role, librarians must understand the MOOCs landscape. Numerous stakeholders will have an interest in the massive intellectual property that ultimately resides in libraries owned and licensed digital repositories. Studying and adopting technologies to manage and monitor MOOC usage of library resources will be essential to controlling access and lightening internet safeguards.

First MOOCs emerged from open educational resources (OER) movement which was sparked by MIT open course project. MOOC was coined in 2008 by Canadian academician named David Cormier and first MOOC was thought by George Siemens and Stephen Downes in university of Manitoba Canada. MOOCs course entitled connectivism and connective knowledge.

MOOC – Massive open online course

Massive - Massive stands for a large number of course participants. Some of the MOOC courses have registered more than 1.50 lakh registered learners.

Open- In the context of MOOCs. Openness refers to providing a learning experience to a vast number of learning experience to a vast number of learners around the globe regardless of their location, age, income, level of level of education, per-requisites or course fees to access high quality education. Openness also refer to providing open educational resources (OER) e.g. course notes, power point presentations, video lectures and assessment .

Online- Online refers to the accessibility of these courses online on the internet. In some variations of MOOCs learners can learn at least at least in part face to face beside the online interaction possibilities.

Courses-Course stands for academic curriculum to be delivered to the learners in MOOCs.Its an event around a topic that people care about.

Philosophy of MOOCs : Anytime,Anyone,Anywhere

Definition-

Massive Open Online Coures (MOOCs) are course aimed at unlimited participation and open access via the web.

Oxford Dictionary defines MOOCs–

MOOCs a course of study made available over the internet without charge to very large number of people.

Basic Characteristics-

- Free and open registration.
- Publicly shared curriculum.
- Integrate social networking, accessible online recourses.
- Has course facilitators.
- No tuition fees.
- Collaborative
- Students can share work ,critique and received others feedback.
- Internationalizes learning.
- Lack of entry requirements can be taken by anyone who is interested in the subject matter.

Repetition –A MOOC can be run two or three times a year ,ensuring that students wont miss their chance.

High Quality-A MOOCs are led by subject matter experts(SMEs) and supported by teaching assistants.

Feasibility-A MOOC usually necessitates around 1-2 hours of study a week.
Self paced but supported learning.

Types of MOOCs

cMOOCs – connectivism MOOCs imparting learning in networked environment using social network platform blogs, learning communities, etc. cMOOCs are learner centric.

xMOOCs – xMOOCs are based on traditional studying materials and higher education methods of learning involving video leatures and quiz tests as method of evolution xMOOCs are teacher centric.

Quasi MOOCs – Based on web based OERs that are not designed for supporting learning specific tasks lacks social interaction of cMOOCs.

Advantages–

- Subject independent individual courses freedom to choose.
- Anywhere anytime: No geographical or time limitation.
- Asynchronous way of learning
- Multi-media supplement: video, animation, quizzer.
- Simulation and technology enhanced course
- Facilitate pedagogical experimentation

Disadvantages-

- Higher drop-out rate 90% only 10%complete the course.
- Addressing diverse requirement of a large number heterogeneous students enrolled for a course is a challenge for faculty.
- Lower weightage by employers.
- Creation of MOOCs is time– consuming and expensive involving multiple players
- MOOCs courses are not accredited.
- Online evaluation is inadequate provides room for cheating.

MOOCs platforms/ providers

- 1) Edx
- 2) Coursera
- 3) Vdacity
- 4) Vdemy
- 5) P3pu.org
- 6) Khanacademy
- 7) Swayam

Roles for libraries in the MOOCs

The libraries are provide a free and open access to learning resoures .MOOCs provide free and open access to learning opportunities. Libraries meet just intimaae learning needs for foster a strong sense of community connectivity MOOCs in particular might inspire similar positive impacts and augment library learning services. There are multiple roles for libraries in the MOOC development , support, assessment and preservation process.

The following roles for librarians :

- Clearing copyrighted content
- Supporting production- library as content creator
- Preserving MOOC content
- Supporting students

Libraries were supporting MOOCs by copyright clearance, open content promotion, licensing resources, instructional support, production support institutional factors affecting the library's engagement with MOOCs were, nature of MOOCs offered by the institution, institutional coordination of MOOCs, models of MOOC support structure of existing services, staff for library and budget the course structure consists of a combination of short video lectures, suggested reading list and assignments, majority of the test and quizzes are automatically graded. There are numerous stakeholders of MOOCs who will have an interest in the massive intellectual property that ultimately resides in libraries in the form of licensed digital repositories.

Conclusion-

The role for library in massive open online courses and the particular features which characterize them, MOOCs are gaining popularity in libraries due to the interesting opportunities that they present. MOOCs or massive open online courses, have becomes all the rage, with numerous institutions joining forces with both commercial and non profit partners. udacity, courser , edx, swayam and other, libraries are supporting MOOC copyright, licensing and open access.

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Open Source Software Need Libraries in Higher Education

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Abstract :

Open source programming will be, programming that customers can run, copy, proper, study, change, share and improve in any way, shape or form. Open source library programmings needn't waste time with the hidden cost of business programming and enables libraries to have progressively conspicuous control over their working environment. Library specialists should think about the advantages of open source programming and should remember for their headway. They should have basic data about the assurance, foundation and upkeep. Open source programming requires a more conspicuous degree of figuring obligation than business programming. Library specialists don't think about the advantages of open source programming for computerization and consequently are reluctant to use it. They don't be able to assist open with sourcing programming. Today in the time of PC and web most of instructing is still acted in conventional way. In last time we talk a lot about new method for teaching and e-acknowledging, which are related with colossal hypothesis. The expense for programming we can decrease with usage of free/open source programming. That we don't use it much of the time is in light of the fact that we don't have any associate with it and we fear from new things where we need to put some effort. In this paper free/open source programming and developments on the planet will be shown. The benefits of using this product from grade college libraries will be showed up.

Keywords- Open Source Software, Information Technology, Education.

Introduction :

Open source programming is PC programming whose source code is available under a grant that awards customers to study, change, and improve the product, besides, to redistribute it in changed or unmodified firm. It is as often as possible made in an open, synergistic way. It is the most recognizable instance of open source improvement and routinely diverged from customer delivered content. In the progressing time a lot of thought is spent on the e-guidance, which recollects the use of PC for the passing and checking of the teaching matter. Use of the electronic media at first created in the foundations using detachment educating. As of late this media found its way moreover into the customary guidance. When performing e-guidance, fitting extent must be found among:

Open Source Software

Open source programming will be programming with source code that anyone can survey, alter, and redesign. "Source code" is the bit of programming that most PC customers totally never watch; it's the code programming designers can control to change how a touch of programming a "program" or "application" works. Designers who approach a PC program's source code can improve that program by adding features to it or fixing parts that don't for the most part work successfully.

Open-Source Software in Libraries

Various specialists have various thoughts regarding what precisely qualifies as "open-source" programming. As a rule, the term alludes to any program with a permitting understanding that permits you to see and alter the source code, which is a progression of significant level, comprehensible directions that characterizes a specific program and guides the PC. Under an open-source permit, in the event that you decide to disperse your changes of another person's product, you need to do as such under similar terms. Basically, different engineers can see and adjust your source code, similarly as you could see the first code. An open-source permit doesn't necessitate that the product be accessible for nothing out of pocket, however that is generally the situation.

For the vast majority, the Linux working framework is the model open-source application and it's the stage for which most open-source programming was structured. There are several Linux variations that contrast from each other in look, feel and packaged applications, however all offer the equivalent fundamental structure. For more data on Linux and Linux distros, see Further Resources.

Cynics' and Windows fans like to state that open-source programming is "free like a little dog." as such, they contend that the continuous help and preparing expenses of open-source programming will exceed your underlying cost reserve funds. Open-source advocates react that all innovation has backing

and upkeep costs. The genuine Total Cost of Ownership for open-source relies upon which program you're thinking about and your staff's mastery.

Best open source software

1. Libre Office
2. VLC Media Player
3. Audacity
4. Mozilla Firefox
5. Mozilla Thunderbird
6. Kee Pass Password Safe
7. File Zilla
8. Linux

1. Libre Office

Libre Office is an office programming suite that is accessible for Windows, Mac, or Linux, offering records, spreadsheets, introductions, and databases.

While Microsoft Office remains the most well known application for office use, its evaluating model hasn't generally been the most available. More regrettable despite everything is that elective office suites, for example, Open Office can battle to protect arranging from Microsoft documents, and others, for example, Google's G Suite simply isn't so include rich.

Libre Office figures out how to counter the two disappointments by being completely perfect with Microsoft document positions, yet in addition offers an element pressed full help office suite that can do most whatever current ones can offer.

2. VLC Media Player

VLC Media Player is one of the world's most famous free media players and all things considered – it can deal with pretty much any sound record, video document, or media stream you can toss at it, without the need to mess around introducing extra codec's. VLC Media Player gives you a stunning level of authority over playback, letting you streamline video and sound for your particular equipment arrangement.

The most recent expansion to VLC is 360-degree playback, which lets you appreciate vivid recordings with a VR headset, and additionally energizing advancements are seemingly within easy reach to keep pace with new video innovation.

3. Boldness

Regardless of whether you have the prepared money for a sound proof reader, you may decide to stay with open source elective Audacity. It has practically every one of the instruments you requirement for recording and refining sound documents, and any highlights it needs can be stopped with its broad index of expansions.

Daringness is the device of decision for some podcasters, artists and book recording storytellers because of its expert quality outcomes. You can utilize it to consolidate clasps, reorder areas of sound, expel clamour and other undesirable commotions, take vocals from melodies, modify frequencies, and apply impacts like reverberation and reverb.

4. Mozilla Firefox

The program wars give no indication of consummation, however Firefox's open source legacy makes it fantastically adaptable. Its primary intrigue is its assortment of augmentations. With a great many modules accessible at the snap of a mouse, it's anything but difficult to change Firefox into your ideal program.

Firefox is refreshed each five to about two months, and you can get an early taste of the most recent highlights by introducing the beta or partaking in Firefox Test Pilot an approach to test exploratory devices that may be fused into future discharges.

5. Mozilla Thunderbird

On the off chance that you have numerous email accounts – regardless of whether they're with a similar supplier open source email customer Mozilla Thunderbird will spare you time and bother flicking between program tabs and logins. Like Firefox, Thunderbird is an open source venture distributed by the Mozilla Foundation, and is endlessly versatile.

6. Kee Pass Password Safe

There's no lack of free secret key chiefs, yet Kee Pass Password Safe is our preferred open source choice. It's not ostentatious, however it's stuffed with every one of the apparatuses and highlights you could need, including AES encryption of your whole database of login subtleties, two-factor confirmation through both an ace secret word and key document, and secure irregular secret key age.

Kee Pass is modest, and on the grounds that it's a convenient program you can convey it on a USB stick, and gratitude to a broad library of modules, it's anything but difficult to incorporate with your favored program and distributed storage supplier.

7. Document Zilla

In the event that you run your own site, the odds are you'll require FTP programming to transfer documents legitimately to your server. While there are some acceptable existing FTP customers out there, File Zilla is most likely the best free form you can utilize.

It does all that you have to with a document transfer customer, which remains moderately straightforward in any case. On the left sheet, File Zilla presents you with a perspective on your envelope determination where you can guarantee you select your organizer of records to transfer on the right, the sheet shows your area on the server, which will be a comparative looking document tree.

You simply need to guarantee you navigate the organizers on the correct sheet to where you need to transfer your records, for example, inside the Public HTML envelope on numerous Linux servers. At that point it's just an issue of utilizing simplified to move your records to transfer from the left sheet and into the correct sheet.

8. Linux

It used to be the situation that Linux was exclusively the save of nerds and code addicts - it made little endeavor to speak to a wide client base. Those days are since a long time ago finished, and assortments of Linux have put forth a major attempt to be significantly more easy to use for individuals with little on the off chance that anything coding information, and present a genuine adversary to Windows and Apple Mac iOS as choices for running your work area.

These endeavours have assisted with edging Linux toward the standard, as underlined by PC mammoth Dell moving to sell Linux work areas and PCs straightforwardly to people in general. Even better, Windows remains the objective of decision for programmers, so Linux presents itself as a progressively secure other option, insofar as you keep refreshes new.

Another issue from the past times is that most programming applications were created for Windows. In any case, the advance toward distributed computing and program based applications implies that it never again matters which working framework you use for some mainstream applications, so in case you're hoping to maintain your PCs for business instead of gaming purposes then a significant part of the time Linux can be a consummately substantial decision.

Conclusions

Data and Communication Technology has no uncertainty realized colossal change in college libraries, however we are yet to accomplish the ideal degree of IT appropriation in advanced education in the nation. The ideal usage of chances emerging because of dispersion of ICTs in libraries in advanced education framework presents tremendous test. In any case, it has become a key emotionally supportive network for advanced education as it could address a portion of the difficulties confronting libraries in advanced education framework in the nation. Additionally, it can give access to instruction paying little heed to time and topographical hindrances. Correspondingly more extensive accessibility obviously material in instruction which can be shared by methods for ICT, can cultivate better educating. While innovation can impact the manner in which how understudies are educated, it would empower improvement of collective abilities just as information creation aptitudes.

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Benefits and Challenges of Open Education Resources and Indian Initiatives

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Abstract :

This paper introduces Open Education Resources (OER) in the milieu of educational strategy and practice. It is the major role to promoting open education and lifelong learning. Here trying to serve open educational resources, their categories, benefits and challenges. It is especially for academic staff, student and those who want to learn without walls in the 21st century, they can engage through OER. Indian Initiatives also one of the platforms to encourage academicians to continue use with a high expectation that OER will lead to pedagogical change and more learner-centred experiences.

Keywords- Open Education Resources, History of OER, Open Learning Environment, Open Source, Open Culture, Work-based Learning, Public Domain, VET/TVET, and Indian Initiatives.

Introduction :

In reference to "OER" the term "open" commonly means that the resource may be accessed and used by everyone in an extraordinarily non-discriminatory manner, and also conjointly that it can be adapted, modified, and shared. Additionally, specifically, the characteristic of openness addresses the removal of technical, economic, and legal barriers to achieve access to and create use of open educational resources. OER embody a varied variety of digital documents from full course materials, modules, collections, students guide, teaching notes, text books, research articles, videos, images, music, interactive materials like simulations and roleplays, mobile apps, software, databases and the other educationally helpful materials. However, it ought to be continuously in mind that the term 'OER' is not similar with on-line learning, eLearning or mobile learning. Several OERs whereas shareable in a digital format also are printable.

Inevitability for OER-

The growing demand for educational activity and the ongoing rollout of ICT infrastructure and intellectual resources essential to support teaching and research have created massive challenges for educational activity establishments everywhere the globe. It has been estimated that current worldwide enrolments higher education of 165 million can grow by an additional 98 million by 2025. However, this growth is unlikely to be in the middle of equivalent will increase within the human and financial resources obtainable to the advanced education sector. To cater the academic needs of this huge student's population; particularly in developing countries such as India, China, Brazil; where the students have become habitual of using subscribed e-resources and demanding for new educational resources but budget has not been increased, is a big challenge for educational institutions and libraries to support this increased enrolments.

Research and educational institutions worldwide are incorporating Information and Communication Technologies (ICT) into their management, administration and educational programs in order to serve their students more cost-effectively and to prepare them for the world into which they will graduate, postgraduate or Doctorate. In many developing countries, however, access to hardware, software and connectivity is remaining challenges. It is thus vital to adapt educational approaches and learning materials to this atmosphere whereas guaranteeing prime quality and relevant academic opportunities to any or all.

History of OER-

The movement or concept of OER is a part of previous movements towards participatory learning, innovation processes and open access to scholarly knowledge such as the Open Access (OA) movement; the Open Source Software (OSS) movement; or the Open Content movement. After that, a connection first established by the neologism coined by David Wiley in 1998 to be applied to any creative work "and introduced the concept by analogy with open source. It was the "Creative Commons Licenses" which could make "openness" possible, and it has a particular interest in and engagement with educational materials. Open Course Ware from MIT is the best example using it. The two, MIT OCW launched in 2001 and the subsequent international OCW Consortium created in 2005 was key instigator of the OER. Each and plenty of others coping with instructional videos, open textbooks and a broad range of materials at repositories and digital libraries trust on CC Licensing. Even Creative Commons is partnering with academic publishers of educational content. The Cape Town Open Education Declaration released in 2008 that

emphasize and urging governments and publishers to form of public funded educational materials obtainable at no charge via the internet was also a move to strengthen the OER movement. (Cape Town Declaration, 2007). Several countries round the world have built or creating obtainable multilingual OER. European countries, USA, South Korea and a few developing and below developed countries like Asian nation and East Pakistan have additionally build obtainable class 1 to 12 textbooks in digital form under OER. Recently launched NDL project by the Indian Government is also thought-about as a giant step within the OER movement.

Open Education Resources: -

Open Educational Resources (OER), a section of the world open content movement, are shared learning, teaching and research resources accessible beneath lawfully recognized open licenses—free for persons to reuse, revise, remix and redistribute. They will be text, media, courses and additional digital assets. OER has boundless potential for supporting just, inclusive, open and participatory education because it provides educational resources free to be used, it provides accessible and affordable educational choices. The underlying principle behind OER is to produce opportunities to all or any, and to strengthen the democratization of data by creating learning and teaching material accessible at a bigger scale.

High-quality OER will save academics important time and energy on resource development and advance student learning within and open-air the classroom. Further, open sharing of resources has the potential to fuel collaboration, encourage the development of obtainable materials, and aid within the dissemination of best practices.

OER Categories: -

Here we have a tendency to counsel websites and additional online services that deliver OER content. All listed support Creative Commons licensing system. That doesn't mean all content found on these is OER or CC licensed. Wikipedia has an article on Public domain resources. There are many links to educational resources, too. The article is available in several languages, and those versions have been localized to contain public domain resources in their languages. OER Categories are

General search engines –

Creative Commons Search A meta-level search engine by the Creative Commons organization. It works as a simple front end to several search engines. Google Search The general search engine that helps you filter the results including only CC licensed content.

Audio–

Audio clips and music are wonderful in enriching your media, be it presentation, video or website. There are several entertainment platforms available for free music

Cc Mixer- The basic idea of ccMixer is that musicians upload music and producers and DJs remix it. Sign Up in order to upload or download.

Free Music Archive- The search engine of Free Music Archive (FMA) lets you filter your search e.g. according to specific CC licenses. So, if you want to add music to your video, you can easily exclude those licensed as “No Derivatives”. No Sign Up required to download.

Mus Open – it is focused on classical music, Mus Open is a great place to download music and also sheet music. Sign Up to download. The free account plan lets you download 5 files per day.

Images and photos

Photo Sharing that sheds light on choosing a photo sharing platform and presents major photo sharing sites and social media platforms, written particularly vocational education and training in mind.

Flickr and SmugMug Two of the big photograph repositories are merging. Presently they continue as separate services but user accounts and TOS may change during 2018. In addition to users' photos (most of CC licensed) Flickr has a vast Flickr Commons section which has thousands of photos from image archives of museums and similar. SmugMug is only for paid accounts.

Pixabay- Pixabay is one of the best sites to find open, high-quality visual content. Everything uploaded to Pixabay is shared under the Creative Commons CC0 license, meaning that you can use the content without crediting the author. Pixabay shows also content from Shutterstock. They are copyrighted and may confuse the user searching for royalty-free photos. No Sign Up required to download, see also Unsplash which is a similar site for high-quality free content.

Texts, eBooks, and others

Book Boon: -Bookboon's free online textbooks for students are written by experts and professors and cover topics such as economics, statistics, IT, engineering and natural science.

LibriVox Freely available audio books. Public domain audio books and eBooks

WikiBooks -WikiBooks has over 3,000 textbooks that anyone can edit. Topics cover many areas relevant for VET, e.g. computing, engineering, humanities, languages, mathematics, science and social

sciences.

Video-

Video Sharing that sheds light on making and sharing video as OER. It is written particularly vocational education and training in mind.

Vimeo -Vimeo is very similar to YouTube but it supports OER better. It has one of the largest collections of CC licensed videos and make finding these easy.

YouTube -YouTube has the biggest selection of videos and music online. Only a fraction of the content is shared under CC BY license.

Course material and learning modules:

Repositories of training and educational materials offer a range of resources developed by many different organisations and individuals and for different subjects, age groups, purposes. The repositories are primarily attentive on general and/or higher education. However, there are several modules and courses that fit the Vocational Education and Training (VET) goals as well. The three pages in the beginning of the list are such that have a VET point of view.

Technical and Vocational Education and Training (TVET)-

Open Educational Resources in TVET on this page you find a commented list of platforms and services that provide or give access to openly licensed content for Technical and Vocational Education and Training.

Work-based Learning- Work-based Learning (WBL) Toolkit by BIBB, Germany, is a collection of resources (guides, methods, best practices etc.) particularly useful for VET. Materials are free for non-commercial use as long as WBL-Toolkit and original author are attributed. Many resources are available in several languages.

Khan Academy -Khan Academy offers practice exercises, instructional videos, and a personalized learning dashboard that empower learners to study at their own pace in and outside of the classroom. They tackle math, science, computer programming, history, art history, economics, and more. The Adult Learner section has resources suitable for VET/TVET, e.g. on entrepreneurship.

Open Culture- Open Culture provides eBooks, MOOCs, business and language courses, movies etc. Unfortunately, the licensing conventions vary confusingly. For example, courses organized as YouTube playlists may state they are under ordinary YouTube license, not CC BY. That may be because of the “fair use” doctrine in the U.S. law that allow using much of the copyrighted content for educational purposes.

Indian initiative in OER: -

ePathshala: -

The digital India campaign has promoted in depth use of ICTs within the teaching learning method. The ePathshala, a joint initiative of Ministry of Human Resource Development (MHRD), Govt. of India and National Council of Educational Research and Training (NCERT) has been developed for showcasing and distributing all academic e-resources as well as textbooks, audio, video, periodicals, and a diversity of additional digital resources.

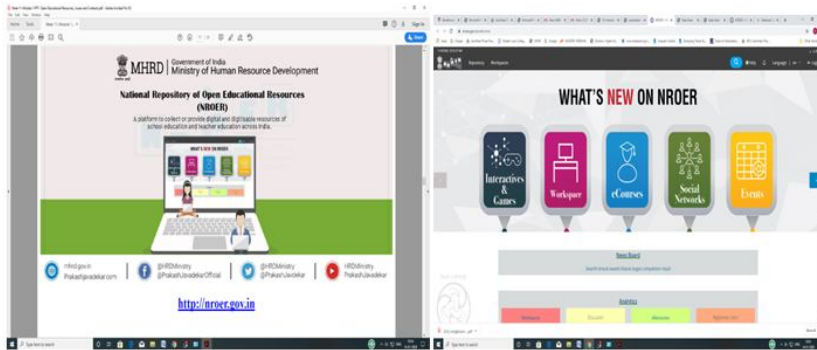


National Repository of Open Educational Resources (NROER)

NROER is a cooperative platform, that brings along everybody interested in school and teacher education.

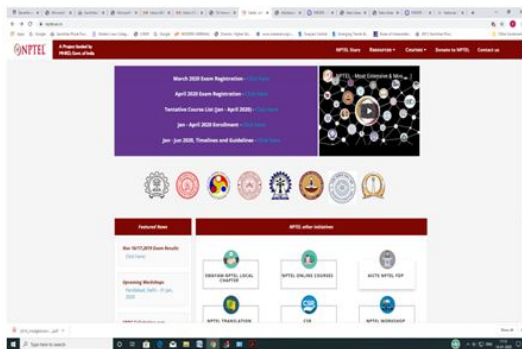
Initiated by the Department of School Education and Literacy, Ministry of Human Resource Development, Government of India and managed by the Central Institute of Educational Technology,

National Council of Educational Research and Training, the Repository runs on the MetaStudio platform, an initiative of the Gnowledge Labs, Homi Bhabha Centre for Science Education.



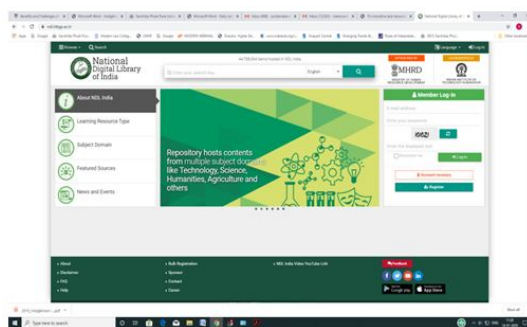
The National Programme on Technology Enhanced Learning (NPTEL)

The National Programme on Technology Enhanced Learning (NPTEL) was initiated by seven Indian Institutes of Technology (Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati and Roorkee) together with the Indian Institute of Science, Bangalore in 2003. The main goal of NPTEL Phase II (2009-14) was to build on the engineering and core science courses launched previously in NPTEL Phase I. An additional 600 web and video courses were created in all major branches of engineering, physical sciences at the undergraduate and postgraduate levels and management courses at the postgraduate level.



National Digital Library of India

Ministry of Human Resource Development (MHRD) below its National Mission on Education through Information and Communication Technology (NMEICT) has initiated the National Digital Library of India (NDL India) test to develop a framework of virtual repository of learning resources with a single-window search facility.



Benefits of OER

- Advancing information by unlocking data for the advantage of all

- Widening participation in educational activity by increasing access to non-ancient learners
- Promoting all-time learning
- Bridging the gap between formal, informal and non-formal
- Sharing information is congruent with the academic tradition
- The general public image of the establishment could also be increased & new students attracted
- Improving recruitment by helping the right students find the right programmes
- Provides a resource for students & faculty that supports learning and collaboration
- Attracting alumni as life-long learners
- Personal gain through increased reputation
- Gaining promotional material or reaching the market additional quickly could end in an economic advantage
- Fostering connections with colleagues round the world
- Conserving a record of teaching innovations permitting others to create upon them
- An independent learner who has access to the Internet can access material from some of the top universities in the world
- OER will promote informal learning, wherever a written document is not required
- Prospective students may access institutions by looking at their materials made available by other institutions

Challenges of OER for educational activity establishments.

- Lack of broadband and alternative technical innovations
- Ability
- Lack of resources to speculate in broadband, hardware & software
- Difficulties in covering value for developing OER or sustaining an OER project in the long run
- Raising funds to undertake OER research Social
- Absence of technical skills
- Unwillingness to share or give away intellectual property
- Unwillingness to use resources produced by someone else
- Assuring quality in open content
- Lack of time devoted to producing shareable materials
- Prohibition to use copyrighted material without consent
- Lack of awareness among academics regarding copyright issues

Conclusion

In a global economy impacted by accessible information via the Internet, independent, self-sustained learning is rapidly becoming more common and enhanced by the Open Educational Resources and other aspects. While we consider becoming a life-long learner a goal for our students, technology has opened the door, creating endless possibilities to facilitate the achievement of this goal, by giving us tools that adoptive learning as a way of life, rather than, or perhaps in addition to, the lofty goal of education achieved with supporting degrees. Additionally, technology is continuing to provide a variety of mediums that enhance the development of information literacy in both student and educator.

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5. National Repository of Open Educational Resources (NROER) <https://nroer.gov.in/welcome> (visited on dated 9th Jan. 2020)
6. The National Programme on Technology Enhanced Learning (NPTEL) <https://nptel.ac.in/> (visited on dated 9th Jan. 2020)
7. National Digital Library of India <https://ndl.iitkgp.ac.in/> (visited on dated 9th Jan. 2020)

Information Literacy Models: An Overview

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Abstract :

Today information literacy has become an important academic product and the user should be educated a part from their day-to-day needs. The Information is getting available in various form in the era of information technology. It require special specials experts to get require Information and its precise use. Owing to availability of Internet facility Information Literacy has received more important. Information literacy has become active part in the field of research and Education. Present paper focused the concept of information Literacy, Definition, History and Information Literacy Models ex. Big 6 Model, PLUS Model, 8W's Model, SCONUL7 Model, Kuhlthau's Model.

Keywords- Information Literacy Model, SCONUL, PLUS Model, Kuhlthau's, Model etc.

Introduction :

In an emerging information based Society it is Essential for Students To learn how to think Actively and Critically About Information Rather than to passively receive pre-packaged Facts Or Materials. The Big Six Problem Solving Approach Is an instruction methodology used to integrate information retrieval directly into any subject curriculum. It promotes critical and analytical Thinking skills by applying the learner's own expertise and expertise and experience to the initial problems solving and information retrieval .As more and more students begin their fact finding by using search engines on the World Wide Web ,University instructors can take on a more significant role in the development of critical thinking skills by introducing information literacy as a natural part of the leaning process. The big six problem solving approach is a teaching strategy that can take everyday situation and create learning opportunities from them. This Approach is Collaborative in nature and used interactive application to engage group of learners full by introducing real life simulated problems to be solved. As the instructor presents specific Problems, Student begin the process of formulating a hypothesis and finding information to support their ideas for proposed solution. The most likely to these solutions are tested sometimes by trial and error and answer that really works, is the deriving force for leach learner to participate actively, resulting in the acquisition of knowledge and problem solving skills individually and a contributing member of the term.

Definition:

CILIP have defined Information literacy as “Information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner.”

SCONUL define Information Literacy as: “Information Literacy people will demonstrate an awareness of how they gather, use manage, synthesise and create information and data in an ethical manner and will have the information skill to do so effectively.”

History of Information Literacy:

The phrase “Information Literacy” first appeared in print in 1974 report by Paul G. Zurkowski, written on behalf of the National Commission on Libraries and Information Science. He used this phrase to describe the “techniques and skills” known by the information literate” for utilizing the wide range of information tools as well as primary source in molding information solution to their problems.” In the Information society, information and knowledge are the basic resources and access to them is a necessity. The central mission of higher education is to make an objective effort to develop lifelong learners. The never changing life style and fascinating changes that are taking place in all walks of life necessitate the incessant learning practice. Education in general and professional in education particular strives hard to ensure the enhancement of learner’s intellectual abilities, reasoning and critical thinking power. It also endeavors to construct a framework for ‘learning how to learn’ and thus providing a foundation for continued growth indicating learner’s role as informed citizens and member of the community. Effective execution of this objective calls for promoting information literacy.

Information Literacy Models:

There are several widely known models of Information Literacy that have been developed through research and evolution. There are many similarities among the models. In fact, there is more agreement than disagreement among the models. Some well known Information Literacy Models are:

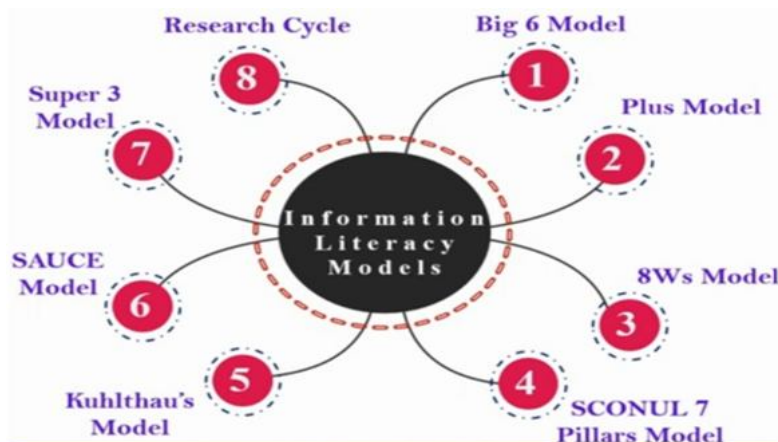


Fig. 1 : Some Information Literacy Models

Big 6 Model:

The Big 6 Model developed by Mike Eisenberg and Robert B. Berkowitz of USA in 2001. The Big6 is the most widely- known and widely-used information literacy approach to teaching information and technology skills in the world. The Big6 is an information and technology literacy model and curriculum, implemented in thousands of school through higher education. Some people call the Big6 an information problem-solving strategy because with the Big6, students are able to handle any problem, assignment, decision or task. Big6 is a six stage model to help anyone solve problems or make decision by using information. Two sub-stage are part of each main category in the Big6 model:

Sr.No	Six Stapes	Description
1	Task Definition	a) Define the information problem b) Identify information needed
2	Information Seeking Strategies	a) Determine all possible source b) Select the best source
3	Location and Access	a) Locate sources b) Find information within sources
4	Use of Information	a) Engage b) Extract relevant information
5	Synthesis	a) Organize from multiple sources b) Present the information
6	Evaluation	a) Judge the product b) Judge the process

Table 1: Six stapes of Big6 Model

PLUS Model:

Invented by James Herring, PLUS is an information literacy model which helps the school students to improve their learning by making them more information literate. PLUS incorporates the elements of purpose, Location, Use and self-evaluation. The PLUS model is viewed as an iterative model and not a

linear model as student may need to return to an earlier stage in the model during their information definition, search and use process.

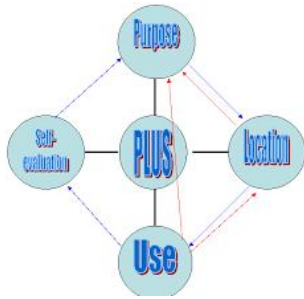


Fig.2: PLUS Information Literacy Model

8 W Model:

The 8W Model for information Literacy was created by Annette Lamb in the mid-1990s. The model is relatively crafted by Eisenberg, McKenzie, Kuhlthau, Pappas, and Tepe. However, a fun similar sounding word usage was utilized to stimulate understudy intrigue and spotlight on the understudy point of view. The understudies known about the 5Ws (who, what, when, where, and why), here are 8 new ones:

1. Watching
2. Wondering
3. Webbing
4. Wiggling
5. Weaving
6. Wrapping
7. Waving
8. Wishing

SCONUL Seven pillars Information literacy model

The Society of College, National and University Libraries (SCONUL) developed the seven pillars of information Literacy model in 1999, and the most recent version was published in 2011. This model has been used to build the learning outcomes for information and research skill. SCONUL update its original 7 pillars framework in April 2011 to account for the changing terminology and concept surrounding information literacy. This new framework is student and outcomes focused.

Sr.No	Pillars	Outcomes
1	Identify	Able to identify a personal need for information
2	Scope	Can assess current knowledge and identify gaps
3	Plan	Can construct strategies for locating information and data
4	Gather	Can locate and access the information and data they need
5	Evaluate	Can review the research process and compare and evaluate information and data
6	Manage	Can organize information professionally and ethically
7	Present	Can apply the knowledge gained: presenting the result of their research, synthesizing new and old information and data to create new knowledge and disseminating it in a variety of ways

Table 2: The SCONUL Seven pillars Information literacy model

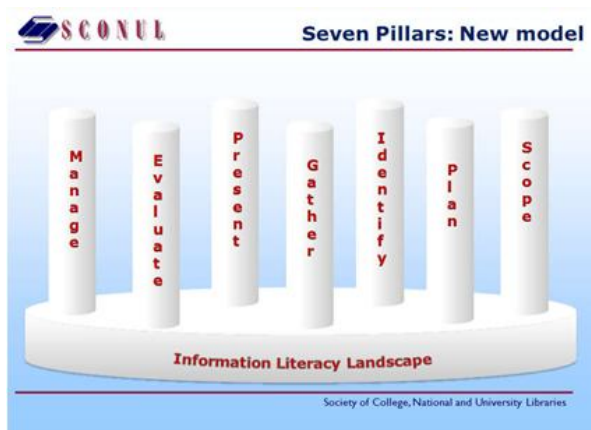


Fig. 3 : The SCONUL Seven pillars Information literacy model

Kuhlthau’s Information Search process Model:

This model was developed by Carol C. Kuhlthau, Professor of Library and Information Science at Rutgers University in New Jersey in 1988. It is a six stage model; task initiation, selection, exploration, collection and presentation present a holistic view of information seeking from the user’s perspective.

A brief description of six stage of Kuhlthau’s Information Search Process Model is as shown in table 3 given below:

Sr.No	Six Stage	Description
1	Initiation	When a man initially winds up mindful of an absence of information or comprehension, sentiments of vulnerability and trepidation are normal
2	Selection	When a general zone: subject, or issue is distinguished, starting vulnerability frequently offers a route to a short feeling of confidence and an availability to start the hunt.
3	Exploration	When conflicting, contradictory information is experienced, vulnerability, disarray, and uncertainty as often as possible increment and individuals wind up “in the plunge” of certainty.
4	Formulation	When an engaged point of view is framed, vulnerability lessens as certainty increments.
5	Collection	When information related to the engaged point of view is assembled, vulnerability dies down as intrigue and inclusion extends.
6	Presentation	When the search is completed with a new understanding enabling the person to explain his or her learning to other or in some way put the learning to use.

Table 3: Six stages of kuhlthau’s information search process model

Other Information Literacy Models:

- SAUCE Model
- DIALOGUE Model
- Super 3 Model
- The Research Model
- The Alberta Model
- Action Learning Model

- EMPOWERING-8 IL Model
- Follett's Information skill Model

CONCLUSION:

The Important of Information Literacy is increasing day by day. Its application has been increased due to computer and computer based facilities there work computer literacy, Information Literacy and Information Literacy are considered at equal level. Computer Literacy makes utilization of Hardware & Software application. It is important to understand use of information literacy to solve problems in the field of Research. Further more it is crucial to understand searching information understanding its meaning which are intellectual process. The Information Literacy has coming to role because of explosion of Information. Different models are proposed at National and Information level stressing the combination of information literacy inside the modules.

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Information Literacy Initiatives by College Libraries

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Abstract

Libraries have long been involved in training the users to use the library, its services and resources. Terms such as library orientation, user education, library instruction, bibliographic instruction have all been used at various times to indicate the process of guiding users how to use the library, how to access information and use various bibliographic tools. These methods are facility specific instructions that are helping users in knowing physical location of different sections, staff, collections and services of the library. Acquiring the information and skills to deal with the information in the digital form is very crucial in today's world. Information. Literate person can take on the challenges by the digital age.

Key words: Information literacy, Initiatives, Training.

1. Introduction

Now days the instructional needs of the library users have changed dramatically due to, the transformation of libraries from traditional to digital form. In this changed scenario, information is being codified in digital forms, new methods for teaching and learning have emerged. The digital environment has created a great challenge for both the library professionals and library users. Acquiring the information and skills to deal with the information in the digital form is very crucial in today's world. College campuses have responded by acquiring computer technology and encouraging computer literacy, especially this environment is seen in engineering colleges. The curricular implications of this information age are that students need to learn new skills such as how and when to use information to solve the problems. These skills include Computer Literacy, Technical Literacy, Digital Literacy and Library literacy. These specific skills are included in the broader term Information Literacy.

1.1 Literacy

Traditional literacy has been commonly defined as the pricy to read and write at an adequate level of proficiency that, is necessary for communication. Literacy has taken as several meanings. Technological Literacy Mathematical literacy and Visual Literacy etc. While it may be difficult to gauge the degree to which literacy has an impact on individuals overall happiness, one can easily infer that in increase in literacy will lead to the improvement of an individuals life and the development of the societies.

1.2 Information Literacy

"To recognize when information is needed and have the she ability to locate, evaluate, and use effectively the needed information.

-American Library Association

Information literacy is the set of skills needed to find, analyze, and use information.

Information literacy is the set of skills needed to find, analyze, and use information .actively regardless of delivery mechanisms and the type of format in which the information appears in the global information society.

Some different literacy concepts related to the information literacy. These terms are added with the literacy In the changing environment time to time.

1.3 Role of librarian

It is important, however, that librarians reach a common understanding concept when speaking to each other, and when discussing information literacy with other users such as teachers, IT-star and school leaders it might be useful to take a look at the various attempts to define and describe information literacy in order to reach common ground. It must be emphasized, though, that information literacy should be viewed as a context-dependent concept, where the individual's situation and purpose play an important role. The definitions may serve as an inspiration for discussion among librarians and other users on how to define information literacy in their particular context.

1.4 Information skills

- The knowledge to recognize a need for information the knowledge of access the needed information effectively and efficiently.

- To know the evaluation of information and its source critically.
- Use information effectively to accomplish a specific purpose.
- Understanding the economic, legal and social issues surrounding the use of information, and access and use information ethically and legally.

1.5 Objective of information literacy

- 1 To forms basis for lifelong learning.
- 2 To enable learners to master contents and extend their investigation.
- 3 To become more self-directed.
- 4 To assume greater control over their own learning.
- 5 To construct alternative strategies to reduce the information gap.
- 6 To access t effectiveness of a strategy.
- 7 To acknowledge the sources on information and ideas, and
- 8 To store the information for future use.

1.6 Scope of Information Literacy

Scope of information literacy includes range of literacy and that is -

- 1) **Traditional literacy** - To read and write.
- 2) **Computer Literacy** - To understand and operate computers those are interface between information and ends users.
- 3) **Media Literacy** - For Library users consists of two aspects, knowledge or networked information and skill to locate select evaluate and use the networked information.
- 4) **Traditional Information Literacy** - To locate, select evaluate and use information effectively.
- 5) **Knowledge Literacy** - To acquire and understand with the experience and try to implement for others use.

2. Why Information Literacy in College Libraries

The us of college library are most of the student and researcher. They need their information but there were unknown about how to use library to bring out their proper information.

How to use library, how to find out proper information, reorganization of information related to their need, how to evaluate that information and success. To student were always guided by their senior about the use of books.

It will helps to develop problem solving skill and information identification and evaluation skill among student and researchers.

2.1 Information Literacy Program in College Libraries

According to Dr. S.R. Ranghanathn, II & III lawas, every books has its reader & every readers had his / her books, for these should know all the material in our college library. Library can perform following program. For information literacy in college libraries.

- 1) **College Prospectus:-** Information regarding library collection and services one mentioned in college prospectus which is also updated every year.
- 2) **User Orientation and Training Programme:-** every year orientation program is going to orient fresher's about the facilities and services provided by the library ensure optimum use. Time to time library organizes training program for all students, staff to introduce about casting services as well as new things added in the library.
- 3) **Book Bank Scheme:-** Our library is providing book scheme the main objective of this scheme is to provide books to student who is belonging to every poor economic condition. Books were using up to the University exams.
- 4) **Book Exhibition :-** Every year one on the occasion of iLirth, anniversary of Dr. S. R. Ranghanatham, on day book exhibition were organizes to aware the users regarding availability of books in their respective subject.
- 6) **Display of New Books :-** As and when books are purchased by our library offer processing books were 'immediately display on new books display board to aureate users regarding library resources.
- 7) **E-Library Facility:-** Today in the IT era internet become the prime need our library facility. Our college is member of N-LIST provided by UGC INFIIBNET. Through N-LIST thousands of .e-books, e-journals, were access by the student and faculty members.
- 8) **New Paper Clipping:-** We are providing this facility every day a new article about, University news, career, employment, personality development and many more were display on the notice 'board, the impact of this facility is student were aware about the new things.

Book Talk :- Every year library is organizing book talk and arranges the lecture expert.

2.2 Information Literacy programmes to be followed in the library.

Information literacy programmes with follow themes may be followed in the library.

- 1) Guidance to cite electronic information.
- 2) Guidelines for searching effectively different search engines and databases.
- 3) Interactive tutorials to teach the users.
- 4) How to evaluate the quality of information.
- 5) Organizing expert lectures on Information.
- 6) Special user education-programms on ICT based library resources and services.

2.3 Inclusion of Computer literacy training in information literacy programme

Training on computer literacy skills may be covered in information literacy programmes as follows.

- 1) Basic computer skills (Working in windows environment, file management etc.)
- 2) Software packages (Power point, Word, Excel)
- 3) Emailing.
- 4) Introduction to your library information Communication Technology (ICT) based resources.

2.4 Librarian - Teacher collaboration for successful Information literacy Initiatives

Collaboration between librarian and teachers is essential to enhance students learning and research, and help them develop their information competencies thus make them information literate.

Carlson, C and Brosnan, E (2009) suggested strategies for Teacher Librarian collaboration for guiding students in to information literacy. They are the view that teacher - librarians can instruct students in important information literacy skill collaborating with each other teachers librarians can suggest ways to improve assignment in order to involve students more critical thinking and less information gathering. The further added as follows.

1. Teacher librarian can guide students in how to extract information from the resources that are available to them in the school library, including print and electronic resources.
2. Teacher-librarian can also help students realize the proper and effective use of the internet.
3. Teacher-librarian can provide path finders on research topics.
4. Teacher-librarians are able to help teachers assess the research part of assessments.
5. Teacher - librarians can suggest possible rubrics to evaluate the research part of the assignment or they can actually help-teachers develop rubrics.

3. Suggestions

- 1) To initiate the IL practices, firstly, the librarian and supporting staff must seek training on information literacy.
- 2) College should have a separate funding and the other measurable support for an information literacy activities.
- 3) Technological infrastructure needs to be implemented to enable better utilization of the resources which are subscribed by the library.
- 4) Information literacy activities should be included in the job description of librarian and subscribed by the staff.

4. Conclusion

Information literacy is gaining momentum. It is found essential to make information literacy programme a regular activity in academic libraries. Library professionals are slowly and steadily acquainting with the technological gadgets and showing interest in guiding the users in the information search and accessing the information through many means. It is advisable to collaborate with other units and sections such as computer and administrative divisions including teaching. The need of the hour is effective utilization of information and communication technologies in planning, designing and delivering information literacy programmes.

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Library and Information Science Open Access repositories

Jawale J.N.

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1. Introduction

Institutional Repositories is an online archive of research output of an Institution which collects, manage and disseminate the result to the world through IR's. It may includes the various type of institutional research output such as Thesis, Research articles, dissertations, CD's, syllabus notes etc. Repositories are digital in nature. It has a centralized collection of its staff which is systematically arranged. The access may be to the members of an institution or can accessible to all according to the policy decided by the repository.

Institutional Repositories are a development in managing digital objects for effective utilization. It may include various research output of an institution published or unpublished Institutional repositories support the open access movement, through which the research output can be accessible and available to anybody in the world.

Institutional repositories help in providing open access to many journals, e-books, video lectures, and in house publications of the institutions. The Institutional repositories support the OAI through which they provide open access to their in house publications as well as other documents. In simple language open access means it is freely available and permits the user to read, download,, distribute, print etc, or use the document for any lawful purpose by giving the credit to the author through citation.

Definition

According to Clifford Lynch "Institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including long term preservation where appropriate, as well as organization and access or distribution."

2. Benefits of Institutional Repositories

According to Swan Alma there are many benefits of IR to the Institution, to the author, to the users etc.

2.1 Benefits to the Institution

- It increases the visibility of the Institution to all over the world
- It Acts as an advertizing tool to the Institution.
- It enables and encourage inter disciplinary research
- Facilitating the development and sharing of teaching materials and other aids
- The academic output of an institution can be presented in one place rather than just spread amongst various journals. Putting it on open access Institution repository increases the visibility and prestige of an Institution. The quality of academic output forms an effective advertisement for the institution.

2.2 Benefits to the Author

- Author can have all his/her research output in a place
- Increase the citation of an article

Research papers that are freely available online, on an average better visible and used more often than those that are not free. Publishing academic output in an open access repositories increases the profile of an author increasing both dissemination and impact of the research they undertake.

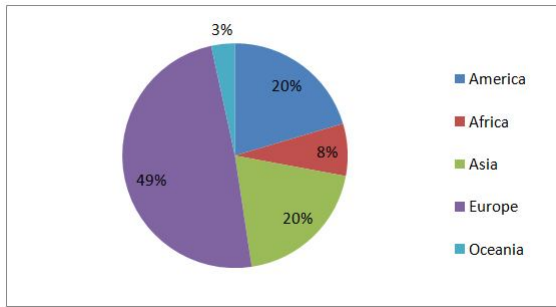
2.3 Benefits to the user

- Users can search the articles for free
- Users can access full text or can access partially
- Unpublished documents can be accessed by the users

3. Methodology and scope

The Directory of open access repositories (openDOAR) are used for the present study. And the scope is limited to the only Library and Information science Institutional Repositories of the world.

4. Worldwide Scenario of Library and Information Science Institutional Repositories

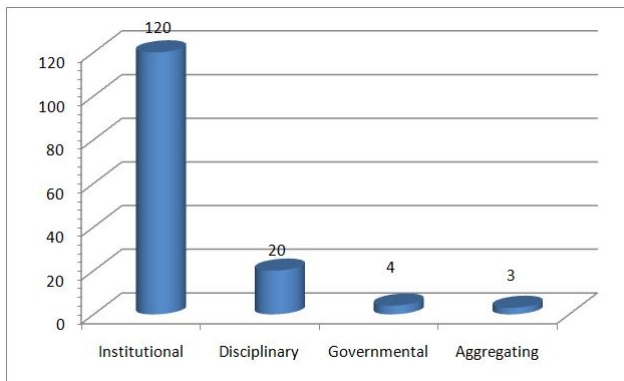


Source OpenDoar

According to the Open DOAR (Directory of open access Repositories) there are 5303 repositories all over the world and, the total 147 IR of Library and information science

The America has 30, Africa has 11 IR Asia has 29, Europe 72 and Oceania is 5 IR in Library and information science. Out of 93 IR in India only 6 repositories are of Library and information science subject from India.

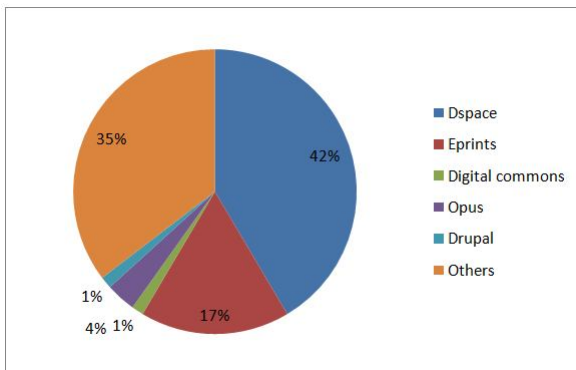
4.1 Types of Open Access Repository in Library and Information Science (world)



Source Opendoar

There are 120 (82%) repositories are of the Institutions; 20 (13%) are Disciplinary; while 4 (3%) are of Government and 3 (2%) are of Aggregating types. Here the percentage of Institutional repositories is more in numbers.

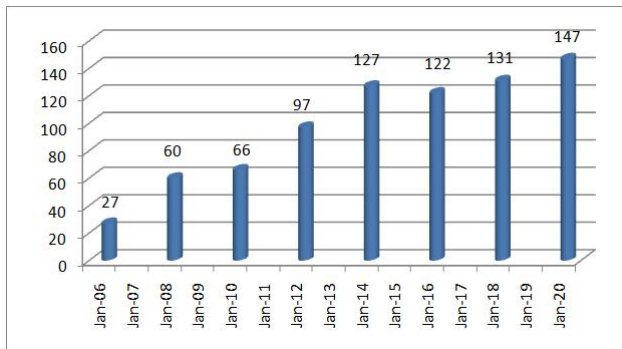
4.2 Use of Software by the Open access repositories in Library and Information Science



Source Opendoar

More than 40% open access repositories used Dspace software for the repository; 17% Uses Eprints; 1% used Digital commons; 4% used OPUS; 1% repositories Drupal software and 35% repositories used other software . Majority of the repositories used Dspace and Eprints.

4.3 Growth of the repositories



Source Opendoar

After the year 2006, the growth of open access repositories is double in the year 2008, then it is slowly growing and in 2012 and 2014 it grows but in 2016 it decreases from 127 to 122 and then again increases to 131 in 2018 and 147 in 2020. The numbers of repositories are growing continuously.

5. Library and information science institutional repositories in India: Indian Scenario

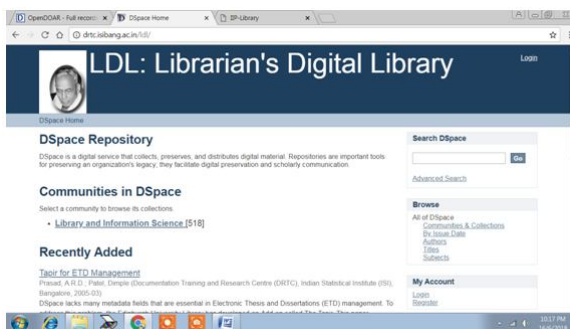
In India there are total 93 IR out of which 6 are the Library and Information science institutional repositories such as DRTC Bangalore; INFLIBNET's Institutional repository; Indian Institute of Petroleum; CSIR-NPL National Physical Laboratory, SDM college of Engineering and Technology Dharwad and OneWorld south Asia open archive

5.1 Institutional Repositories of India (Library and Information Science)

Name of IR	No of records	Software	URL
DRTC, Bangalore (librarians digital library)	628	Dspace	http://drtc.isibang.ac.in/ldl/
SDM college of Engineering & Technology, Dharwad	60	Dspace	Not found on given link
Indian Institute of Petroleum library, Dehradun	481	Dspace	http://library.iip.res.in:8080/dspace/
INFLIBNET	1856	Dspace	http://ir.inflibnet.ac.in/
CSIR-National Physical laboratory, New Delhi	3093	Eprints	http://npl.csircentral.net/
OneWorld south Asia open archive Initiative	91	Eprints	-

Out of 6 repositories 4 are using Dspace and only one repository is using Eprints digital library software, It can be say More number of institutional repositories are using Dspace in India and as well as at world level. The SDM college repository is not found on the given link

5.2 DRTC Bangalore (Librarians digital library)



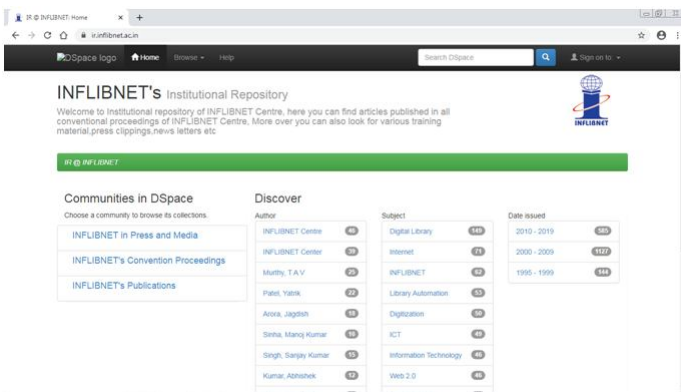
It is a subject based repository of library and information science from the Indian statistical institute, Bangalore. The gives alerts for newly added content to the registered users through e-mail. Its policy is explicitly undefined. There are no uploads after the December 2014 onwards.

5.3 Indian Institute of Petroleum



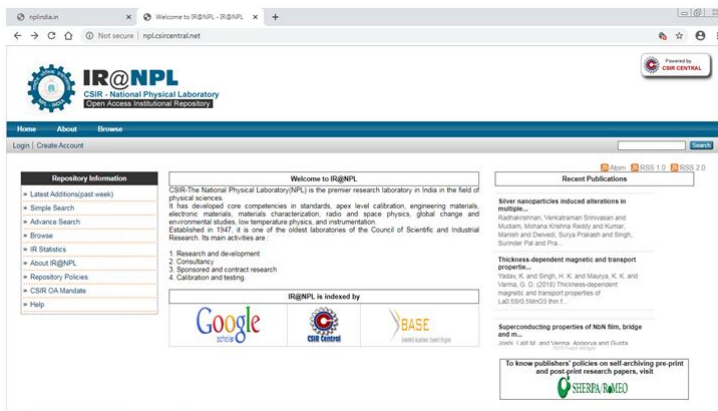
This institutional repository contents is articles. It provides access to the research output of the institution. The Policy has explicitly undefined, such as metadata re-use; full data items; content policy; Submission Policy and preservation policy.

5.4 INFLIBNET: Institutional Repository



The INFLIBNET repository contains the proceedings from National and International conferences such as CALIBER and PLANNER. The registered members get e-mail alerts for newly added documents. Its policy is not defined.

5.5 National Physical Laboratory



The CSIR-NPL National Physical laboratory, New Delhi. It has output of its Institutional scientists, it includes journals, conference papers, technical reports, Preprints, Books chapters and presentation materials. Anyone can access the metadata freely. The metadata may be re use for not to profit purpose

and it must not be re use for commercial purpose without the prior permission. Copies of full items can be reproduced, displayed or performed, given to third party and store in any format for personal research, educational and not to profit purpose provided the authors, titles and full bibliographies are given.

Name of IR	Content	Date (created)	Last Reviewed	Content Policy
CSIR-NPL	Articles, conference, unpublished, Books, Multimedia, Patent etc	29/07/13	04/12/19	Well Defined
IINFLIBNET	Conference / Workshop papers	01/04/15	17/10/19	Not defined
Indian Institute of Petroleum	Journal Articles	10/08/11	17/10/19	-
DRTC Librarians digital library	Articles , conference, theses, multimedia	22/12/05	04/12/19	Defined
One world South Asia open archive Initiative	Journal articles	11/08/06	17/10/19	Defined
dspace@sdmcet	Bibliographic references, Thesis/dissertation, etc	04/05/11	17/10/19	-

6. Conclusion:

US, Japan and UK are leading in the number of repositories compare to the other countries in the world. It is concluded that the Institutional repositories of Libraries are using mostly Dspace and Eprints software .for creating the repositories. India is having only 6 IR of Library and information science and two IR is not accessed as webpage is not opening. Only CSIR-NPL repositories policy of use, policy of uploading, etc are explicitly defined. Librarian's digital library and One world south Asia open archive initiative have defined policy.

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Models of Government (National) Information Literacy & Lifelong Learning Policy Statements

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Abstract

Government - Wide (National) Information Literacy & Lifelong Learning Policies .Information And Communications ministry/Sector Information Literacy & Lifelong Learning Policies .Education Ministry/Sector Information Literacy & Lifelong Learning Policies .Information And Communication Technologies (ICT) Ministry/Sector Information Literacy & Lifelong Learning Policies .Culture ,Ethnic, Language, Race, Religion Ministry / Sector Information Literacy & Lifelong Learning Policies .Local Development Ministry / Sector Information literacy & Lifelong Learning Policies .Science And Technology Ministry /Sector Information Literacy Policies .

Keywords :- Information Literacy, Models of Government literacy, Lifelong Learning Policies

1. Introduction

The national government, as well as its individual public and private institutions and organizations the national government should formally and officially reiterate and adopt the United National the President and/or the Prime Minister should designate a lead focal ministry and assign to a senior level official within that ministry Individual ministries should formally and officially put in place education and training information literacy Individual ministries should consider the cost of creating , and making available government information to the public The development of a national information culture, and the development of information literacy & lifelong learning deduction The national government should seek ways to partner with academia, the commercial for-profit sector This ministry should develop public awareness - raising programs, information literacy into the curriculums of those entities in general The ministry should work with the three lead information literacy The ministry should work with non-formal education and training enterprises information literacy and cultural literacy are closely related concepts, and they are counter-dependent.

2. Key Definition

Means well-versed in a particular subject, lettered,erudite,conversant,informed,widely-read,enlightened or well-grounded: literate people are not necessarily scholars, geniuses, or experts.but,rather,they know the facts associated with, and are able to understand and comprehend a particular subject very well, such as history,science,art,and so on, and they often 'profit by 'their literacy in both tangible.

3. Models of Information Literacy

The national government , as well as its individual public and private institutions and organizations, should formally and officially declare and affirm that public information is a strategic national resource and asset that is required by all kinds of enterprises (both public and private), and by all citizen regardless of gender, age, race, religion, ethnic group, linguistic group, or-other socio-cultural variables: in this respect, a vision statement should be prepared that lays out clearly the general definition and the role of a national information culture, including guidelines and standards for defining what an information literate government and an standards for defining what an information literate government and an information literate citizen should be: in so doing, the country will be in a much better position to reach its other national political , economic and socio-cultural goals

1. The President and/or the Prime Minister should designate a lead focal ministry and assign to a senior level official within that ministry overall responsibility and authority to coordinate the government's information culture planning, design and development, and information literacy & lifelong learning education and training strategies, plans, programs, projects and other initiatives: the designated minister should establish an information culture and literacy training coordinating committee composed of representatives from other ministries with a role to play in this area, especially those ministries and sectors identified below
2. Individual ministries should formally and officially put in place education and training information literacy & lifelong learning programs that would enable and empower both their own staff personnel, as well as the government's constituencies which those ministries serve

- (i.e.individual citizens, businesses, or whatever the clientele) to become not only computer literate and media literate, but information literate as well, and thus be able to fully enjoy and employ their human right of access to public information
3. Individual ministries should consider the cost of creating , and making available government information to the public as an integral cost of doing business, not an an overhead expense, and directly budget public information dissemination as a line item in ther budgets
 4. The development of a national information culture, and the development of information literacy & lifelong learnig deduction and training programs for both ministry staff personnel as well as the various constituencies they srve, must be cast in white explicit and concrete tems as major public policy programs, and clearly identifiable funds must be earmarked as a budgetary line item for those purposes
 5. The national government should seek seek ways to partner with academia, the commercial for- profit sector, and the not-for-profit sectors of the country, so that the respective strengths of each of these three major sectors are mobilized and harnessed in collaborative and complementary so that the respective strengths of each of these three major sectors are mobilized and harnessed in collaborative and complementary modalities, in order to more efficiently achieve the overall national goals of developing an information culture and training citizens in all walks of life to become information literate

Information And Communications Nintiry / Sector Information Literacy & Lifelong Learning Policies

This ministry should develop public awareness - raising pro- grams, and stage appropriate public events, designed to raise the consciousness level of higher, middle level, and lower level policy- makers and executives, as well as professionals and tech- a national information culture, and the importance of moving toward a national information culture, and the importance of all citizens becoming computer literate, media literate, and information literate ": such programs should have the airm of explaining clearly, and amplifying such explanations in more detailed promulga - tions, as to just what the concept of an information culture ' for the country means, what ' information literacy' is, and how the two concepts are inter- related, and contrast with the closely related concepts of computer literacy and media literacy

Education Ministry/Sector Information Literacy & Lifelong Learning Policies

This ministry should work with both formal and non- formal (vocational and technical) education and training institutions and organizations for the purpose of integrating computer literacy, media literacy, and information literacy into the curriculums of those entities in general

The ministry should work with the three lead information literacy departments and faculties of higher education institutions computer science, library science and management - in formal educational institutions such as selected important universities , to integrate an information literacy compnect into the curricu- lums of each department, its curriculums, and its faculty training and development programs

The ministry should wok with non- formal education and training enterprises (those involved in vocational and technical educa - tion) for the purpose of suggesting ways those enterprises can also interact an information literacy component into their pro- gram

Information And Communication Technoloeges (ICT) Ministry/Sector Information Literacy & Lifelong Learning Policies

This ministry should develop plans, policies and programs designed to explain and illustrate (through pilot projects) how ICT technologies should and can work closely together with schools, libraries, and individual library and information profess - signals that are responsible for information content : for example, how public libraries at the local community level can work more effectively with telecasters and community resource centers, as well as cyber cafes, so that the strengths of each are harnessed in a collaborative and complementary mode for the benefit of local citizens

Cultue, Ethnic, Language, Race, Religion Ministry/Sector Information Literacy & Lifelong Learning Policies

This ministry should promulgate a vision statement and a set of policies that links together the ideas of cultural literacy and infor- motion literacy, so that they two concepts are viewed as part news that can and should play a key role in helling the country achieve its political, economic and social goals

Local Development Ministry / Sector Information Literacy & Lifelong Learning Policies

This ministry should promulgate a vision statement and a set of policies that inter- relates the elements of race, religion, gender, ethnic group , and related broad demographic characteristics, in the context of a comprehensive articulation of how they are all inter - dependent and counter o dependent elements of a national information culture, and address programs and projects designed to bring about

such an information culture: information literacy and cultural literacy are closely related concepts, and they are counter- dependent

Science And Technology Ministry/ Sector Information Literacy Policies

This ministry should promulgate a vision statement and a set of policies that links science and technology to information literacy in the context of scientific and research , as well as economic, and socio- cultural national goals and programs : in short, the statement and the attendant pram should clearly point out how science and technology can contribute directly to achieving an information literate citizenry, as well as the reverse, on how an information literate citizenry an contribute directly of achieving advancements in science and technology.

Cloud Computing

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Abstract

Academic libraries are continually evolving to adapt to changing methods of research, teaching and learning. This evolution includes creating or acquiring tools and resources to serve students and faculty. This article briefly explains the concept of cloud computing, role of librarian, position of librarian in emergence of cloud computing and role that a librarian could undertake within the research, production, and implementation of cloud computing.

Introduction:

Definition of Cloud Computing by NIST, "Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. This cloud model is composed of five essential characteristics, three service models, and four deployment models."

Cloud computing provides three different services named Infrastructure as a service (IaaS), Platform as a service(PaaS) and Software as a service(SaaS). As digital platforms are evolving so rapidly. So, Librarians need to catch up with new technologies and use it in large amount to make academic libraries digital.

Why Cloud Computing ?

Cloud Computing is the on-demand availability of computer system resources, especially data storage and computing power, without direct active management by the user. The term is generally used to describe data centers available to many users over the Internet. Large clouds, predominant today, often have functions distributed over multiple locations from central servers. If the connection to the user is relatively close, it may be designated an edge server. Clouds may be limited to a single organization (enterprise clouds), or be available to many organizations (public cloud). Cloud computing relies on sharing of resources to achieve coherence and economies of scale.

Advocates of public and hybrid clouds note that cloud computing allows companies to avoid or minimize up-front IT infrastructure costs. Proponents also claim that cloud computing allows enterprises to get their applications up and running faster, with improved manageability and less maintenance, and that it enables IT teams to more rapidly adjust resources to meet fluctuating and unpredictable demand. Cloud providers typically use a "pay-as-you-go" model, which can lead to unexpected operating expenses if administrators are not familiarized with cloud-pricing models. Cloud computing provides three different services:

1. Infrastructure as a Service(IaaS):

NIST's definition of cloud computing describes IaaS as "where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications. The consumer does not manage or control the underlying cloud infrastructure but has control over operating systems, storage, and deployed applications; and possibly limited control of select networking components (e.g., host firewalls)."

IaaS-cloud providers supply these resources on-demand from their large pools of equipment installed in data centers. For wide area connectivity, customers can use either the Internet or carrier clouds (dedicated virtual private networks). To deploy their applications, cloud users install operating system images and their application software on the cloud infrastructure. In this model, the cloud user patches and maintains the operating systems and the application software. Cloud providers typically bill IaaS services on a utility computing basis: cost reflects the amount of resources allocated and consumed.

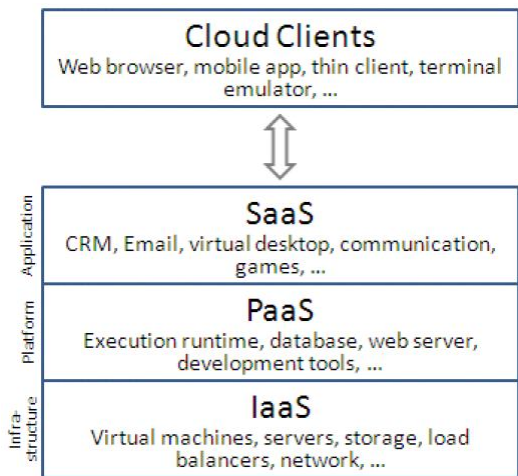
2. Platform as a Service(PaaS):

The NIST's definition of cloud computing defines Platform as a Service as: "The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages, libraries, services, and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers,

operating systems, or storage, but has control over the deployed applications and possibly configuration settings for the application-hosting environment.”

3. Software as a Service(SaaS):

The NIST's definition of cloud computing defines Software as a Service as: “The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure. The applications are accessible from various client devices through either a thin client interface, such as a web browser (e.g., web-based email), or a program interface. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities, with the possible exception of limited user-specific application configuration settings.”

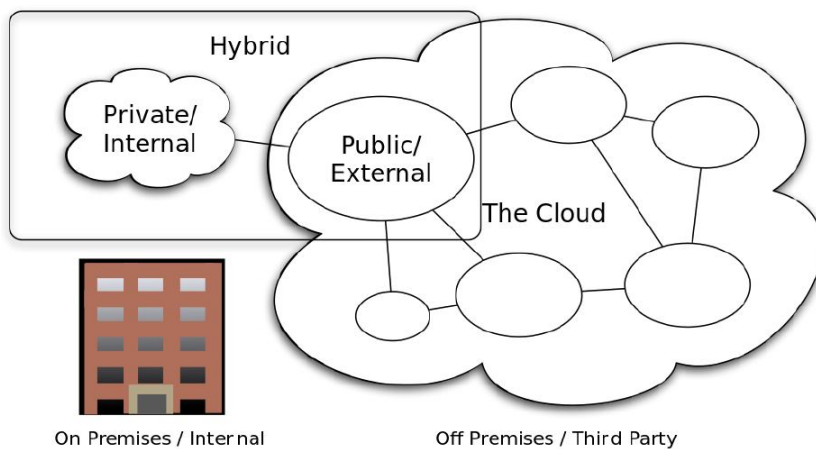


Cloud computing service models arranged as layers in a stack

Use of Cloud Computing in libraries:

As we are in the era of digitization, academic libraries need to grab this opportunity and make libraries full pledged digital, which would be accessibly to everyone effectivly with more resources. Academic libraries can use cloud computing services, which would not require technologically skilled employees and basic knowledge of software handling is enough. There are different types of libraries across the globe. Some libraries wth huge amount of resources (in terms of Books, Journals, Papers, Encyclopedia). Cloud computing can be used by may users at one time through public cloud computing. Resources of one of the resourceful library can be made accessible to library which lack in those resources.

Some of the academic libraries are technologically developed, those libraries can deploy their services on cloud platform. So that academic libraries can use those services through layers of cloud computing, which are discussed above. Also we can use cloud computing in different ways as shown in below figure.



Cloud Computing Types

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Libraries can store their resources in private cloud those they do not want to share and in public cloud those they want to share. Hence, Small libraries can get benefited by those resources and they do not need to deploy servers, operating systems in their premises.

1. Advantages of cloud computing:

In the perspective of library there are below advantages:

- A. Access to data over the Internet has become easier in modern times with the rise in availability of web-enabled devices like smartphones, tablets, laptops, etc.
- B. File sharing is first and foremost benefit of cloud computing with fast accessing. A user can save large files too. Multiple types of files such as photos, videos, presentations, documents can be stored. Back-up facility is also provided by cloud computing.
- C. It helps to reduce the cost to manage and maintain IT system for running an organization or Library. Libraries can use cloud resources of service providers instead of spending funds for procuring costly systems and equipment.
- D. Collaboration of projects can also be done, which is cost effective as compared to purchasing software and hardware.
 - a. When connected to the Internet users can access the stored files from any other device. There is no need of large internal storage system.
 - b. It is compatible with most computers and operating systems

Conclusion

Present paper attempts to give some idea about use of cloud computing in academic libraries. It is necessary for librarians to get digitalized and one of the major platform available for them is Cloud Computing. Once it made available to students and faculty they will come out with more efficient ways.

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Models of Information Literacy

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Abstract

College Libraries attempt to meet the need of diverse and complex group of user, who have wide-ranging interest and complex set of demands. Historically, fundamental aim of libraries was to formulate a philosophy of intellectual freedom and to provide access to print information. vary valuable resource of information available on the internet and the through other electronic database and libraries are currently playing role very different from before. Not only libraries continue to collect and provide access to printed material, but also they have to manage the ever-increasing amount of electronic resources. Owing to an increase use of on-line indexes, database and of course, the internet, the role of libraries has changed. Information Literacy (IL) is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information. It helps the learners to master content, become self-sufficient and take greater control over their self-learning. It also helps learners to become independent, critical thinker and life-long learner. The concept of IL has gaining more attention in higher education communities throughout the world. Several associations, educationalist and library professionals have developed IL models in Western Countries like USA, UK, Australia etc., to integrate information literacy course in all levels of education. The present paper, describe the significance of models of information

Introduction

The nature of information is changing the nature of the World's economy. Information called to be the currency of democracy. Over a period of time the format of information has also changed owing to the advancement in ICT. Now more and more information is available online in digital format than in print. The quantum of information available online is putting users in a stressful situation as they are finding it difficult to choose the right information due to lack of search skills. Information literacy bridges this information gap by pursuing resources and skills amongst the users. Information literacy is a skill for moving awareness about text-based learning to e-resource based learning. E-information literacy is an extension of Information Literacy.

Emergence Of Information Literacy Concept

The concept of information literacy originates from scholastic training, which means to instruct, to teach and to train. The term information literacy was first used by Paul Zurkowski¹, the President of Information Industry Association in 1974. He used the term in a proposal submitted to the US National Commission on Libraries and Information Science (NCLIS). According to him information literate peoples are those who trained in the application of information resource in their work. They have learned techniques and skills for utilizing the wide range of information tools as well as primary sources in molding information solutions to their problems. Now-a-days the term "Information Literacy" has become a catchphrase and can be used by several authors in different ways as info literacy, informacy, information empowerment, information competence, information literacy and skills, information handling skills, information problem solving skills etc. Many definitions of information literacy are available in literature. Some of these are as follows:-

- According to Chartered Institute of Library and Information Professionals, UK² defines information literacy as "knowing when and why you need information, where to find it, and how to evaluate, use and communicate in ethical manner".
- According to results of Delphi Study conducted by Doyle³, an information literate person is one who:
 - recognizes the need for information.
 - appreciates the importance of accurate and complete information to make intelligent decisions.
 - formulates questions based on information needs.
 - identifies potential sources of information.
 - develops appropriate search strategies, accesses sources of information including computer-based and other technologies.

- evaluates information.
- organizes information for practical application.
- integrates new information into an existing body of knowledge and
- uses information in critical thinking and problem solving.

Information literacy is essential to successful life long learning

Life long Learning is shortly called LLL. In simple terms it means "learning that continues throughout a lifetime." Hojat et al 17., 2003 defines LLL is a concept involving a set of self-initiated activities (behavioural aspect) and information-seeking skills (capabilities) that are activated in individuals with a sustained motivation (predisposition) to learn and the ability to recognize their own learning needs (cognitive aspect) . IL forms the basis of lifelong learning. It helps to make the students as lifelong learners and empowers them to acquire all the knowledge, values, skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity and enjoyment in all roles, circumstances and environments. IL competencies have been identified as a crucial element to foster lifelong learning and keep up with the fast emerging world.

Information literacy is a core competency in the information age

The arrival of information age and its rapid growth has created challenges throughout the world. It has brought an enormous increase in the quantity of information available to the public (includes students) and multiplied the media of knowledge transfer such as internet, CDs and electronic databases. Students can easily acquire large amount of information but they don't know how authentic, valid and reliable the information is. This poses special challenges for students in evaluating, understanding and using information in ethical and legal manner. Information literacy as core competency helps students to locate needed information and evaluate it critically in order to face the new challenges of the information age.

Information literacy contributes to the improvement of learning and teaching

Information literacy rejects the traditional teacher centered learning model, rather, it is based on active learning model in which the student is at the centre of the learning environment. Information literacy programs provide learners with self-directed, independent and constructive learning opportunities. The Alexandria Proclamation on Information Literacy and Lifelong Learning recommends: "Implement active pedagogical practices such as problem-based learning, service learning and constructive learning that are both in support of and well supported by the practice of information literacy"

Information literacy is one of the most critical literacy for an educated person in the 21st century

In the present 21st century information era, students are needed to develop critical thinking abilities to become skilled users of information sources available in different locations and formats for their own self-directed learning. Foundation for Critical Thinking 18 defines Critical Thinking as the "intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, experience, reflection, and reasoning or communication, as a guide to belief and action". People who think critically consistently attempt to live rationally, reasonably, empathically. IL acts as a key component in making students as critical thinkers, so that they are able to find the right information among the numerous of sources and apply it to make wise decisions.

Conclusion

The study of various information literacy models and standards will definitely guide the students and faculty particularly in higher education to step by step achieve the information literacy skills. In the "Information Literacy Competency Standards for Higher Education" produced by ACRL, It is declared that information literacy forms the basis of lifelong learning and is common to all disciplines, to all learning environments and to all levels of education . So the role of information literacy in higher education cannot be neglected. The inclusion of information literacy instruction in curriculum of all higher educational institutes in India is need of the hour. It is also pertinent to note that in order to create information literate society, the cooperation of teaching faculty and libraries is extreme important.

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Role of ICT in Academic College Library Services

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Abstract

The present paper deals with the new technological era which have tremendous impact of ICT on Library and its services. In the Scientific environment it is very essential for Librarians to know about the user demand of E-resource which forms an integral part of information needs. Libraries and Information centers have been employing ICT and electronic information resource find services to satisfy the diverse information need of their users E-Journal, CDROM, database Online database, e-book, web-based resource and a variety of other electronic media are fast replacing the traditional resource of Libraries. This paper provide information about importance of ICT in Library. Objective of ICT use of Information and communication technology in libraries benefits of ICT and limitation of it.

Kew Word - ICT, Library ,services, Academic Library.

Introduction

Information communication Technology (ICT) is an umbrella term that includes all technologies for the manipulation and communication information Today information & knowledge have become the principle force at social transformation Technology is changing the nature of Libraries and its continues to exert a major influence on the strategic direction libraries in society ICT plays an important role to raise the standard of teaching & research Development in ICT have made significant impact on all spheras of human life. Library and information professionals today need to acquire knowledge and skills in information and communication technology as the services of more and more Libraries are now centering on information technology. In this age of globalization, the importance of ICT to people generally and information professionals in particular cannot be over emphasized. In fact it is now difficult to imagine a world without information technology. The provision and use of ICT is past and parcel to entire system to both the students informational professionals and the institutions.

What is ICT

The term ICT describe the use of computer based technology and Internet to make information and communication service available to a wide range of users. The terms is used broadly to address a range of technologies including telephones and emerging technology devices central to these is the internet which provide the mechanism for transporting data in a number of formers including text, images, sound and video.

Meaning of ICT

According to UNDP (United nation Development Program) ICT are basically information handling tools a varied set of goods applications and exchange information They include to old ICT of radio, televisions and telephone and the new ICT are Computer satellite and wireless technologies and the internet.

Ebljuwa and Anyakoha (2005) 4-5 define ICT tools and as well as means for collection"

Capture process storage transmission of information. The American Library Association (1983) 5 define IT as "the application of computer and other technologies to the acquisition organization. Storage retrieval and dissemination of store date. While telecommunication tool which make it possible for user to access database and link them other computer network at different Locations. Home link provides a useful and clear definition of ICT indicating ICTs are those technologies that enables the handling of information and facilities different forms of communication. These includes capturing technologies (e.g. camcorders) storage technologies (e.g. CD ROM) processing technologies (e.g. application software) communication technologies (e.g. Local Area Net works)and display technologies (e.g. computer monitors) Hence ICT can be defined as the use and application of computers telecommunications and microelectronic in the acquisition storage retrieval transfer and dissemination of information

Need of ICT in Libraries

The aim of Library and information professionals is to provide the right information to the right user of the right time In a conventional Library search and retrieval is easy because the collection is maintained in an organized way. With the rising cost of print based information and limited Library budgets

conventional Libraries are not able to the entire needs of the users internet has made a greater impact on Library and information services by offering new made for information delivery and a vast variety of information course. Research and development institutions and houses worldwide with the advent of internet whole area of publishing is undergoing a drastic change that can be seen more and more with publishers both commercial and professional bodies individuals and institutions shifting from print media to electronic Media. Today Large number of information sources is a available on the internet since the Libraries are involved in acquiring, organizing and delivering the information to their end users, they will have to fell in line with changing mode of publishing and needs of users.

Objective of ICT

- To determine the usefulness of ICT resources in academic Libraries
- To determine the efficiency and effectiveness of ICT in Libraries.
- To provide skillful and knowledgeable staffs in the use of ICT resources.

Components of ICT

The ICT technologies as a diverse set of technological tool and resource use to communicate and crease disseminate, store and manage information ICTs encompass a range of rapidly evolving technologies telephony. Fax, cable, satellite, TV, radio, mobile phone www, Email LAN, ISDN (integrated service digital network) computer-mediated conferencing, video conferencing as well as digital technologies computers information networks, internet, world wide web internets , extranets and software applications.

ICT Based services in Academic Library

- 1) **Internet Access :-** Internet which is a global system of public and private computer network that allow desktop computer to exchange data messages and files with any of the millions of other computer connected to the internet is an indispensable valuable source of information and efficient information delivery medium offers a platform for wide range of existing and future reference services. The invention of internet facilities is the book of ITs its has opened are the opportunities for Library and information science.
- 2) **OPAC -** Online public access catalogue facility is being proposed to extend for the benefit of the users. The availability and location of the books Journal and other reading material of the Library user can check status of own account.
- 3) **Library Automation -** An Automated Library means where a computer system used to manage in cataloguing circulate serial control and OPAC. All the Library services so that any user can receive the desired information in less time.
- 4) **Digital Reference Services -** Digital reference service are internet based question and answer services that connect user with individuals who possess specialized subject knowledge, reference librarian is also involved and delivering digital Reference service.
- 5) **E-reference Service -** In the reference section some services such as SDI (Selective dissemination of information) or current awareness services (CAS) and virtual reference desks announcements of new accquitions and other reader advisor services can be provider made easier Telephone, Fax, E-mail through the internet.
- 6) **New Addition Alert Service -** Library has provides new additions alert service to the users including the staff List of new additions in the Library is compiled and E-mailed Mobile SMS to user community regularly.
- 7) **Reminder alert service -** The material issued from any Library to any user is for specific period that material is needed to be returned to Library on due date so that Library can render same quality of services to all members or user community. So the reminder alert service through emails or mobile Sms.
- 8) **E-Database -** e-database is an electronics gateway or popular source of information it contains current as well as archival information. There are various type of database are available in country such as CD-ROM database, online database, bibliographical database, full text database, open access database etc.
- 9) **E-books -** An e-book has been described as text analogues to a book that is in digital form to be displayed on a computer screen and you can read is by using e-bboks reader or on a computer screen after downloading. Library or user can purchase e-books on disketts or CD but the most popular method of getting an e-book is to purchase a downloadable file of the e-book from website
- 10) **E-Journals :-** Now a day e-journals are playing major role in academic Libraries because it is provide current update information to the Library users. It is an electronic version of the

traditional print journal It can be accessed via internet from the website of the Journal or consortia enabled computer.

- 11) **Web Technology** - Presently all Libraries try to providing Library services according to their Library user needs and expectation. Therefore for achieving these objective Libraries is used the various web tools and technology such as web blog content management system federated search web application and website etc.
- 12) **Institutional repository** - An Institutional repository is a web based database of reading material it is a new concept for collecting , managing disseminating and presenting scholarly works created in digital form by faculty and student is individual universities and colleges.

Conclusions

Information communication Technology thus provides greater avenues for easy access to information and provides efficiency to function of the Library system. It helps to academic Libraries in order to enhance their access capacity to large information and to gain right information at the right time in right place at the right cost. ICT providing printed and electronic delivery of materials and upgrading collection process. There is no limit of use of ICT in our Library. ICT has made good impact on our Library service to their users. The ICT truly benefit the Library to achieve the goal a objective of the Library. At last fruitful result can be obtained by using the ICT.

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Information Literacy And Lifelong Learning-Inter-Related

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Abstract

The Family of 21st Century Survival Literacies largely self-motivated and self-directed, Basic or Core Literacies Computer Literacy This term still applies Hardware Literacy Software Literacy Applications Literacy Media Literacy To the core or foundation literacies of learning which is to say Means that they are aimed at helping people information literate an individual self- enlightenment that occurs, especially if practiced over an entire lifetime

Keywords : Information Literacy Lifelong Learning Lifelong Learning Policies

1. Introduction

Largely self-motivated and self-directed, which is to say, they do not require the mediation of an outside individual, organization or other kind of helper, beyond the learner him/herself, although advice and assistance can be helpful. The family of 21st Century 'survival literacies' includes six categories. Let's briefly look at each kind of these major 21st century literacies in turn and point out how they are interconnected. Computer literacy means the efficient ability to know how to use and operate computers as information processing machines. Hardware literacy refers to the set of basic operations you need to know in order to use a computer such as a Personal Computer (PC) or Laptop, or perhaps a combination handheld device such as BlackBerry, efficiently.

2. Definition

Theories and standards of literacy that expanded the very use of the word literacy to mean more than just the conventional (what are now called) "basic literacies" of reading, writing, and numeracy, to apply to other areas: thus we began to see "computer literacy, media literacy" cultural literacy" and so on: moreover the needs of an individual living in the 21st Century to cope with and deal effectively with life's many challenges are significantly different than were the needs of the 20th Century individual:

3. Lifelong Learning-inter-related

- Self-empowering, which means that they are aimed at helping people of all age groups, genders, race, religions, ethnic groups, and national origins, and no matter what their social or economic status may be, or role and place in their communities or society in general: and
- Self-actuating, which is to say the more information literate an individual becomes, and the longer the person sustains good information literacy learning and practicing habits and attitudes, the greater the self- enlightenment that occurs, especially if practiced over an entire lifetime.

Ideally, one should become information literate, and practice those habits and skills over one's entire lifetime.

4. The Family of 21st Century Survival Literacies

The family of 21st Century 'survival literacies' includes six categories: (1) the Basic or Core functional literacy fluencies (competencies) of reading, writing, orality and numeracy; (2) Computer Literacy; (3) Media Literacy; (4) Distance Education and E- Learning; (5) Cultural Literacy; and (6) Information Literacy. The boundaries between the various members of this family overlap, but they should be seen as a closely-knit family. For example, it has been pointed out by many experts that the common public perception is that a person is either "literate" or "illiterate," when the reality is that literacy encompasses wide range of individual functionalities, each of which can be observed and measured on a scale of competency- beginner, intermediate and advanced. In this view, literacy is comprehensive in the sense that it includes many learnable skills, and positive attitudes and behaviors that impact every aspect of one's life. Moreover, as literacy permeates a family, a workplace, a classroom, or a place of social or religious gathering, it becomes a 'family affair' and "infects" all members of the family or gathering or community.

In short, information Literacy must not be seen as standing alone, as if it were some arcane technical subject that would be learned and then forgotten. Also, literacy should not be viewed as a single, high point on a scale of learning that can be reached, like scaling a ladder, and then the learner can sit back and feel content and self-satisfied because a personal goal has been reached. Rather, there is no 'upper limit'

to literacy because it is a continuum, more like a voyage that must be undertaken over one's lifetime.

Let's briefly look at each kind of these major 21st century literacies in turn and point out how they are interconnected.

- **Basic or Core Literacies**

This term still applies to the core or foundation literacies of learning how to read, how to write, and how to perform simple numeracy tasks necessary in everyday life. If and when an individual, normally through formal schooling, but sometimes through non-formal school, or being taught at home, acquires these basic skills and competencies, they are said to be "literate". The term "literacy" is still most commonly used to refer to the acquisition of the basic competencies of reading, writing, and numeracy.

Although one can, theoretically, become information literate without going to school (the case of 'street smart' individuals who learn to cope with life's challenges even though they are uneducated in the formal sense), realistically, for most of us, it is imperative that we have a sound schooling in the "three R's" as they are sometimes called - reading, (w)riting, and (a) arithmetic.

Sometimes educators also refer collectively to these three basic literacies as print literacies, emphasizing that they are (were) essential to a print-oriented society where most information was authored, recorded, published, disseminated and communicated using print media. However in the modern electronic multi-media society in which we now live, most data and information, throughout its information life cycle (from "birth to death" as it were) is moved along in a digital format. That is to say, it is invisible to the naked eye until and unless it is transformed into readable characters ("printed") in some language at some stage. Moreover, readers of this publication, especially those from many parts of Africa, Asia and Latin America, know that much information is moved along and communicated in oral forms, not written or printed forms. This is sometimes referred to as "orally" or the "oral tradition". Anthropologists and historians emphasize the importance of "oral history" as a way of preserving cultures and traditions, where a population (e.g. living in geographically remote conditions) hands down its language, its culture, its marts and its traditions in oral form rather than written form.

But to return to our main subject here, suffice it to say that the basic literacies of reading, writing and numeracy are normally a precondition, but insufficient pre-condition, to becoming information literate.

- **Computer Literacy**

Computer literacy means the efficient ability to know how to use and operate computers as information processing machines. It is one half of the ICT literacy, the other half being Media Literacy. It is convenient to subdivide Computer Literacy into the following categories:

- Hardware Literacy:** Hardware literacy refers to the set of basic operations you need to know in order to use a computer such as a Personal Computer (PC) or Laptop, or perhaps a combination handheld device such as BlackBerry, efficiently. For example, knowing how to use a keyboard, a mouse, distinguish between the functions of a printer, a scanner, other peripheral devices, the mainframe processor, and the monitor. Hardware literacy deals with "visible, and tangible component, and their operations.
- Software Literacy.** Software literacy refers to the "invisible" set of general-purpose procedures and instructions that the computer or telecommunications hardware requires in order to perform its functions properly. Major kinds of software literacies include: first and foremost, the basic operating software system which the computer uses, such as Windows (one of the many versions available); word processing software (e.g. Word or WordPerfect); spreadsheet software for dealing with numerical data (e.g. Excel); presentation/publishing software for making presentations such as PowerPoint; and information service provider software for using the Internet, including searching the WWW and sending and receiving e-mail. Software literacy deals with intangible and "invisible" things.
- Applications Literacy:** Applications literacy is a term that refers to knowledge of, and the skills necessary to efficiently use various special-purpose software packages that are on the market, such as software that helps a firm manage its finances, its personnel, its equipment and inventories, its office or factory or laboratory space, its work flows, its production schedules, its order processing systems, its market and sales reports, and so on.

- **Media Literacy**

Media literacy embraces everything from having the knowledge needed to use old and new media technology to having a critical relationship to media content in a time when the media constitute one of the most powerful forces in society. Proponents of media literacy view increased media knowledge in society as contributing to participation, active citizenship, competence development and lifelong learning. In this way, the population's media literacy becomes a necessary part of ensuring a democratic society.

Leading researchers in the field often use the following trichotomy to define media literacy: media literacy implies having access to the media, understanding the media and creating/expressing oneself using the media (Buckingham 2005, Livingstone 2005).

Access includes having the use of media as well as media habits : the ability to use functions and navigation competence (e.g. changing TV channels / channel orientation, using internet links): knowledge of legislation and other regulations in the area (e.g. freedom of speech, protection of privacy, knowledge of the meaning of harmful material, protection from 'spam') Understanding includes having the ability both to understand/interpret and to gain perspective on media content as well as having a critical attitude . Creating includes interacting with the media (calling radio programmers to express ideas, participating in discussion rooms on the internet, e-voting, etc.) as well as producing media content. Having the experience of producing material for different media helps form both a better understanding of and a critical approach to media content. Thus, media literacy is a question of skills, knowledge and competencies, but it is also dependent on the institutions, texts and techniques through which information and communication are mediated analytically; the concept of media literacy is used both at the individual and the societal level. The term "media" is a collective noun referring to all kinds of communication mediums. Whereas the term "medium" is a singular noun referring to just one communications mode. Sometimes the term "mass media" is used to refer to mediums intended to reach very large audiences. Such as broadcast and cable television, radio, motion pictures, newspapers and magazines. Sometimes the phrase "in multiple mediums and formats" is used to refer to communication and dissemination of information in many different mediums, and many different formats (e.g. text, graphics, photos, statistical tables, etc). Marshall McLuhan is usually credited with the phrase "the medium is the message" meaning that the content of a message is often inextricably connected with, and its format arranged by and even largely dictated by the specific medium used to transmit that message. Thus, because of time and financial limitation, messages transmitted using the medium of television must be formatted and arranged in a certain optimal way for the "message to get across. "In short, it must not be too long, expressed in obtuse language, and so on. Interactive media permit the user to interact directly with the computer or telecommunications device, such as the "touch screen "mode so common nowadays in restaurants, and other service establishments.

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Role of a Librarian as facilitator in an academic library

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Abstract

The aim of this paper is to study the role of a librarian as facilitator. The role of the facilitator is described, and the intermediary functions of the librarian are considered. The comparison shows that the similarities between the two roles concern the communication, the identification of information needs. We cannot exclude those elements of the librarian's information seeking process; i.e., the searching activity and the evaluation of the results, which may exist in the work of the facilitator. Both the searching activity and the evaluation of the results, during a networked communication process, may strengthen the group understanding and development. In this way, the role of the librarian could develop the role of the facilitator. At the same time, the attention of the facilitator to the needs of the group could bring an important aspect into the role of the librarian.

Key words: Librarian, Facilitator, Academic library, Information literacy

Introduction:

The aim of this paper is to analyse the role of the facilitator and to identify any possible connection between the competencies of the facilitator and the librarian. It is observed that the role of the facilitator is characterised by qualifications closely related to the ones of the librarian. It is likely to imagine, that the traditional intermediary function of the librarian by its nature could create a basis for the role of the facilitator in a networked community.

This paper considers the instructional role of the academic librarian and contribution in the process of teaching information literacy skills. It explores those principles of effective practice in facilitating learning, which apply, to the teaching learning transactions in the library. It describes the aim of facilitation as one of encouraging self-directed, empowered student and confirms the role of the academic librarian in facilitating the development of critical thinking, creative problem-solving and informed decision making in learners. It also examines the concept of information literacy and how this contributes to lifelong learning.

New educational practice in higher education and the need for continuing education in the society creates new ways in the collaboration between academicians, students and information professionals. Entering the information age focus has been on information literacy. The ultimate goal of higher education is to prepare students for lifelong learning.

The Facilitator - Characteristics and Role:

As per Cambridge Dictionary 'Someone who helps a person or organization to do something more easily or find the answer to a problem, by discussing things and suggesting ways of doing things'

A facilitator is someone who engages in the activity of facilitation. They help people to understand their common objectives and assist them to plan how to achieve these objectives; in doing so, the facilitator remains "neutral" meaning he/she does not take a particular position in the discussion. The facilitator's job is to support everyone to do his or her best thinking and practice. To do this, the facilitator encourages full participation, promotes mutual understanding and cultivates shared responsibility. By supporting everyone to do their best thinking, a facilitator enables group members to search for inclusive solutions and build sustainable agreements. (Wikipedia)

Facilitation is viewed as a process and a set of functions or activities that are carried out before, during and after a meeting to help the group to achieve its own outcomes. In their article "Facilitation: The human side of groupware", Clawson and Bostrom present a model outlining 16 critical functions/dimensions of the facilitator's role

1. Promotes ownership and encourages group responsibility
2. Demonstrate self-awareness and self-expression
3. Appropriate selects and prepares technology
4. Listens to, clarifies, and integrates information
5. Develops and asks the "right" questions
6. Keeps group focused on outcome/task

7. Creates comfort with and promotes understanding of the technology and technology outputs
8. Creates and reinforces an open, positive and participative environment
9. Actively builds rapport and relationship
10. Presents information to group
11. Demonstrates flexibility
12. Plans and designs the meeting process
13. Manages conflict and negative emotions constructively
14. Understands technology and its capabilities
15. Encourages/supports multiple perspectives
16. Directs and manages the meetings

The library has always been a place that facilitates learning. The concept of learning is evidenced in libraries in large initiatives like information literacy and teaching critical thinking skills, and in the smaller events of book groups, reference interviews, and speaker series. This is how libraries have traditionally facilitated and preserved knowledge.

Librarian as Facilitator:

Libraries play an important role in the development of future systems of lifelong learning. The development of the information and communication technology (ICT) has already laid the basis for the creation of information networks, giving users access to the worldwide sources of information. Libraries offer guidance and training in how to search and use this information. In this situation, libraries will have to change and adapt to new demands, professional tasks and working conditions. Libraries should always be directed towards the empowerment of the users.

In a modern society, libraries' roles have been re-defined by their abilities to supply information, as well as their professionals who can manage new technologies of information retrieval and an array of equipment to meet the community's needs. Under current circumstances, the magnitude of information has made it impossible for the library world to operate in isolation. Therefore, the new generations of libraries and librarians are expected to integrate innovative technologies with their services while collaborating with many internal and external stakeholders. It is with such a dynamic evolution that a new chapter of great significance has been opened up for librarianship. (Tan, 2015)

The availability of electronic documents on Internet and the support extended by World Wide Web to access these documents have increased tremendously. Several print journals have shifted their platform to Web, which includes free and paid publications. In this scenario, it is imperative for the traditional librarian to acquire necessary skills in effective use of modern gadgets and associated software to locate and retrieve the widely dispersed information in the cyberspace. Not only he has to acquaint himself but also gain a degree of proficiency to effectively guide and train the information seekers in their usage.

Thus, the traditional librarian has to play the role of facilitator in identification, gathering and arranging information infrastructure such as network access, software access, licenses and passwords to use charged resources like Proquest, Ebsco and so on. The role of the facilitator is characterized by qualifications which would be closely related to the ones of the librarian. It is likely to emerge that the traditional intermediary function of the librarian by its nature could create a basis for the role of the facilitator in a networked community. Normally, the facilitator does not solve the total information problems of users. He addresses the communication and information needs of the users in one way or another and makes an identification of resources for fulfilling the needs of users. (Nageswara Rao K., Babu KH)

Library Instruction for Information Literacy:

Developing lifelong learners is central to the mission of higher education institutions. By ensuring that individuals have the intellectual abilities of reasoning and critical thinking, and by helping them construct a framework for learning how to learn, colleges and universities provide the foundation for continued growth throughout their careers, as well as in their roles as informed citizens and members of communities. Information literacy competency extends learning beyond formal classroom settings and provides practice with self-directed investigations as individuals move into internships, first professional positions, and increasing responsibilities in all areas of life. Because information literacy augments students' competency with evaluating, managing, and using information. It is now considered by several regional and discipline-based accreditation associations as a key outcome for college students. (www.ala.org)

Incorporating information literacy across curricula, in all programs and services, and throughout the administrative life of the university, requires the collaborative efforts of faculty, librarians, and administrators. Librarian is a part of the information seeking process. This process is initiated when the user recognizes an information problem or an information need. The elements of the information seeking

process, where the user-intermediary interaction is central,

- Pre-search interaction
- Pre-search formulation of search strategy/source selection/query
- Searching activity
- Initial evaluation of results
- Reformulation of problem/information problem/query

The information seeking process is an iterative process where the interaction of the user-intermediary-IR system may continue until the information problem is solved. Essential for us seems the pre-search-elements, which include a translation of users request into a query formulation. This requires a dialogue between user and the human intermediary to recover the information need or problem of the user. The dialogue is often named as the pre-search interview. Therefore, it requires good communicative and questioning skills. (Trine Schreiber and Camilla Moring)

SNDT University Library User Orientation Programme:

The traditional role of a librarian is to do collection development and acquisition, cataloguing, classification, circulation, reference and user education. However, in the new era duties of a librarian have extended to information manager and facilitator or trainer. Librarian as a facilitator enhances and inculcate the information literacy among the users and provides them training. The librarian selects licensed databases and identifies authoritative free websites and bridges gaps between students and teachers, online information, and curriculum and instruction.

The SNDT Women's University Library supports the teaching, research and extension activities of the University by providing to students, faculty and staff, information and documentary resources and services, relevant to their needs. Being an integral part of the University, the Library is committed to play a proactive role in the empowerment of women through dissemination and use of information and knowledge. Members include students, faculty, university staff and guests Membership privileges include use of reading room, audio-visual facilities, borrowing rights and reference services.

As part of the library's efforts to increase the IL skills of the readers the library offers orientation programmes to the readers. The main idea behind this is that the user should know all the details about the library and the information sources and materials in order to use of library efficiently. It helps to guide students in independent scholarly pursuit of knowledge in their subject and to create an awareness of the resources of the library and the skills required to exploit them. It also sets up a channel of communication between the library, the students and the faculty.

In the past 30 years lots of user orientation programs have been developed. These programmes are designed to help the user to develop information-seeking skills. These programs depend on the educational level of the reader and range from brief tours of the library for new user to the in depth activities involved in the library. Information literacy programme takes place at the beginning of the year. The basic information about the library is given. It includes introduction to the library, timings, layout of library building, rules, introduction to the staff, membership procedures, introduction to the library's catalogue, arrangement of the books etc. And the facilities available borrowing of library material, photocopying, inter library loan, A.V.Room, reading hall, Internet, Online databases, CD-ROM databases, information retrieval using search engines. For those in Junior college, a tour of the library is given and the use of basic reference sources like dictionaries and encyclopaedias are taught. For undergraduates, the same tour is supplemented by showing them the uses of periodical literature, searching through the recent periodical literature and abstracting periodicals besides use of the internet. Recent trends in education have increased the need for helping the library user to become capable of finding material relevant to her need.

Intensive subject wise library instructions are given to post graduate students at the beginning of each academic year, so that the students can make the use of the library throughout the year. The instruction is based on 'Bibliographic Pathfinders'(S.N.D.T.Women's University Library 1991), which have been prepared by the library. The pathfinder contains list of class numbers useful for the subject along with its alphabetical subject index under sought headings; annotated list of periodicals; annotated list of reference and bibliographic sources. The pathfinders are constantly updated to include new sources, changes in curriculum, and developments in the subject field and so on. Though traditionally there have been a number of tools & techniques available for user orientation, information technology, and multimedia have made it possible to make the program much more attractive as it includes all forms like text, graphics, animation, sound video etc. the user can navigate as required and interact more.

The library is connected to a network that allows users to gain access to electronic products, services and databases such as Proquest, Ebsco, J-Stor. During orientation, students are also taught to use these electronic products and services and are taught to search various search engines for their

research work. Instruction is also imparted by the library staff on the preparation of their reference list and bibliography as per APA or any other standard required. Thus, the orientation programme and the continuing programmes help in laying the foundations of lifelong information literacy.

As described by Day Katie, academic librarian also needs to mediate creatively between the learners and the high technology world of information. Intelligent use of technology ought to drive librarians towards a more sophisticated approach to the existing strengths, learning goals, living and learning style preferences of learners.

- Librarians have to work collaboratively with the curriculum planners and department heads to develop resources and promote inquiry-based learning and all forms of literacy.
- Work collaboratively with students, parents, or staff to support teaching and learning.
- Manage the library as a learning environment and public space, including patron services and library staff.
- Manage and develop learning resources, physical and digital, both for the library and classrooms/departments.
- Lead the development and promotion of the library as a centre dedicated to the spread of ideas, information, and learning. (Katie Day, 2013)

Conclusion

As mentioned in the beginning it was the aim of our study to characterise more closely some of the issues of the new professional role of the librarian in networked learner support. There are many list of similarities between the two roles concerning the communication, the identification of information needs, the translation of participants formulations to a more systematized terminology and lastly, the possibility of using a searching activity as well as evaluation of the results.

The role of the facilitator may develop the formulations of role of the librarian. In the role dimensions of the facilitator we found the formulations concerning the identification and the translation of the needs of the group. This is of course a dimension, which should create the librarians attention. In the future, the theory of the intermediary functions might eventually develop concerning the interaction between the group and the human intermediary.

Academic librarians have discovered the imperative to actively pursue a balance involving interaction and cooperation among faculty as course planners, librarians as facilitators of research objectives and students as learners. Many possibilities exist for such cooperation between librarians and faculty for improving student learning particularly if librarians assume an active role as facilitators of critical thinking. If the academic librarian suggests alternative sources to a student, encourages a student to consider an author's reputation and expertise, engage students in active dialogue concerning their assumptions and prejudices about a topic, authorities or varying perspectives on an issue offered by different disciplines they are facilitating critical thinking.

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Open Educational Resources and the Role of Librarians

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Abstract

In modern information era information technologies are rapidly change in all aspects. Now the digital resources are readily available from many sources and those contents are available by the teachers and learners through the internet. For that reason a movement aims to encourage and enable sharing content freely called Open Educational Resources. The idea of free and open sharing in education is not new. In fact, sharing is probably the most basic characteristic of education, education is sharing knowledge, insights and information with others, upon which new knowledge, skills, ideas and understanding can be built. OER have gained increased acceptance because of their potential and promise to obviate educational boundaries and to promote life-long learning and personalized learning. This is a very encouraging trend as librarians who are custodians of information are highly aware of OER even though it is a new concept in the field of library and information science. This paper aims to examine the Role of Librarian in Open Educational Resources

Introduction:

What is Open Education: - Open education encompasses resources, tools and practices that employ a framework of open sharing to improve educational access and effectiveness worldwide. Open Education seeks to scale up educational opportunities by taking advantage of the power of the internet, allowing rapid and essentially free dissemination, and enabling people around the world to access knowledge, connect and collaborate. Open is key; open allows not just access, but the freedom to modify and use materials, information and networks so education can be personalized to individual users or woven together in new ways for diverse audiences, large and small. The idea of free and open sharing in education is not new. In fact, sharing is probably the most basic characteristic of education: education is sharing knowledge, insights and information with others, upon which new knowledge, skills, ideas and understanding can be built.

What are Open Educational Resources?

Open Educational Resources (OER) are those teaching and learning materials that are available to anyone free of cost and under an open license to allow others to retain, reuse, revise, remix and redistribute them with few or no restrictions.

What do OER include?

- OER include textbooks, online tutorials, lecture notes, lesson plans, slides, handouts given to students, videos, podcasts, diagrams, entire courses and any other material designed for use in teaching and learning.
 - Open Courseware o Open Textbooks o Open Learning
 - Stakeholders

Stakeholders of OER : Include teachers at all levels of education, administrators, policy makers, library professionals, civil society organisations, and individuals with an interest in promoting access to educational resources.

Activities: Five Activities are includes in OER i.e.

1. Retrain; - Make and Own a Copy.
2. Resuse: Use in a wide range of ways
3. Revise: - Adapt, Modify and Improve
- 4 Remix: - Combine two or more
- 5 Redistribute: Share with others

OER Integration and Promotional Strategies in Libraries: No library can ignore the importance of OER in teaching, learning and research if it has to remain relevant. librarians can offer advice to institutions, academic staff and students because they are engaged in OER through metadata and resource description, information management and resource dissemination, digital or information literacy training (finding and evaluating OER), subject-based guides for finding resources, managing intellectual property rights and promoting appropriate open licensing. librarians and education policy makers should be actively involved in using open technology tools like OER to build, strengthen, promote and share free educational resources taking into account the growing illiterate population in developing countries. Librarians provided expertise

in information science areas, especially: metadata standards, vocabularies, indexing and classification, information retrieval, information literacy, and repository technology and management. All these studies indicate that librarians have multiple roles to play in OER undertakings. However, in the context is not known about the strategies libraries and librarians use to facilitate integration and promotion of OER. This is the gap that this study intended to fill.

Challenges of OER Use and Integration in Libraries : academic librarians also face the challenge of fast changing technology for that requires librarians to consistently upgrade their skill to effectively manage change in order to cope with the changing needs of users and at the same time manage multiple and simultaneous responsibilities. Indeed, to keep pace with the changing innovations in the information environment and age, academic librarians need relevant upgraded skills and competencies.

Barriers to the Use of Open Educational Resources: Lack of access to computers and the internet, Low internet bandwidth, Absence of policies, and lack of skills to create and/or use OER are the main barriers to effective usage of OER.

Librarians' level of Awareness on OER Open Educational Resources in many developing countries is a new concept. For librarians and users to make effective use of OER they need to be familiar with the terminology. Librarians are aware of the term of OER. OER have gained increased acceptance because of their potential and promise to obviate educational boundaries and to promote life-long learning and personalized learning. This is a very encouraging trend as librarians who are custodians of information are highly aware of OER even though it is a new concept in the field of library and information science.

Librarians' Roles in Open Educational Resources: - Librarians have multiple roles to play in OER including promotion, identification, guiding users, dissemination, evaluation, collection, management and integration. Librarians must also have interest in promoting 'openness'/ open resources; help users describe, discover, manage and use OER. This signifies the changing roles of librarians in the new information age. Librarians can help in metadata and resource description, information management and resource dissemination, digital or information literacy (finding and evaluating OER), develop subject based guides for finding resources, managing intellectual property rights and promoting appropriate open licensing.

Techniques Applied by Librarians in Promoting Awareness on OER :- the most prominent tool used to promote awareness on OER is the library website and the library training, orientation, social media (face book, twitter, blogs), institutional repositories, brochures, current awareness services, The importance of library websites is that they have made it easy to put resources and services in a single access point. Library websites to be considered as the most useful promotional tool for OER. Indeed, the competitiveness of open access sources relies mostly on their ease of access. The academic library website can support research in higher education through providing access to internet research tools and full text databases such as OER. The library website is therefore an essential digital gate to online information resources as well as services.

Challenges Encountered by Librarians in OER: low level of awareness on existing OER even though they are available on websites and institutional repositories. This could be due to lack of techno know how on how to locate the OER and inability to choose from the vast information resources. This consequently deters effective utilization of OER by staff, teachers and students in supporting teaching and learning. Usage of OER requires one to be techno savvy and well equipped with relevant information literacy skills. Other major challenges mentioned are lack of policy guidelines to guide the use of OER, inadequate bandwidth and OER not being recommended by lecturers. Lack of policies and guidelines is a major challenge to full utilization of OER should be taken into consideration. Users could feel more confident to use the resource which he/she knows the boundaries of so as to avoid litigation. Actually, lack of awareness on their existence, lack of guidelines, policies on the use of OER, inadequate bandwidth and not being recommended by lecturers are not unique.

Conclusion

Librarians are aware of the OER concept. It is also argued that librarians play multiple roles in OER including promoting awareness, access and use of OER. Major tool that librarians use to promote awareness of OER is the University website and integration of OER in library websites and institutional repositories. To enhance access and use of OER, librarians employ information literacy training. The major challenges faced by librarians in dealing with OER include lack of awareness on existing OER due to the speed in which they are generated and lack of institutional policies to guide the ethical use of OER. Based on these findings, the study recommends that, there is a need for Librarians to create awareness among users, teaching staff, and the general public on the centrality of OER in academic and research endeavors. This can be done through workshops, seminars, conferences and during orientation. academic libraries should

use web pages to host and promote OER for easy access and use by their patrons. Additionally, institutional repositories should also be used as promotional tools. The importance of Libraries and Librarians in OER cannot be over emphasized.

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Cloud Computing In Libraries

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Abstract

Cloud computing is a new technique of Information Communication Technology because of its potential benefits such as reduced cost, accessible anywhere anytime as well as its elasticity and flexibility. In this Paper defines cloud Computing, Definition, Essential Characteristics, model of Cloud Computing, Components of Cloud, Advantages & Drawbacks of Cloud Computing and also describe cloud computing in libraries.

Keyword : Cloud Computing, Library and Information Science, Advantages and Challenges

Introduction

Till recently, and now too many organizations and individuals use computers to work alone, inside a business or home by investing on hardware, software and maintenance. It is the need of the day to adopt the latest technology in an organization. With the Cloud computing is use of internet for computing needs. There are so many forms of using this technology. For example, use of software applications, storing data. Etc

Accessing computing power or platform to build applications is also the example of such services. From e-mail, to word processing or photo sharing or video sharing there are so many services one can choose from. These services can be accessed from any type of internet connection and are secure. These services are also backed up. The best live example of this is Gmail, which is increasingly used by organisations and individuals to run their e-mail services. Google Apps being free for educational institutions is widely used for running different applications, especially the email services, which was earlier run using their own computer servers. This has saved cost for the organisations as they pay per use for applications and services and time for the computer staff, which they can invest on running other services. Google takes care of the upgrading, backup and maintenance of servers.

Libraries are using computers for running services such as Integrated Library Management Software (ILMS), website or portal, digital library or institutional repository, etc. These are either maintained by parent organisation's computer staff or library staff. It involves investment on hardware, software, and staff to maintain these services and undertake backup and upgrade as and when new version of the software gets released.

- "Now many university libraries are virtualizing servers and desktops, collaborating with other campus organizations and saving money and staff time" (Kelley, 2012).
- Cloud based services provide a means for libraries to free resources on information technologies and focus on libraries' core competencies- manage, organize and disseminate information.
- "Cloud based services are also bringing cutting-edge services to libraries that have less information technology expertise," according to Zhu (2012).

Library professionals in most cases not being trained in maintaining servers find it difficult to undertake some of these activities without the support of IT staff from within or outside the organisation. Now cloud computing has become a new buzzword in the field of libraries, which is blessing in disguise to run different ICT services without much of a problem as third-party services will manage servers and undertake upgrades and take backup of data. Even though there are some concerns in using cloud services such as privacy, security, etc., some of the libraries have already embraced this new technology to run some of their services.

Meaning Of Cloud Computing

The term cloud refers to a network or internet. Cloud is something which is present at remote location. Cloud can provide services over network i.e. on public network or on private networks i.e. WAN, LAN or VPN. Cloud computing refers to manipulating, configuring and accessing the application online. It offers online data storage infrastructure and application. Cloud computing means that instead of all the computer hardware and software you are using sitting on your desktop or somewhere inside your company's network. Cloud computing refers to the many different types of services and applications being delivered in the internet cloud and the fact that in many cases, the devices used to access these

services and applications do not require any special applications. Through cloud computing you are able to use software delivered through the internet on the browser without any installation, host an application on the internet set up your own remote file storage and database system and more.

Use of Cloud Computing in Library and Information Science

Libraries are shifting their services with the attachment of cloud and networking with the facilities to access these services anytime, anywhere. Cloud computing offers many interesting possibilities for libraries that may help to reduce technology cost and increase capacity reliability and performance for some type of automation activities. Clouding computing has large potential for libraries. Libraries may put more content into the cloud computing.

The following possible fields were identified where cloud computing services and applications may be applied:

- 1) **Searching Library Data** - Many libraries already have online catalogues and share bibliographic data with OCLC. OCLC is one of the best examples for making use of cloud computing for sharing libraries data. It is offering various services pertain to circulation, cataloguing, acquisition and other library related services on cloud platform through the web share management system.
- 2) **File Storage** - To access many files on the internet cloud computing present number of services such as Flickr, Drop box, Jungle Disk, Google Doc, Sky Drive etc. These services virtually share the files on the web and provide access to anytime, anywhere without any special software and hardware. Therefor libraries can get advantages of such cloud based services for various purposes. LOCKSS (Lots of copies keeps stuff safe), CLOCKSS (Controlled LOCKSS) and portico tools are extensively used for digital preservation purpose by libraries.
- 3) **Searching Scholarly Content** - Currently, Information and Library Network (INFLIBNET) center has been incorporated Knimbus cloud service into its UGC INFONET DIGITAL Library consortium in order to search and retrieve scholarly contents attached therein. Knimbus is cloud based research platform facilities to search and share the scholarly content. It is dedicated to knowledge discovery and collaborative space for researchers and scholars. Knimbus was started its journey in 2010 by the entrepreneurs Rahul Agarwalla and Tarun Arora to address challenges faced by researchers in searching across and accessing multiple information sources. Knimbus is currently used in over 600 academic institution and R&D labs by scholars, researchers and scientists as well as over 50,000 researchers.

Now Knimbus proposed a free offer to get registered to empower the libraries for dynamic searching and also for single point search interface, maximum the usage of all e-resources, customized search across selected sources reduces noise and highlights relevant content and tools to support the complete research lifecycle.

- 4) **Website Hosting** - This is one of the earliest adoptions of cloud computing as many organizations including libraries preferred to host their websites on third party service providers rather than hosing and maintaining their own service. Google sites serve as an example of a service for hosting websites outside of the library's servers and allowing for multiple editors to access the site from varied locations.
- 5) **Community Power** - Cloud computing technology offers great opportunities for libraries to build networks among the library and information science professionals and interested information seekers by using social networking tools. Twitter and Facebook are most famous social networking services which are play a key role in building community power. This cooperative effort of libraries will create time saving, efficiencies and wider recognition, cooperative intelligence for better decision making and provides the platform for innovation and sharing the intellectual conversation ideas and knowledge.
- 6) **Library Automation** - Polaris provides variant cloud based services such as acquisitions, cataloguing, process system, digital content sand provision for inclusion of cutting edge technologies used in libraries for library automation purpose. Also supports various standers such as MARC 21, XML, Z39.50, UNICODE etc. which directly related to library and information science area.
- 7) **Digital Library and Repository** - Today every library needs a digital library to make their resources, information and services at an efficient level to ensure via the network. Therefore, every library is having a digital library that developed by using any digital library software. Dspace and Fedora are used for building digital libraries and repositories. Dura cloud provides complete solutions for developing digital libraries and repositories with standard interface

and open source codes for the both software.

Advantages of Cloud Computing

1. **Cost Efficiency:** Cloud computing is probably the most cost efficient method to use, maintain and upgrade as explained in.
2. **Unlimited Storage:** Cloud gives you almost unlimited storage capacity.
3. **Backup and Recovery:** Most cloud service providers are usually competent enough to handle recovery of information. Hence, this makes the entire process of backup and recovery much simpler than other traditional methods of data storage.
4. **Essay Access to Information:** Once the users register in the cloud they can access the information from anywhere, where there is an internet connection
5. **Automatic Software Integration:** In the cloud software integration is usually something that occurs automatically.
6. **Quick Deployment:** Cloud computing gives the advantages of quick deployment.

Cloud Computing Challenges

Cloud computing an emerging technology has placed many challenges in different aspects.

- 1) **Security and Privacy** - Information security and privacy is the biggest challenge to cloud computing. Security and privacy issues can be overcome by employing encryption, security hardware and security applications.
- 2) **Portability** - Applications can easily be migrated from one cloud provide to another. There should not be vendor-lock in. However, it is not yet made possible because each of the cloud providers use different standard languages for their platforms.
- 3) **Interoperability** - Application on one platform should be able to incorporate services from other platform. It is made possible via web services.
- 4) **Computing Performance** - To deliver data intensive applications on cloud requires high network bandwidths which result in high cost. If done at low bandwidth then it does not meet the required computing performance of cloud application.
- 5) **Reliability and Availability** - It is necessary for cloud systems to be reliable and robust because most of the businesses are now becoming dependent on services provided by third party.

Conclusion

Cloud computing is a dynamic technology. Libraries are moving towards cloud computing technology in present time and taking advantages of cloud based services, especially in building digital libraries. Role of LIS professionals in this virtual era is to make cloud based services as a reliable medium to disseminate library services to their users with ease of use and trustworthiness.

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The Role of the Library in the Research and Development

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Abstract

Libraries have provided services to researchers for many years. Changes in technology and new publishing models provide opportunities for libraries to be more involved in the research enterprise. Within this article, the author reviews traditional library services, briefly describes the eScience and publishing landscape as it relates to libraries, and explores possible library programs in support of research. Many of the new opportunities require new partnerships, both within the institution and externally.

Keywords: Library, eScience, research, data

Introduction

Data collection, management, and analysis technologies are changing the landscape of research. Digital technologies, from sensors to analytical instrumentation, are increasingly a core component of observational and experimental research. Meanwhile, changes in scholarly publishing offer new opportunities for researchers to share the products of their work in ways that weren't previously possible. There has been an increasing interest in the library field to better connect with the research needs of faculty and students, and to explore how the skills, knowledge, and practices of librarianship could be applied towards supporting evolving eScience paradigms, particularly in the area of data curation.

Traditional Library Services

In the naïve view, all researchers want from the library are journals, journals, and more journals - free and online. They see little need to visit the library or communicate with librarians. Information professionals can certainly do many things to improve the usability of the journal literature. More and better tools are available to study researcher use of articles, from reading to citation patterns, which can be leveraged to better target purchasing and licensing decisions. Search engines, from Google Scholar to Pub. Med, are continually being improved to enhance retrieval of relevant information. Libraries have long provided training and research consultation services to improve the efficiency with which end-users search literature databases. Librarians help researchers manage citations and articles, providing training and support for products such as EndNote and RefWorks. Proponents of open access are trying to introduce new financial models in support of transparent sharing of research results (Butter et al. 2012).

Library support researcher access to the literature, especially in times of shrinking budgets in higher education. Increasingly, when researchers can't access the journal articles they need, they bypass traditional library services such as document delivery and interlibrary loan, which may be perceived as expensive and cumbersome, and instead email authors and colleagues. Commercial organizations, from publishers to aggregators, are marketing individual articles via pay-preview, in partnership or competition with libraries. Breaking down the traditional unit of the journal volume or issue into commercially marketable units challenges the old models of collecting and acquiring journal literature for researchers.

Changes in Research and Researchers

As Jim Gray described it, eScience is a "transformed scientific method" or "the fourth paradigm." Research was originally empirical. In the last few hundred years, theoretical models emerged. More recently, researchers have been able to use computational tools to explore simulations of complex environments. Now we have access to vast quantities of data from experiments and instruments, massive simulations, metaanalysis of research results, and more. Gray argues that this is a new way of doing research and requires a new model for conducting scientific inquiry (Gray 2009). However, not all research that falls under the rubric of eScience is conducted at the grand scale of particle physics or genomic experiments. There are many challenges facing researchers working at a variety of scales of data. The explosion of publishing, driven by an increasingly competitive tenure and promotion environment and the growing specialization of science, has made a vast amount of journal literature available to researchers. Researchers are reading more and more articles every year, yet spend less and less time reading each individual article (Tenopir 2009). It is clear that technology is also presenting new data management challenges for researchers. Resource Navigators working with The eagle-i Consortium discovered that

the vast majority of academic biomedical research laboratories do not have an effective inventory system for managing physical or digital resources (Shaffer 2012). The proliferation of computer files can transform the traditional lab notebook into a complex mess of spreadsheets and documents that can only be interpreted by the producer, if they can be found and interpreted at all. Beyond the simple, yet massive, increase in the volume of research data collection, the complexity and diversity of data is increasing. Data manipulation technologies and algorithms can be so intricate that some researchers have posed fundamental questions about the reproducibility of computational research (Stodden 2010). Technology is also allowing the integration of quantitative and qualitative data in ways not previously possible, raising new data management issues (Estabrooks 2009). Funding agencies are beginning to mandate data sharing plans in grant applications to facilitate data reuse and eliminate redundancy. Technology is facilitating the sharing of research information prior to traditional publishing patterns, as seen in the emergence of "Science 2.0" or open science (Waldrop 2008). Technology is also changing the culture of research. The emergence of team science challenges investigators to work together in new ways. In the example of health sciences, the dominance of the R01 grant is slowly giving way to the rise of Program Project and Center Grants. Wuchty, et al. (2007) showed that teams are growing larger, and their articles are more highly cited than solo authored articles. The National Institutes of Health's emphasis on translational science is bringing basic science investigators together with clinicians to speed the transfer of knowledge from the bench to the bedside. Schools are revising tenure policies to recognize that not every researcher will have the opportunity to be first author, and articles with 20 or more authors are not uncommon. The institutional organization needed to manage multidisciplinary and team research and is promoting the development of new skill sets and support structures (Boardman 2013). Superstar researchers are managing teams of hundreds, rather than individual labs staffed with a small group of students, research associates, and postdoctoral scholars. The Research Enterprise In order to identify new roles for libraries in the research enterprise, librarians must first gain a deep and multi-faceted understanding of the research environment at their own institutions. In the DuraSpace/ARL/DLF EScience Institute, teams from dozens of research libraries examined their local environments through interviews with stakeholders, surveys, identification of primary areas of research emphasis, and analysis of institutional culture. The landscape analysis conducted by the teams took place with an understanding that an exploration of the research environment must include perspectives that are outside of the normal context of library research. Participation in planning by researchers, research administrators, and other service providers is essential. Outside voices provide important contextual information and opinions that help to inform the broader discussions taking place around eScience and data management. The E-Science Institute teams, which included at least one person external to the library, created an inventory of the services and resources currently available to research teams. Some teams found that there was significant centralization of research administration, information technology, financial services, and other units providing services, while other teams found silos and fragmentation. At the University of North Carolina at Chapel Hill (UNC), the Provost's Task Force on the Stewardship of Digital Research Data, which included representatives from the Library and across the campus, conducted a research data stewardship survey (Provost's Task Force on the Stewardship of Digital Research Data 2012). In partnership with the Oregon Health & Science University (OHSU) Research Council, the OHSU Library implemented the UNC survey (revised to better fit the local setting in Oregon). Getting direct feedback from researchers at the local institution is crucial to identifying their pain points in management of data and other research products. The Role of the Library There are many roles that libraries have assumed in supporting eScience. In 2009, the Association of American Universities, Association of Research Libraries, Coalition for Networked Information, and the National Association of State Universities and Land Grant Colleges issued a call to action urging libraries to become involved in the dissemination of the full range of products of faculty research and scholarship throughout the research lifecycle (Hahn 2009). The EScience Institute was one of many responses to that call. However, there is little consensus on which, if any, objectives research libraries should pursue in this arena. New NSF and NIH regulations requiring researchers to include data management plans in grant applications appear to offer libraries a new entrée into the research process. The data lifecycle model of describing the products of research provides a way for librarians to examine issues related to the curation of information from the inception of an experiment or project through the publication of results (Humphrey 2012). Research data services can be seen as a natural extension of the research library's mission to collect, preserve, and make available to scholars a documented record of research. Libraries have traditionally fulfilled this charge at the end of the research process: making articles available via journal subscriptions, assisting with citation management, assessing research impact through bibliometrics and citation analysis, and assisting researchers with finding relevant

published literature. In recent years, libraries have begun assisting with regulatory compliance, most notably in assisting researchers with required deposit of article manuscripts in PubMed Central to comply with the NIH Public Access Policy. In response to changes in scholarly communication, librarians have promoted open access and formed organizations like the Scholarly Publishing and Academic Resources Coalition (SPARC). Librarian expertise with metadata design, selection, and application could be applied to the data curation and sharing process. Lessons learned in preservation and archiving seem to be applicable to the challenges researchers face in storing data and making it available for analysis and reuse. The suggestion that data citations could be used in tenure and promotion has a clear analogue to article citation and bibliometric analysis. However, there are many potential barriers to data sharing. Some potential partners, such as technology transfer and business development offices, might want to restrict data sharing in ways that seem antithetical to many librarians' philosophy of free and open sharing of information. Libraries must find ways to work with these partners in the service of researchers, rather than treating them as competitors and wasting limited resources on conflict. There are many reasons that privacy of information may be more important to the institution or the re- JESLIB 2013; 2(1): 8-15 doi:10.7191/jeslib.2013.1043 12 searcher than data sharing. The severe penalties associated with release of individually identifiable health information under the Health Information Portability and Accountability Act, protection of the safety of researchers working in controversial fields like primate research, and the need to respect the cultural and privacy rights of study populations are just three examples. In some disciplines, researchers have a natural inclination to keep data secret to prevent being 'scooped,' or because they fear data misuse. In any case, curating data - publishing and archiving for preservation - is difficult and time consuming. This should not be discounted as perhaps the largest impediment to data sharing. Some libraries are already promoting best practices in data management. Laboratory information management systems (LIMS), once limited to the largest and best-funded labs, are now available as web services and have been promoted as tools to better organize and describe research resources and data. Librarians are assisting lab managers with the development and implementation of metadata schema, and libraries have drafted templates for data management plans to use in grant applications. Information scientists and domain specialists are developing ontologies and implementing linked open data (LOD) to facilitate data harvesting and reuse. But data isn't everything. At the E-Science Institute, teams were encouraged to consider potential services in: Scholarly communication (connecting" data to articles, "data papers"); Virtual organizations (distributed research teams, shared compute);" Physical space (visualization labs, group" study); Policy development (IP or sharing, integrating, citing, preservation);" Collection development (policies, areas," methods); Technical infrastructure" (cyber infrastructure, HPC, grid, storage). There are also potential roles for libraries in promoting the scholarly outputs of their institutions. At OHSU, the Library participates in Research Week, an annual celebration of campus research that brings together people from across disciplines. Librarians and bio informaticists at the Bernard Becker Medical Library of Washington University have developed a model for assessment of research impact (Sarli 2010). Expertise systems are being used by libraries on some campuses to highlight interests and accomplishments of researchers at an institution. Expertise systems, such as VIVO, SciVal Experts, and Harvard Profiles, have been implemented at many research institutions.

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Changing Roles of Academic Libraries and E-learning

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Abstract

The new technology has important role to play in academic libraries. By using this technology, academic libraries are helping users access the vast amount of library resources, evaluate and select the best information for their specific needs. E-learning is adapted readily adapted by teachers and library plays important role in providing them authentic resources.

E-learning has numerous benefits and should contribute much more to education. However, there are several challenges in implementing e-learning at academic libraries which includes inadequate fund, lack of technical support, lack of training and support as well as lack of motivation and negligence by institutional management. Hence, it is necessary for academic libraries to provide adequate funds and technological support to provide better e-learning services to their clients. This paper highlights the basic concept of e-learning, tools for e-learning, its advantages and disadvantages, also further discuss about the changing role of academic libraries.

Key word: E-learning, needs of e-learning, tools for e-learning, advantages and disadvantages, changing role of academic libraries.

Introduction

The academic system largely relies on teaching, learning and research. Eternally, education depends on information resources. These resources are the driving forces and factors for making a society an educated one. The educated society can exist only when information is stored, shared and utilized properly. In an academic arrangement, both 'education' and 'library' are inseparable - indivisible concepts, working for the promotion and evolution of teaching, learning and research for greater use of academic. With the advent of computers, the nature of libraries has changed dramatically. Computers are being used in libraries to process, store, retrieve and disseminate information. As a result, the traditional concept of library is being redefined from a place to access books to one, which houses the most advanced media including CD-ROM, Internet, and remote access to a wide range of resources. Libraries have now metamorphosed into digital institutions. Gone are the days when a library was judged by its quantitative resources.

Today, libraries are surrounded by networked data that is connected to the vast ocean of Internet-based services. Moreover, electronic resources relevant to the professions are developing at an unprecedented pace. Academic libraries are considered the nerve centers of academic institutions, which support teaching, research, and other academic programmes in various ways. Demographic changes, technological advances and globalization have totally changes the concept of education. The teaching learning is a delicate process, which needs to be standardized throughout the world. The nature of the academic library and the role they play in campus is changing. Libraries are moving towards an information commons model of service, and becoming campus community centers. They invite student and faculty socialization, learning, research, scholarship and instruction. They are most effective when programming, services, and spaces are developed in partnership with others seeking similar educational outcomes. Academic libraries will increasingly provide information and services to their users at right time as per their requirement. Whatever the changes, the traditional roles of a library in an academic community, especially those communities that aren't changing substantially themselves, will remain valid and important to a successful college or university. With the gradual development of ICT's based learning technologies, the traditional ways of teaching is change in e-learning mode. E-learning is a new concept of virtual learning, virtual learning room, and web based education leading to establishment of virtual University with a view of extend educational opportunities for all, anywhere and at any time. Today all the information is available in electronically/digital format. Education system is faced problems such as trained and experienced teachers, lack of infrastructure and need of quality education. E-learning could solve the problems. The future education is totally based on e-learning.

Objectives of the Study

1. To define and explain concept of E-learning.

2. To analyse changing role of academic library.

Methodology

The current study 'Changing Roles of Academic Libraries and E-Learning' is based on both primary and secondary data collected from different sources. The primary data was collected from different reports and secondary sources are concerned they were accumulated from number of research papers, articles and books. The research tool used for analyzation of data which amassed from different sources for current study is content analysis and the research method applied to the present study is descriptive research method.

Needs of E-learning

1. One doesn't need to travel anywhere to get online degree. Learn from leading companies and experts right at home or at work.
2. **Proven and Certified** - It become proven and certified by many leading universities, educational board and many multinational companies. Microsoft approved courseware - e- learning prepares you for Microsoft Certification.
3. **Easy to Use** - One only need an internet browser; HTML based and designed to load quick and get him learning fast; tested and proven online training designs with step by step, easy walk through.
4. **Great return on one's investment** - online training is cheaper than any formal courses, e-learning is cost effective and easy on one's pocketbook. One can get access to a large library of online resources free of cost or very nominal charges.
5. **Interactive** - simulations have learners do what they are learning which leads to greater retention of covered material; accommodates different learning styles through audio, visual graphics, testing and printable exercises.
6. **Self Directed and Convenient** - It gives lot of flexibility to learn by own choice. He can focus On his needs and where, when and how he wants with unlimited access 24 hours/day, 7days/ week.
8. **Complete lessons** - Students can learn subjects in depth - most of the time course includes built in notes, tips, quick references, detail links, and simulations; with exercises and practice files that increase you retention, up your level of involvement and keep the material fresh.
9. **Pre and Post skill assessments measure your progress** - most of the case assessments can be used before, midway, or after taking the course. First try, best try and online course grade and tracked.
10. **Cross platform** - online education is accessible by Windows, Mac and Unix USERS.

Concept of E-learning

According to UNESCO, e-learning is described as, 'The tool and the processes to access, retrieve, store, organize, manipulate, produce, present and exchange information by electronic and other automated means. These include hardware, digital cameras, phones, faxes, modems, CD and DVD players and recorders, digitized video / radio and T.V. programs database programs and multimedia programmes.'

The Learning facilitated and supported through the use of Information and Communication Technology (ICT). Education offered using electronic delivery methods such as CD-ROMs, Video Conferencing, Websites and e-Mail. Often used in distance learning programmers.'

The Learning that is accomplished over the Internet, a computer network, via CD-ROM, interactive TV, or satellite broadcast. Therefore, following above three definitions we can easily get an idea about e-learning. In general, we can say that the term e-Learning used to describe education and training supported and delivered through online networks or Internet and all its components. However, generally three forms of e-learning are available and are using in different institutions. These are namely; web-based training, supported online training and informal e-learning. There are three forms of e-Learning -

- **Web-based Training** - Content-focused, Delivery-driven, Individual learning, Minimal Interaction with tutor, No collaboration with other learners.
- **Supported online Training** - Learner-focused, activity-driven, Small group learning, Significant interaction with tutor, Considerable interaction with other learners.
- **Informal E-learning** - Group-focused, Practice-driven, Organizational learning, Participants act as learners and tutors, Multi-way interaction among participants, Therefore, following above discussion, it can easily get an idea about e-Learning. In genera can say that the term e-learning used to describe education and training supported and derive through online networks or internet and all it components. At present, the new term virtual Learning Environments (VLEs) are used in institutions to support e-learning.

Tools for E-learning

Apart from the Internet, Internet and other network tools and techniques, the e-Learning community extensively uses the following tools:

1. **CMC (Course Management Systems)** - CMS tools are also known as virtual learning systems, content management systems, learning management systems, learning content management systems, etc. CMS tools help in the creation and management of course material such as lessons/courseware, assignments, glossaries, citations to other resources, etc.

In other words these tools help in total e-Learning. Model, Sloodle, Lecture share, element, Blackboard, Authority, www.digitalThink.com India Web Developers, E-Learning Solution is some of the course management tools. Each one of them has its own specialty. In order to have some uniformity in various CMS a set of specifications known as SCORM (Sharable Content Object Reference Model) has evolved. Most CMS are free and open source, so that they can be downloaded free and can be customized to one's own needs.

2. **Blogs** - A blog enables to disseminate and access specific information. Apart from blogs devoted to LIS, the websites of departments of library and information science have blog facility.

Blogs can be used by students as well as by instructors to provide updated information. They are useful to initiate discussions.

3. **Wikis** - Wikis is a piece of software where individuals under the control of an editorial board, can upload contents or modify existing contents. Wikis is a useful source for getting information and extensive links to information.

For example, LITA (Library and Information Technology Association) offers blogs and wikis for the LIS e-Learners. Wikipedia and Knoll are other examples of wikis.

4. **Social Bookmaking** - Social bookmaking is a web-based service to share internet bookmarks. The social bookmaking sites are a popular way to store, classify, share and search links.

5. **E-Mails** - E-Mails as well as e-mail-based discussion forums such as LIS-forum are useful in delivering contents' as well as communications about e-learning. Messenger such as Yahoo Messenger, MSN Messenger can be used for synchronous interaction. Facilities like e-Z meeting can also be used for real-time conferencing.

The ACRL, for example, has live chat series called on Point. Using this tool the ACRL organizes e-Learning events for various occasions.

6. **Podcasting** - Podcasting is a fusion of two words i.e. iPod, Apple popular digital music player and broadcasting. Podcasting are basically digital audio programs that can be subscribed to and downloaded by listeners by RSS. It can be accessed on an array of digital audio devices like Mp3 players, desktop computer, laptops, mobile etc.

7. **Instant Messaging** - An Instant Messaging application allows one to communicate with another person over a network in relative privacy.

There are many options like Gtalk, Skype, Metro, ICQ, Yahoo Messenger, MSN Messenger and AOL for instant messaging.

8. **Text Chat** - Internet Relay Chat (IRC) and other online chat technologies allow users to join chat rooms and communicate with many people at one, publicly. This facilities both one-to-one communication and many-to-many interaction.

9. **E-Learning 2.0** - It refers to new ways of thinking about e-learning. It is inspired by the emergence of WEB 2.0. It emphasizes on use of social learning, and tools such as blogs, wikis, podcasts, and virtual world such as second life.

According to Craig³ new generation learners are influenced by social networking. Experienced and empowered to create, publish and redistribute contents, they find structure of LCMS traditional and inflexible in contrast with the user-centered approach of web 2.0 services. Case studies⁴ indicate that LIS schools are making changes in curriculum and teaching learning methods using more and more Web 2.0 technologies.

Advantages of E-learning - E-learning has many advantages, some of these are:

The information can be accessed by any one, any time and any places, it is cost effective and time saving; when using information system one is more innovative and interactive; Cognitive abilities are enhanced with e-learning; It is a self-paced learning. In other words, a slow learner can take time to grasp the things; Instruction quality is consistent; the information can be shared by more than one user at a time. It has an edge over print media; Appreciable time is saved in preparing the E-write-up and for publishing the same; Status of the pre-print material with the publisher is known much in advance; it

offers an opportunity for piecemeal learning.

Disadvantage of E-learning

E-learning has many disadvantages over the other methods of learning. Some of these are:

Lack of face to face conversation; Maintenance also very costly; Information and communication infrastructure is required which is capital intensive; Special e-learning is required to know and operate computer/Internet etc; E-working is power dependent; Technology is changing at a faster rate and its incorporation in the system is not that easy and it is costly at the same time; Information on websites is not an assured information as the sites are not updated in time; E-working is not conducive to good health. One working on computer for a long time is likely to develop physical ailments and poor social skills; Lack of technical support to learning providers and learners; Equipment needs of learners and learning providers.

Changing roles of Academic Libraries

Due to the impact of ICTs, libraries are incapable to fulfill the information needs of users by means of print sources alone. Libraries are forced to acquire, organize and enable access to electronic resources and provide new technology based services. Electronic resources include online catalogues CD-ROM/DVD databases, multimedia, online full text electronic journals, databases, e-books, digital repositories etc. Libraries have to find strategies for making their resources and services readily available to the faculty and students preferably in the electronic environments; otherwise, their existence will be at stake.

Academic Libraries in the e-learning environment have already made some progress by providing access to their catalogues, databases, electronic journals, Internet resources, etc. to the user's community on the Intranet or Internet. The utilization of innovative technologies by academic libraries to provide access to resources and services in support of learning, teaching, and research has benefited both students and faculty so that they can undertake learning and research without being in the library. The shift to an online environment has thus resulted in a change from the systematic one-to-one information flow of the past to a new model in which the users and the providers of information are able to relate in a dynamic relationship. Bennett Identifies two major shifts in education Firstly, he argues that higher education is moving away from a teaching to a learning culture. Secondly, the revolution in information technology is changing delivery of education. He further argues that an academic library should consider these two shifts while planning their services. He also argues that academic libraries should not be seen solely as a traditional storage facility for books, or simply as a technology center, but instead the library should focus on the process of learning that takes place within its space, bringing resources, learners, and experts into easy proximity to facilitate collaborative learning. More recently, Freeman has referred to libraries as learning laboratories that accommodate learning in a variety of formats. In recent years, academic libraries have emerged as a portal to the information highway with carefully mapped directions to the desired information. Dinkelman & Stacy- Bates note that librarians have become innovative and provide dynamic, flexible and user oriented ways for easy navigation through the website.

Conclusion

In conclusion, it can be said that the introduction of ITC e-learning made substantial up gradation and changes in every area of science and technology. This has also brought reflective changes in academic world. There is emergence of new model of education and learning due to change in technologies. Under these prospective, libraries also adopt new information systems and services, which proved mostly beneficial for improvement in its services. The new technology has important role to play in academic libraries. By using this technology, academic libraries are helping users access the vast amount of library resources, evaluate and select the best information for their specific needs. E-learning is adapted readily adapted by teachers and library plays important role in providing them authentic resources.

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Future role and Challenges of Libraries

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Abstract

This paper deals with the Future role and challenges of Libraries. The concept of library is as old as the civilization. As a social institution, its value is highly rated in the society. Many slogans related to libraries epitomize their contribution to the humanity. Some of them are, 'library begets the social values', and 'library promotes the cultural harmony,' reading empowers', so on and so forth. Libraries exist to acquire, give access to, and safeguard carrier of knowledge and information in all forms and to provide instruction and assistance in the use of collections to which their users have access. In short libraries exist to give meaning to the continuing human attempt to transcend space and time in advancement of knowledge and preservation of culture. In the present paper, the author wishes to focus on UGC and academic libraries, INFLIBNET and academic libraries, National knowledge commission and academic libraries, Paradigm shift in the focus of the new and latest reading method that are important in the coming time bringing great opportunities.

Introduction:

The library as a soul of education system helps in training and fulfillment of objectives and mission of the education institutions they are part of it. The libraries are primarily attached to the educational institutions like schools, colleges, universities and other standalone institutions of higher learning.

Academic library is considered as the 'heart of the any institution and this statement was perhaps used first by them president of Harvard university,(1869-1909), Charles William Eliot. University education commission (1948-1949) under the chairmanship of first vice president of India Dr. Sarvepalli Radhakrishnan.

UGC and academic Libraries:

UGC as a regulatory body for promotion of higher education in Indian universities was established in December 1953 and was formally declared as statutory body by an Act of parliament in 1956. Since its inception UGC has been extending support to universities and colleges in terms of regular grants towards infrastructure development, procurement of books and journals, automation of libraries, etc. Besides, it has constituted a number of committees and commission at different intervals for the academic enrichment of higher education and academic libraries in India. One of the most remarkable and commendable initiatives taken by the UGC towards the development and progress of academic libraries in institutions of higher education was to establish Information and library network centre(INFLIBNET)

INFLIBNET and Academic Libraries

It is an autonomous inter-universities centre of UGC based at Gandhinagar (Gujarat) and was established by the UGC in March, 1991. INFLIBNET helps in the development of universities and colleges at national level by extending support in the area of automation of libraries, digitization of resources, software development for libraries and training, consortia based subscription of journals and networking of academic libraries across India for better and effective sharing and access of academic resources among university and college libraries. It has developed software called software for University libraries (SOUL) which available free of cost to INFLIBNET member libraries. Besides it also work as a reservoir of Indian theses called Shodhganga which has database of approximately 115346 theses from 280 universities across India(as on 16.12.2016) It has also developed an union catalogue of Indian universities called IndCat which has bibliographical records of about 13 million books from 178 universities. Under consortia based subscription of e-resources, Shodhsindhu, which has been initiated by the Ministry of Human Resource and Development is being successfully implemented by the INFLIBNET has an access of 15000+ journals, 3153000+ e-books and other.

National Knowledge Commission and Academic Libraries

National knowledge commission (KNC) as a high level advisory body to the prime minister of India, a body of first kind in the world, was constituted on 13th June, 2005 by the union government of India. KNC has recognized the significance of academic libraries as centre of information and learning as well as gateway to national and global knowledge. KNC has strongly recommended that efficient and effective academic library system, radical infrastructure improvement in the existing system of knowledge, increased

participation, leveraging information and communication technologies are of vital importance to transform India into a vibrant knowledge -based society. All the objectives and mandate of NKC in respect of knowledge paradigm must be supported by an effective academic library system. Keeping in view the significance of support of edge for five key areas of knowledge paradigm, access to knowledge - knowledge concepts -knowledge -knowledge creation -knowledge application -development of better knowledge services, the NKC has constituted a working group on libraries and made several valuable radical recommendations to make the existing academic library and information system efficient and effective. It has already submitted its report with relevant recommendation on libraries to the prime Minister in march 2009. Sincere efforts are being made by the central government with regards to implementation of its recommendation at ground level and establishment of National Mission on Libraries is a significant in this direction.

Relevance of Academic Libraries

Famous Argentine poet and thinker Jorge Luis Borges has stated " I have always imagined that paradise will be a kind of library". This statement is absolutely pertinent whenever we think about the libraries in India. As per the report of 5th All India Survey of Higher education (2014-2015) there are 760 universities (including all central, state deemed and private universities), 38,498 colleges and 12,276 stand alone educational institutions. This survey has also indicated that there are estimated to be 34.2 million enrolments and approximately 14,73,255 teachers (including professors, Associate professors, Assistant professors, others). All these educational institutions have their own libraries which are catering and supporting to academic, research and scholarly needs of such a large numbers of their clientele and thus fulfilling the mission of their respective institutions. Academic libraries are extending their support to academic fraternities in pursuit of knowledge and information as well as a right platform for learning and innovation.

Paradigm Shift in Academic Libraries

It is quite evident that mandate of the academic libraries is to support the academic and scholarly mission of their respective college and universities. Being the treasure trove of knowledge and gateways of information academic libraries and librarians have to explore innovative ways to fulfill the information and associated need of their clienteles especially keeping in view the paradigmatic shift in knowledge generation and management, constant invention of new web -resources and presence of information search and retrieval giant like Google. All these have changed the users demand scenario and therefore in order to fulfill and meet the demands and expectations of all its users libraries and their policy makers have to rise to the occasion and to change and redesign their activities to deliver high quality, need based, value added services by adopting new and innovative technologies.

Future challenges and opportunities

Perhaps 'Google' as a giant, others as well, have put up a yaksha prashna before the very existence of academic libraries, their credibility, performance and activities. so we, librarians, have to explore pragmatic ways, introduce innovative methods and techniques to furnish the information needs and expectations of the end users. Development of collections for books, journals and others whether print or digital, updating and introduction of new services or whatever services library is going to put in force must have design as per the existing and potential needs of their clientele. At this juncture, we are compelled to recall the fundamentals of " Five laws of Library Science". Formulated and propounded in 1931 by the father of the Library science in India, Padma Shri Dr. S.R.Rangnathan. These laws are not only pragmatic but are quintessential and helpful in designing and framing of library policies placing users at the centre.

With the ascent of digital documents and digital technologies libraries role has been widely expanded and multifaceted challenges have emerged. The challenges are not only manifold but seem to be threading to the existence of libraries but simultaneously offering opportunities to library professionals to frame proper strategies to fulfill the changing needs of users in the changing technological environment. Some of the challenges and appropriate strategies to come over them may be enumerated as:

- i) Effective utilization of digital technologies in supporting education and research to meet demands of academic institutions, faculty, students, scholars, others both at personalized level as well as community level.
- ii) Managing digital information resources like digitalized collections, institutions repositories, learning object repositories, online journals, various other web resources in an effective, impressive and user friendly manner.
- iii) Resources are made readily available for the community by identifying, discovering relevant scholarly web resources and getting these resources available to users.
- iv) Single access platform of multilayered and multifaceted information resources to users keeping

- in view the recall and precision ration. v) Emergence of gadgets , its popularity and its various implications deep in the society has opened a new vista for academic libraries too. Scope of suitable and effective implementations in this area must be explored and looked into for the benefit of user community.
- vi) MOOCs (Massive Open Online Courses) and rise of online education is another challenging dimension for the academic librarians. They have to prepare themselves and evolve logistics to meet the demands of such students.
 - vii) Academic librarians must adopt and have to emphasize on information literacy skills/ instructions. Information literacy/instructions in the form of training and learning support need to be delivered to the user either in person or in groups. Such programmers require on account of complexities and varieties of digital /web resources and would ensure effective use of subscribed and non subscribed resources. Such programmed will reaffirm believe in campus community that the library is central to academic activity what Dr S Radhakrishnan has said 67/68 years ago.
 - viii) In the present age gadgets are so high that these mechanisms can be explored and implemented in an effective way. Mobile, internet and digital technologies would be quite helpful in this regard and would definitely draw the attention of users towards libraries and satisfy their information needs.
 - ix) Optimum and effective utilization of open source software (OSS). The OSS are playing important role these days and would play a more significant role in future. Academic libraries are required to be acquainted with a range of OSS, their installation, functionality and utilization for the benefit of their user community.
 - x) Role of social media cannot be ignored as it has left a profound effect on our social life. Academic libraries in future must explore ways and means to capitalize its huge benefit for the advancement of library services.
 - xi) Capacity building of library and information science (LIS) professionals is of utmost significance in this context which has been advocated and elaborated by the NKC also. This is the most challenging aspect for all librarians especially for those associated with the academic libraries to meet the anticipated demands and expectations of their users. All the library schools in India are required to design and develop their academic curriculum in such a way as to meet the challenges of emerging technologies. Besides academic librarian must adopt lifelong learning which is only a means of improving competencies, attitude, skills and knowledge.

Conclusion

National knowledge commission has undoubtedly recognized the role and significance of academic libraries. However to transform India into a knowledge-based society academic libraries are required to be redesigned in order to meet the new challenges and expectations of the readers. New format of publications, intensive use of digital resources, changing pattern of educational and learning and role of ICT in access of information, etc. Therefore, librarians have to adapt to these challenges and acquire new requisite skills to meet out the demand and expectations of their users.

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Changing role of Library Professionals in Knowledge Era

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Abstract :

Modern era is mainly influenced by Information Technology and Globalization force. IT has given new paradigm to the transmission, dissemination and storage of information; whereas due to globalization geographical boundaries are vanishing. Libraries are social institutions and it has been affected by these social changes. Core function of the library is retrieving information, storage of information and dissemination of information. Revolution in Technology changed library daily work and the libraries physical format. Digital age is characterized by digital interface, digital imaging, and storage of text. Changes in technology, copyright, storage of digital information these are some issues faced by librarians. Librarians have to accept new changes to cope with global changes.

Keywords : Academic Libraries, Digital Library, Challenges in Knowledge Era, changing role in ICT

Introduction

This era is called as information era. Information is becoming basic need of human. It becomes as important as food and air. Revolution make changes in Technology form of information and demand of human. Nobody have time. Every patron needs information at their tip of finger. Rise of the World Wide Web(WWW) in early 1990's and fast development of information communication technology (ICTs) have changed the role of various institutions. ICT changed the Library services globally. Internet has reduced the physical boundaries and library services become open to all. Internet provides universal access to information. Innovation in Technology increased rate of conversion of knowledge, database and information into electronic format. It leads to change the mode of delivery of library services from traditional to electronic services. The information and communication technology not only affected traditional housekeeping operations but facilitates communication through networks for collection, storage and dissemination of information.

Revolution in ICT has made tremendous changes in every profession including librarianship. Library professionals tried to cope up with technological changes as well as high expectations of patrons. Technology change rapidly so librarians have to upgrade their knowledge and awareness according to new technological development to provide better services to their patrons.

Challenges of Libraries and Library Professionals

Change is the constant thing in our life. Rapid changes in IT change the need of information. A library professional faces difficulties and challenges due to new trends in information access. The user expectation on libraries to deliver high quality, comprehensive, user - friendly new generation services have grown tremendously in recent years. To survive in this modern technological era library and librarians have to upgrade their knowledge as per patron demands. The major goal of the library and information Centre is user's satisfaction. A proper planning of technological development leads to achievements of the institutional object.

There are so many challenges in knowledge era which are faced by librarians :

- Changes in Technology
- Information Explosion
- High expectation of patrons
- Revolution in ICT
- Budge Cut
- Incompetence staff
- High usage of web resources
- Open source movement
- Revolutionary changes in digital environment
- Copyright and intellectual property rights management
- Insufficient bandwidth

Changing Role of Library Professionals

Revolution in ICT has changed the role librarian from traditional librarian to information officer.

Today's librarians are playing important role in storing information, managing information and retrieving information electronically. Today's librarian are playing multifaceted role like information officer, information facilitator, information broker, information manager and information technology expert. Now LIS professionals are building e-resources by adopting different strategies to store, analyze, maintain and disseminate information effectively and efficiently. They must accept the change and adapt new technology to fulfill their patrons need. They are playing role of information specialist in order to -

- Meet patrons information need
- To know how users are retrieved information from available resources

Skills required for LIS Professionals

In the changed scenario under the influence of ICT the duties of the librarian have been changed. To meet enhance need of patrons Library professionals are expected to enhance their competencies and skills in modern age. If they are not updated to themselves they cannot provide better services and may lay behind. Competencies are aspect essential to achieve set goal, and skill are required for doing a job effectively and efficiently. So some of the skills are listed as follows -

- **Management Skill** - Librarian have to enhance special management skill as per the ICT.
- **Communication Skill** - Librarian should be able to achieve both verbal and written communication skill. Proper communication skill control misunderstanding and enhance operation in the groups.
- **Technical Skill** - Librarian should have technical skill to use various tools and techniques.
- **Adaptation Skill** - As per current trends Librarian should ready to adopt all new techniques and changes as per requirement.
- **Update of Knowledge** - Librarian should update their knowledge as per current trends to meet their patrons need.
- **Collection Development Skill** - Collection of resources should be reach in terms of content which should fulfill patrons need.
- **Time Management Skill** - Library services should get within time to the patrons so the basic rule of library science should be followed by librarians.
- **Financial Management** - Short budget is the main tackle of the every librarian, so within budget able to give better service.
- **ICT Skill** - Every day there is a change in ICT, so Librarian should have enough competency to handle the resources which are using in their Libraries.
- **Marketing skill** - Librarian should be able to promote their services for patrons.
- **Interpersonal skill** - Librarian should active to build their relationship with other in order to achieve their goal of library. Librarian must encourage their supportive staff to give their best to achieve the target.

Conclusion

In the information society not only huge amount of information produced but a lot of development in computer world and communication technology involved. In this revolutionary changes librarian should acquire appropriate knowledge and enhance ICT skill to fulfill basic rules of library science laid down by Dr. Ranganathan. Challenges raised by these competencies must be seized and acted upon today in order to ensure that Librarians have better future in Knowledge Era.

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Role and Importance of Internet in Library - A Study

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Abstract

The development of communication technology is playing a vital role in the development of society. In earlier days vocal and pectoral methods were mainly used for communication. But now days these primitive methods have given way to electronic pulses. Information of communication technologies has brought changes in the modes and method of information storage, retrieval and transmission. The advent of internet and its world wide web has created a greater impact on the Library and information centers to have access to various information sources and disseminate it to users. The services available in internet can be utilized by the Library and information centers for acquisition, collection development and various services as CAS, SDI, ILL, Reference Service etc. through various types of resources that is available on Internet. This paper discusses the importance of the Internet in Library functions and services provided by Library and Information centers. Web offers significant advantages by integrating different Library and Information services with a common user interface offered by web browsers. With the demand of adopting this new age of technology, metropolitan network have to become more efficient to train the Library and Information professionals and students.

Keywords - Library, Digital, Automation, Library users, Web Technology

Introduction

If someone asked us for a short and concise definition for library, we could say that a "library" is: "a place which defines the shared knowledge of a community and conserves its historical memory" (Lyman, 1994).

By the turn of the century, information, including access to the Internet, will be the basis for personal, economic, and political advancement. The popular name for the Internet is the information superhighway. Whether you want to find the latest financial news, browse through library catalogs or exchange information with colleagues, the Internet is the tool that will take you beyond telephones, faxes, and isolated computers to a burgeoning networked information frontier.

The emergence of computer and telecommunication technologies in recent decades has had a great impact on libraries. Many of these technologies have been integrated into library operations such as acquisition, cataloging, circulation, interlibrary loan, and reference services. Today's library activities are no longer confined within their physical territories. Many libraries are electronically networked and rely heavily on computer and telecommunication technologies as a means of providing library and information services. Information can be stored in various electronic forms and transmitted at high speed over electronic networks to wherever there are computer facilities to receive it. Internet has become an integral part of library and information centers that helps in meeting the information requirements of the users in a timely manner. "In fact, the library and the Internet are being viewed increasingly as a versatile unified system, providing an enormous variety of materials in different formats". The use of the Internet has enabled easy access to many resources, and information sharing has, therefore, significantly increased. It has become a challenge for librarians to prove the importance of libraries in the age of easy access to the Internet. To meet this challenge, libraries take the initiative to use the Internet in their public services and internal operations, and make the Internet an integral part of library's infrastructure. (Blaiso, G.D. Urban 2008)

Importance of internet to libraries

Internet has become a part of library environment today. It has added a great value to the library and information services. According to Gyres, "with the expansion of internet a new class of electronic document has emerged, it was at once promising and attractive for its obvious advantage of speed and transmissibility and profoundly elusive and confounding to the library community because of its intangibility and malleability. Within the last ten years, the Internet has become global and ubiquitous. It reaches in hundreds of countries of all continents and is featured daily in the business sections of all major news papers. A internet is playing an important role in transforming the library system and the way in which we view the library resources and the library services. With the help of web based library

services in developed countries, users are attended round the clock. Internet provides links to various library sites, specializing in almost every topic and they can be accessed directly from any part of the world. As the libraries are going web based more and more libraries' are becoming accessible via libraries' web pages. With an internet connection, a student in any university of India can browse through the documents in computers of US National libraries or elsewhere in the globe. The Net therefore, provides instant access to billions of information sources which include books, reports, journals, video films, sound recording and wide variety of other sources. The library and information professionals have a vital role to play in organizing the information and bridging the information gap. Internet has created some of the following new and different service operations: (George C., Bright A., 2006)

- (a) By designing clearly organized, easily accessible and well published library web sites librarians can extend the traditional librarianship to the use of information technology and seize a leadership role in both fields.
- (b) The libraries can initiate Bulletin Board Service which gives complete information regarding services, products, and various events organized by them.
- (c) Ready reference service can be provided with greater speed and in much shorter time.
- (d) Books and journals can be ordered online, technical processing of the documents too can be done without much effort. (e) E-mail services can be used for delivering information to the users and communicating with the fellow information professionals.
- (e) E- SDI services can be used for delivering information to the users.
- (f) Access to various databases and OPAC of other libraries located in remote areas can be provided.

internet has thus integrated nearly all library activities e-mail, discussion through list serves, support reference service through search of remote databases, exploiting the catalogue of other institutions, participation in inter-library loan (ILL), ordering books and journals, inter-library loan establishing home page, etc. Under these circumstances resource Sharing and cooperative functioning of the libraries through internet has also become vital. The utilization of facilities by them largely depend on getting internet connection and exploiting its services and resources for providing better access to global information. The scope is unlimited or rather limited to the imagination of library professionals.

Objectives of the study

1. To find out the level of the Internet access in the libraries
2. To determine for which purposes the Internet was being used
3. To find out issues related to access and use of the Internet in libraries

Scope of the study

The scope of the study covers all types of libraries (university, college, school, public and special) in India that had access to the Internet. A list of the libraries of Maharashtra was developed with the help of available directories and other online sources, as an up-to-date comprehensive list was not available.

Significance of the study

This study brought to bear the services found in the library and the services available on the Internet. It is hoped that results of the study will help to improve service delivery to graduate students in India. In addition, the study adds to existing literature on students' information behavior patterns and information needs. This study is based in the broader field of information behavior. More specifically in the context of information seeking behavior as defined by Wilson (2000) as " the purposive seeking for information as a consequence of a need to satisfy some goal. In the course of seeking, the individual may interact with manual information systems (such as a newspaper or a library), or with computer-based systems (such as the World Wide Web)".

Review of literature

This study is based in the broader field of information behavior. More specifically in the context of information seeking behavior as defined by Willson (2000) as "the purposive seeking for information as a consequence of a need to satisfy some goal In the course of seeking, the individual may interact with manual information systems (such as a newspaper or a library), or with computer-based systems (such as the World Wide Web)". The study therefore focuses on how students interact with both manual and computer based systems. It also investigated which system they prefer using and the motivation to select one system to the other.

Conclusion

Information is a vital element for any type of development. But, nowadays, information is increasingly growing up by leaps and bounds. In the perspective of knowledge proliferation, person who needs to collect information is not possible easily for him. For removing these problems, Internet contributes a lots

way in library and information center. The internet has in this manner incorporated almost all parts of the library exercises, the bookkeepers would now be able to utilize the Web for misusing the inventory of different establishments, requesting books and diaries on the web, take an interest in Sick, use email, and talk about through list serves, support reference administration through remote databases what's more, generally significant of all set up library/home pages to extend their assortment and administrations on the site. The degree is just constrained to the creative mind of library experts. All that is required by the present experts is a through comprehension of progress in idea of librarianship and mental readiness to view the internet and the WWW as an opportunity and react to the difficulties of data asset the board and data foundation improvement for bridling the advantage of the much discussed internet innovation in setting of the libraries.

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Information is A Value Addition Service

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Abstract:

The meaning of this concept varies in different contexts. Our user needs information for various purposes like to report, to instruct, to explain, to persuade, to discuss, to recount etc. etc.

Various definitions or meanings of value addition says, it's improvement or addition to something which makes it more worthy or set of control activities which transform an input into an output that is valuable to users. In this context, anything and everything which is done to promote the use of information which makes the information affect a behavior, decision, or outcome is value addition to information. Dr. S. R. Ranganathan has stated that without the use of materials, there is little value in them. Of course, we also know, what is the value of perfect information to a user asking for it.

Introduction

Information means data that has been verified to be accurate and timely, is specific and organized for a purpose, is presented within a context that gives it meaning and relevance, and that can lead to an increase in understanding and decrease in uncertainty. The meaning of this concept varies in different contexts. Our user needs information for various purposes like to report, to instruct, to explain, to persuade, to discuss, to recount etc. etc.

Various definitions or meanings of value addition says, it's improvement or addition to something which makes it more worthy or set of control activities which transform an input into an output that is valuable to users. In this context, anything and everything which is done to promote the use of information which makes the information affect a behavior, decision, or outcome is value addition to information. Dr. S. R. Ranganathan has stated that without the use of materials, there is little value in them. Of course, we also know, what is the value of perfect information to a user asking for it.

As a Librarian or Information Manager we always strive to provide the information or to guide the person to the perfect source of information which already exists. Value addition to information indicates the deliberate efforts taken by the information manager / librarian to transform the information into more usable format as well as to disseminate it to users.

Value addition through library functions and services

Librarian classifies the information, organizes it and spreads it to our users. He / She collect the information and sources of information anticipating users' requirements. While classifying He / She tries to put all related information together so that users can get easily what they want. Librarian catalogues the information; add meta data so that the information can be accessed easily without wasting much time of our user. One can also accession in-house literature. So that it can be searched through regular OPAC. We put our catalogue on OPAC, Web OPAC. Our web OPAC can also be made available on mobile. So at every step right from collection development to the dissemination of information we add value to the information in one way or the other.

Through reference service Librarian guides the user to the particular information or to the source of information very effectively. Now days with the use of technology Librarian gives access to documents, databases, journals, books stored at remote places also. Online reference services can also be provided to a member or person seating at remote place e.g. ask a librarian. One can design various web based services for our users. E.g. Creation of Virtual Library through a web page. It is a type of information retrieval system. We can create small digital libraries consisting of links to other useful websites, link to library databases, question papers, study material created by teachers, power point presentations, create discussion groups, notice boards and give access to it through LAN. By doing this we are not only making in-house information / material accessible to all but also creating a medium of communication with our members.

Through indexing service librarian assigns descriptors to documents. This helps users to find information with correct terminology. In the era of Library 2.0 users also tag the information with their own terms or keywords (Folksonomy). Librarians, to control vocabulary, can simultaneously put their own tags to encourage use of standard keywords (hybrid method). Abstracting service is further addition to

the indexing which helps user to know something more about the article. With the short summary of documents users are in a better position to decide to what extent the article is useful for them.

Current awareness service through displays, exhibitions, SDI etc. can be provided to keep the user aware of current developments. Here librarian anticipates the need of users and provides the information. Librarian can email the information to interested members or publish it on library's blog. With the help of Web 2.0 technology these services can be given in more creative and innovative ways. To meet the requirements of researchers and scientists Librarian can even provide translation services with the help of translators.

Value addition through developing Information Products:

Developing Information products through information consolidation and repackaging can be done to present the information in more understandable, readable, acceptable and usable forms. It includes customization of information taking into account the needs and characteristics of the individual or user groups. Librarian can even transform the data from one type of medium to another. E.g. print to digitize. Different media can also be combined while designing information product. E.g. CD of musical instruments.

Simple Bibliographies can be prepared for different topics as per the need of users and keep them updating regularly. Content analysis of information and information sources can help users to decide authorship, authenticity, or meaning of particular information. A well thought out and well structured literature search can be most effective and efficient way to locate sound information related to research topic. Information may be found in books, journals, government documents and the internet. Literature reviews, associated with academic oriented literature such as a thesis, can also be done. The outcome of all such activities can be developed as Information products. These information products can be made available through libraries personal blogs or websites. Thus we add value to the information by changing its form and also giving various access points to information in order to enhance its value.

Value addition through analysis of quantitative aspects of information:

Quantitative analysis of information with the help of statistical methods can be done in special libraries wherever required. Libraries which cater to research scholars, scientists, government, administrators etc. can provide these services. Bibliometric analysis is a set of methods to quantitatively analyze literature based on parameters such as number of publications (e.g., productivity) to total citations (e.g., total impact) by each author as well as by affiliation or key words. Informatics is the study of quantitative aspects of information. This includes the production, dissemination and use of all forms of information, regardless of its form or origin. Citation analysis is an examination of the frequency, patterns, and graphs of citations in articles and books. Scientometrics, webometrics, Impact Factor, H-Index are some of the other types of studies through which analysis of quantitative aspects of information is done.

These types of quantitative analysis may be used as indicator of scientific productivity to judge the research in institutions or countries. Data may also indicate the researchers' preferences for publication. Results play a major role in taking decision regarding research development or reorientation of governments as well as attributing funds. It also reveals interesting information about information seeking behavior and usage of various information sources. The information can be also used to decide internal policies of library.

Value addition through creation of new information and knowledge:

Libraries can act as institutional repositories and invite authors to share their information with peers. Here libraries can act as intermediaries. Libraries can get peer review done and make the information available to users. Libraries can make available unpublished papers submitted to them in this course of procedure. A librarian working for research libraries have access to documents like laboratory experiments, researchers' notes which is never gets published. If Librarian makes this material available it can really influence other research scholars as well as ongoing research to a great extent. By undertaking research, organizing conferences, workshops etc. in the field of Library and Information Science librarians can generate new information and knowledge. This can be treated as addition to the existing information or knowledge. Librarians provide impetus to creation of new information and knowledge.

Other Practices indicating value addition to information:

Original document or copy of a document or information can be made available to users through ILL or different types of collaborations and consortia. In case of online books or journals, Libraries can negotiate the access policies with the publishers / distributors on behalf of their users. For procuring documents libraries can take help from members of community as well. E.g. Libraries can have a list of book collectors or authors in the vicinity.

Librarians can design user education programmes offline as well as online to educate information seekers on how to search information in this era of information exposure. Librarians can actually make

users feel the need for information, make them aware that it is available and it is available through various sources. They can also guide How to handle and get information from different information sources as well as how to record the particular information and cite the source of information used for future reference.

With their expertise in the field of organization and dissemination of information, librarians can serve the nation by actively joining in various welfare programmes and government initiatives. Literacy drives, E-literacy drive, preservation of culture, E-Governance are few examples where librarian can contribute.

Conclusion

To conclude, Librarians put their users at the Centre and plan every activity keeping their interests in mind. Desired use of information is never achieved without user participation. With the help of feedback mechanism, personal interactions, blogs and other interactive sites we can invite their expectations from libraries. Thus we can locate user for every piece of information and offer information to every user. That is a real value addition to the information which is created to be used to the fullest extent.

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Models of Information literacy

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Abstract

Information literacy helps the usage of library resources to the optimum level. It help users to get right information at right time .which is getting more and more important in the information Age, onlythen the development and progress is possible .Present article provides an action plan Or design for information literacy program me.

Keywords:- Information literacy (IL)Models.

Introduction:-

Information literacy refers to a set of characteristics that transform an ordinary student

Into a wise information consumer and lifelong learner information literacy isn't just something you do in college rather Information literate is something you become via your course work andpersonal experience and inter actions withinformation.

Some of the aspects of information literacy include using information technologies

Such as personal computers e-mail, software programs and the internet .other aspects of information literacy involve the evaluation of the information you obtain .using the internet

And online electronic resources. Still other components of information literacy regard the

Ethical use of information and technologies .A couple of the primary goals of information literacy Are to get people thinking critically about of the information they encounter, and building in people the ability to use that information create new knowledge.

Definition :-

American library Association defines the terms information literacy. To be information Literate a person must be able to recognize when information is needed and have the ability to Locate evaluate and use effectively the needed information, thus information literacy is the ability to access evaluate and use information from a variety of sources available at globe.

Who Needs of information literate; The concept of information literacy may seem too broad and overwhelming .why should Students learn all this ?Because we want to remove the obstacles to creativity which are Caused by lack of understanding of the research process. We only want to introduce students to those skills which will allow them to succeed in their future chosen paths.

This is not just for college students but all of us as professionals in the work place

And in our personal lives. Being information literate ultimately improves our quality of life as we make informed decisions when buying a house choosing a school hiring staff making an investment Voting for our representatives and so much more information literacy is in fact the basis of a soundDemocracy.

Information Literacy is:-

- 1) The ability to articulate ones information need.
- 2) The ability to identify locate and access appropriate sources of information to meet The information need.
- 3) The ability to effectively use information resources regardless of format
- 4) The ability to critically and ethically apply the information.
- 5) The ability to determine if the need has been adequately met.

Advantages of information literacy:-

- 1) Information literacy is prerequisite for participative citizenship.
- 2) Information literacy is required for the production of new knowledge on which the future economic successes of the country depends.
- 3) Information literacy is neededto solve global problems and survival of civilization further many other scholars have stated their identified advantages.
 - Equips Information people for lifelong learning
 - More than just computer skills
 - Includes critical and reflective thinking'

- Necessary for informed decision making
- Valuable in creating a successful workforce.

Models of Information Literacy:-

Defining, Locating applying search strategy, interpreting, analyzer, synthesizing Evaluating and communication are the bare objects the information literacy models

Information literacy consists of a rain of skills that can be identified as both critical and technical models a categorized in to following two types.

- 1) **Linear:-** A linear model means that the steps must performed in a set manner.
- 2) **Non Linear:-** A nonlinear models means that an individual passes through different stages at different times depending an information need.

Some of the information literacy models developed by expert's organization are as follow

- 1) Belkin
- 2) SCOUNL
- 3) RAC Model
- 4) Doors
- 5) Research cycle
- 6) Alberta model
- 7) Student research guide
- 8) Super 3 model

- 1) **Belkin:-** Belkin model is similar to Dervish theory of sense making bekin argues that+ individuals cannot have information needs only situations and problems as individuals don't know what they need nor go to ask per it an individual's state of knowledge changes as they pass through different stages of the information seeking process as in previous sense making approach and kuthlthaus model.

- 2) **SCOUNL:-** Seven Pillar model information skills.

SCOUNL stands for the society of colleges national and university libraries tasl for on information skills was first convened in early 1990.

The six skills are-

- 1) Recognize information needs.
- 2) Distinguish ways of addressing gap
- 3) Contempt strategies for locating
- 4) Locate and access information
- 5) Compare and evaluate
- 6) Organize apply and communicate

RAC Model:-

It is known of research analyze and communicate. The RAC model is an instructional planning framework that uses research analysis and communication to teach students and asses

Their understanding of the required curriculum. The RAC model is -

- 1) Embed state and local curricular requirement Makes learning student centered
- 2) Engages students on critical thinking
- 3) Is cross curricular'
- 4) Is easily incorporated in the performance based classroom
- 5) Provides opportunities to assess student products and performances.

Doors:-

3 Doors to info literally is a research based trademarked learning model and program me developed by Dr.Gwen .The 3 Doors to info literacy model is based on years of research in to the challenges students face when making critical and creative use of information. 3 Doors grouped in to three categories .the three doors.

Aim:- opens to knowing what you need to learn now you need to learn it knowing how to access information knowing how to plan and manage the learning.

Claim:-

Opens to being able to process information analyses evaluate synthesize and communicating learning processes and knowledge clearly. Concisely and accurately using arrange of media and technologies.

Research cycle:-

- 1) Define your topic
- 2) Develop a plan for your research'

- 3) Find the information you need
- 4) Evaluate the information you find
- 5) Enough is enough
- 6) Organize cite and present your information
- 7) Evaluate your Project

Action Learning Model:-

It is developed Gwen Gawith in 1993 and stages are-

- 1) Decide
- 2) Search and finding
- 3) Using and Analyzing
- 4) Recording
- 5) Presenting and communicating
- 6) Evaluating

Conclusion:-

The information literacy model is generally used to help students immerse in multiple Aspect of a problem, issue or topic developing knowledge through actively engaging with information from multiple sources. Information is needed because it is prerequisite for participating citizenship helps in production of new knowledge and to solve information Problems. Librarians play a key role in information literacy model to know the why the user need the Information how to find evaluate the information and how to transform the information into Knowledge for future use. It will emphasize the critical thinking is that will form the basis for lifelong Learning and will developed a more self-directed and independent learner.

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Open Source Software's in Higher Education

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Introduction

Open source software is computer software whose source code is available under a license (or arrangement such as the public domain) that permits users to study, change, and improve the software and to redistribute it in unmodified or modified form. It is often developed in a public, collaborative manner. It is the most prominent example of open source development and often compared to user generated content. For many libraries, organizing their books and other media can be a daunting task, especially as the library grows with more material. Years ago we had crude card catalogue systems (remember the Dewey Decimal System) that kept things organized, but were difficult to maintain. With today's computing technology, organizing our libraries has never been easier or more efficient. Gone is the card catalogue and in some libraries, it's much easier to locate a book through an internet connection and picking it up upon your arrival, rather than wasting the time scouring the aisles looking for your next read. Now just because the world has been blessed with wonderful software solutions that make everything easier to do, doesn't mean that every library in the universe is using these solutions. Many libraries do not have huge amounts of money to burn, and any that they do get usually goes to purchasing additional resources. Because of this need for software (and the installation and training costs associated with any), and the lack of money available to spend on it, many libraries are left to fend for themselves when it comes to staying up to date with the latest technology. Unless, of course, they embrace the open source movement and use some of the countless software solutions available to help out. Most software that we all use everyday is known as "proprietary", which in a nutshell means that it costs money and that the actual code of the software is restricted, in that the code of the software cannot be modified, copied, or changed from its original construction. The code is "unreadable" and pretty much is what it is.

Open Source Software

On the other hand, is quite the opposite. The open source mentality revolves around sharing and collaboration, and these two important elements describe open source software perfectly. First and foremost, open source software is free for anyone to have; more importantly, not only is the software free, but it is also free for anyone to copy, hack, modify, etc. This increases the possibilities of a software program's potential because of this free-thinking model. Many large groups of programmers have customized basic open source programs into whatever they deemed necessary, and have in turn given these modifications back to the open source community for free where others can continue to build on their work. There are many different kinds of open source software solutions out there today that could be embraced by the library. There's basic operating system, document processing programs. Library Management Software (LMS) and Digital Library software.

Open Source Movement

In 1998, a group of individuals advocated that the term free software be replaced by open source software (OSS) as an expression which is less ambiguous and more comfortable for the corporate world. Software developers may want to publish their software with an open source software license, so that anybody may also develop the same software or understand how it works. Open source software generally allows anybody to make a new version of the software, port it to new operating systems and processor architectures, share it with others or market it. The aim of open source is to let the product be more understandable, modifiable, duplicatable, reliable or simply accessible, while it is still marketable. The Open Source Definition, notably, presents an open-source philosophy, and further defines a boundary on the usage, modification and redistribution of open-source software. Software licenses grant rights to users which would otherwise be prohibited by copyright. These include rights on usage, modification and redistribution. Several open-source software licenses have qualified within the boundary of the Open Source Definition. The most prominent example is the popular GNU General Public License (GPL). While open source presents a way to broadly make the sources of a product publicly accessible, the open-source licenses allow the authors to fine tune such access. The "open source" label came out of a strategy session held in Palo Alto in reaction to Netscape's January 1998 announcement of a source code release for Navigator (as Mozilla). A group of individuals at the session included Todd Anderson, Larry

Augustin, John Hall, Sam Ockman,

Christine Peterson and Eric S. Raymond. They used the opportunity before the release of Navigator's source code to clarify a potential confusion caused by the ambiguity of the word "free" in English. The 'open source' Movements generally thought to have begun with this strategy session.

Advantages of Open Source Software

- **Lower Software costs:** Open source solutions generally require no licensing fees. The logical extension is no maintenance fees. The only expenditures are for media, documentation, and support, if required.
- **Simplified license management:** Obtain the software once and install it as many times and in as many locations as you need-There's no need to count, track, or monitor for license compliance.
- **Lower hardware costs:** In general, Linux and open source solutions are elegantly compact and portable, and as a result require less hardware power to accomplish the same tasks as on conventional servers (Windows, Solaris) or workstations. The result is you can get by with expensive or older hardware.
- **Scaling/consolidation potential:** Again, Linux and open source applications and 'services can often scale considerably. Multiple options for load balancing, clustering, and open source applications, such as database and email, give organizations the ability to scale up for new growth or consolidate to do more with less.
- **Support:** Support is available for open source-often superior to proprietary solutions. First, open source support is freely available and accessible through the online community via the Internet. And second, many tech companies are now supporting open source with free online and multiple levels of paid support. For example Liblime.
- **Escape vendor lock-in:** Frustration with vendor lock-in is a reality for all IT managers. In addition to ongoing license fees, there is lack of portability and the inability to customize software to meet specific needs. Open source exists as a declaration of freedom of choice.
- **Unified management:** Specific open source technologies such as CIM (Common Information Model) and WBEM (Web Based Enterprise Management) provide the capability to integrate or consolidate server, service application, and workstation management for powerful administration.

Quality software:

Evidence and research indicate that open source software is good stuff. The peer review process and community standards, plus the fact that source code is out there for the world to see, tend to drive excellence in design and efficiency in coding.

Open Source Software for Libraries

Library Automation

Koha: Integrated Library System

Koha is a promising full featured open source ILS (integrated library system) currently being used by libraries all over the world. For those of you out there unfamiliar of what an ILS is, well, it is a system of keeping track of the operations of a library - payroll, expenses, purchases, and most importantly, keeping track of the various media being checked out by the librarians patrons. Many smaller libraries cannot afford to purchase, install, and maintain an ILS, and Koha is a perfect alternative. Koha is built using library ILS standards and uses the OPAC (open public access catalog) interface. In addition, Koha has no vendor-lock in, so libraries can receive tech support from any party they choose.

New Gen Lib

New Gen Lib (New Generation Library) is an Integrated Library Automation and Networking Solution Developed by Verus Solutions Pvt. Ltd. and The Kesavan Institute of Information and Knowledge Management, India. In March 2005, New Gen Lib version 1.0 was released and versions 2.0 and 2.1 have come up later. On 9th January 2008, New Gen Lib has been declared Open Source Software under GNU GPL License by the Verus Solutions Pvt. Ltd, Hyderabad, India.

Evergreen

Evergreen ILS is another option when researching open source ILS options. Developed by Equinox Software, Evergreen is a robust, enterprise level ILS solution developed to be capable of supporting the workload of large libraries in a fault-tolerant system. It too is standards compliant and uses the OPAC interface, and offers many features including flexible administration, work-flow customization, adaptable programming interfaces, and because its open source, cannot be locked away and can benefit from any community contributions.

Digital Library

Greenstone Hgital Library Software

The Green store; digital library software is an open-source system for the construction and presentation of information collections. It builds collections with effective full-text searching and metadata-based browsing facilities that are attractive and easy to use. Moreover, they are easily maintained and can be augmented and rebuilt entirely automatically. The system is extensible: software "plugins" accommodate different document and metadata types. The aim of the Greenstone software to empower users, particularly in universities, libraries, and other public service institutions, to build their own digital libraries.

D Space

D space is a ground breaking digital institutional repository that captures, stores, indexes, preserves, and redistributes the intellectual output of a university's research faculty in digital formats. It manages and distributes digital items, made up of digital files and allows for the creation, indexing, and searching of associated metadata to locate and retrieve the items. D Space design and developed by Massachusetts Institute of Technology (MIT) Libraries and Hewlett-Packard (HP). D Space was designed as an open source application that institutions and organizations could an with relatively few resources. It isn't support the long-term preservation of the digital material stored in the repository. It is also designed to make submission easy. D Space supports submission, management, and access of digital content.

E Prints

E prints is open source software package for building open access repositories that are compliant with the Open Archives Initiative Protocol for Metadata Harvesting. It shares many of the features commonly seen in Document Management systems, but is primarily used for institutional repositories and scientific journals. E Prints has been developed at the University of Southampton School of Electronics and Computer Science ad released under a GPL license.

Fedora

Fedora open source software gives organizations a flexible service-oriented architecture for managing and delivering their digital content. At its core is a powerful digital object model that supports multiple views of each digital object and the Relationships among digital objects. Digital objects can capsule locally managed content or make reference to remote content. Dynamic views are possible by associating web services win objects. Digital objects exist within a repository architecture that supports a variety of management functions. All functions of Fedora, both at the object and repository level, are exposed as web services. These functions can be protected with fine-grained access control policies. This unique combination of features makes Fedora an attractive solution in a variety of domains. Some examples of applications that are built upon Fedora include library collections management, multimedia authoring systems, archival repositories, institutional repositories, and digital libraries for education.

Web Publishing

Word press

Word press started out" a quick, free, open-source solution blogging solution just a few years ago; today it is a perfect alternative to building a web site from scratch. In addition to being free to use (and easy to install, the Word press community has exploded, with thousands of users and programmers creating custom themes and plug-ins to completely change the way the software looks and operates. The most important aspect of the software is it's easy-touse interface and content management system. With it's visual rich editor, anyone can publish text and photos to the web site. Other options include multiple authors (with separate log-ins), built in RSS (Real Simple Syndication technology to keep subscribers updated, and a comment system that allows readers to interact with the sites content. A fantastic way to communicate with patrons, staff, etc.

Drupal

Drupal is another open source web publishing option that allows an individual or a community of users to easily publish, manage and organize a wide variety of content on a website. Tens of thousands of people and organizations have used Drupal to power scores of different web sites, including Community web portals. Discussion sites. Corporate web sites, Intranet applications, Personal web sites or blogs, E-commerce applications. Resource directories. Social Networking sites.

PDF Creator

The PDF ("portable. document format") file is an industry standard format that everybody uses everyday. The purpose creating a PDF file is usually to provide an important document for display that cannot be modified by the reader (unless permission is given). Many programs exist that will enable you to create your own PDF files, but they require you to spend money, which is not in our budget. Instead, we're going to use the open-source PDF creator to take our Office files and convert them into professional

PDF documents.

Selection criteria of open source software

Evaluation of open source software is different from proprietary programs. A key difference for evaluation is that the information available for open source programs is usually different than for proprietary programs; source code, analysis by others of the program design, dissension between users and developers on how well it is working, and so on. Often proprietary programs always hide all information from users and only allow running the software. Following Criteria's can be adopted for open source software selection:

User interface

Most of the open source library software's are available with web interface. Software with web interface is easier to learn and use. Graphical templates of open source software's are possible to customize and users can add new design. Through redesigning the templates and style sheets open source software can easily integrate with library/institutional websites. Separate administrative and user interface is essential for remote access and maintaining security. Conclusion

So, it seems that there are some very powerful solutions available today that could be used to create a much more resourceful library. By using open source software in the library, mosey that otherwise would be spent on software solutions can be used for other important resources, such as purchasing additional media resources (books, journals, etc.), or can be used to hire educated, technical support that provides patrons with the know how to better use already existing resources. In addition, this free software is constantly being updated, changed, and customized to meet the library's needs. While all of this is fine and dandy, and sounds like the win win solution for your library, there are still pitfalls and hurdles we'll need to overcome. Hopefully this article provides some introductory information as to how to wean your library off traditional computing products and dive into the pool of open source resources available today.

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Open Source Software

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Abstract:-

Open source programming are become the need of libraries of low spending plans its become so inviting that library expert can utilize effectively. They can run, duplicate, circulate, study ,change, share and improve for any reason. Open source programming projects needn't bother with the huge amount of business programming and empowers libraries to have more noteworthy command over workplace.

Key Words : Open source software

Introduction :-

Open source is a software development model as well as a software distribution model. In this model the source code of programs is made freely available with the software itself so that anyone can see, change, and distribute it provided they abide by the accompanying license. In this sense, Open Source is similar to peer review, which is used to strengthen the progress of scholarly communication. The open source software differs from the closed source or proprietary software which may only be obtained by some form of payment, either by purchase or by leasing. The primary difference between the two is the freedom to modify the software. An open system is a design philosophy antithetical to solutions designed to be proprietary. The idea behind it is that institutions, such as libraries, are can build a combination of components and deliver services that include several vendors' offerings. Thus, for instance, a library might use an integrated library system from one of the major vendors in combination with an open source product developed by another library or by itself in order to better meet its internal or users' requirements.

Open Source Software is the successor of this movement in the internet era. There is a worldwide "movement" underway related to open source software development; consequently the term has acquired many different meanings depending on one's perspective.

Strictly speaking, "open source" means that the software source code is:

- 1) made available for others to use, view, and modify; and
- 2) that it may be redistributed by anyone for free, without royalties or licensing fees to the software owner. In contrast, source code from purchased software packages generally is not distributed or made fully accessible to anyone and in many cases users are prohibited from copying or redistributing the compiled software.

Concept of Open source:-

The expression "open source" is anyway ordinarily used to indicate a specific model of programming improvement. This is the decentralized methodology taken by surely understood and set up activities, for example, Linux and Apache, in which an overall network of software engineers add to the improvement and progressing upkeep of the projects. There is a wide continuum of thought processes in the individuals who add to open source programming.

Toward one side of the range are unpaid volunteers propelled by the inherent compensations of taking care of a fascinating issue, by the eminence one can pick up inside the programming network or the client network, and by the craving to make something for one's very own utilization. Second, there are developers allotted to include privately required highlights and add to the improvement of open source programming by associations that have settled on a business choice to receive it.

Features of OpenSource Software:-

The open source definition notably presents an open source philosophy and further defines a boundary on the usage modification and redistribution of open source software.

- **free source code** - The program must include source code and must allow distribution in source code as well as compiled form. The source code must be the preferred and freely available. One can change the program according to his willingness.
- **free distribution** - Due to the effectiveness of open source software it has become the backbone of libraries. Its help the library automation. The OS software is not require any

licenses or royalty for the sale.

- **3.Derived Works** - The license must allow modification and derived works, and must allow them to be distributed under the same term as the license of the original software.
 - No discrimination against fields of endeavour
 - Distribution of license
 - No discrimination against Persons or Groups

Why open source software:-

Presently a days numerous libraries are going with the business programming throughout the previous two decades, endeavors to modify proceed as a progressing procedure as the current framework is found to have as a continuous procedure as the current framework is found to have insufficient practically to fuse a significant number of the necessities with the development of data, correspondence and innovation. The key motivation to leave upon the open source programming endeavors incorporates: to reduce acquisition of costly programming and yearly upkeep contracts (AMC) of the business programming. Presently a days an enormous number of open source programming is accessible on the Internet. The accompanying significant open source library programming are

- Avanti (1998)
- Koha (1999)
- Learning Access ILS (2000)
- PhpMylibrary (2001)
- GNU Teca (2001)
- OpenBiblio (2002)
- Eprints Archive software (EAS)
- CERN Document Server Software
- Greenstone Digital Library (2000)

Conclusion :

Open source programming are the electronic applications that encourage the Library the board with an adequate chance to uncover its assortment. A universally useful computerized library like GSDL is a phenomenal apparatus to give data administration in our libraries. The library experts can improve their capacities, as information directors, on the off chance that they will improve their ability in dealing with the open source programming and use them for overseeing information assets.

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Technology and Innovation in Libraries

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Abstract

The purpose of this paper is to discuss need of technology and innovation in libraries. The paper also discussed about what is innovation and technology and technology innovation.

Keywords: Innovation, Technology, Technology Innovation

Introduction:

Today's library and information services delivery are being transformed from their manual operations to new ways using technology. Information technology has brought in sweeping changes in the way libraries function. Libraries need to access, evaluate, and measure the impact of information technology on them. The efficiency and relevance of any library and information centre is dependent on the effective delivery of qualitative service to users as well as recognition and careful adaptation of measures in the provision of library and information services capable of meeting societal needs. Fulfilment of societal needs want innovation and applying new technology in library and information centre.

Innovation

Webster Dictionary defines "Innovation is the introduction of something new. Without innovation, there isn't anything new, and without anything new, there will be no progress. If an organization isn't making any progress."

Wikipedia defines "Innovation in its modern meaning is a new idea, creative thoughts, new imaginations in form of device or method". Innovation is often also viewed as the application of better solutions that meet new requirements, unarticulated needs, or existing market needs.

New ideas, concepts, products, services, technology, etc. all represent new knowledge and are a result of a process of knowledge creation. This also means that any new combination of two or more kinds of knowledge can be construed as innovation.

Technologies

The word technology has been used so frequently that we have taken the meaning for granted. To many, technology simply means the use of machines for produced human needs. To others, technology implies the art and science of applying man's knowledge in all sorts of human endeavour such as engineering, medicine, culture, music so as to satisfy man's needs.

The dictionary of science and technology define technology as the practice, description and terminology of any or all of the applied sciences which have practical value and/or industrial use.

Merriam- Webster dictionary define technology as the practical application of knowledge especially in a particular area.

Technological innovation

Technological innovation comprises activities that contribute to the research, development and design of new products, services or techniques, or to improving existing products, services and generates new technological knowledge.

The needs of technology and innovation in library sector

- 1. Modernization:** With the help of technology and innovation libraries are dynamics changed by adding a relational side to all its processes. Modern libraries are shifting from focusing on transactional services, and have become relational which creates more value for the users.
- 2. Innovation:** new capabilities possible due to trends like ICT. The new information and communications technologies hold great potential for broadly disseminating knowledge at low cost, and for reducing knowledge gaps within learners. In a broad sense, access to the right information at the right time gives users.
- 3. Transformation:** Libraries are changing just as their users are. Users expect different services from libraries in the digital age.
- 4. Automation and restructuring of libraries:** The human element is a very important aspect in implementing an automated system in the library. The library and its staff are the focal point and play a very important role in the goal of library automation. During the course of the

automation project, it is crucial for the library to assure a coordinating role and to be aware of what is going on at all times. Staff awareness and participation before installation are crucial to the success of the new system or service. Above it is also equally necessary to that the library staff should have computer literate and professionally experienced and involvement of staff who will be effected at all levels of a new system/service is a requisite to successful implementation.

5. **Usage of E-resources** : Now a days user attitude towards the use of e-resources. Young generation are more familiar using computer, laptop etc. Most of the user using e-resource for their information needs. Most of the time, the faculties even the article they require is downloaded from internet and mailed it to them, they are of the habit of taking a printout and read the same instead of reading the same using the laptop or reader.

Conclusion

Transformation of the library, librarian need leaders who can think in unconventional ways, recharging existing services and establishing radical new service with the help of innovation and technology. The library focus on service quality and adherence to rules and processes is part of the culture that can limit the ability to innovate. In order for libraries to remain relevant to their users, they must follow the fundamental rule of business, that is, to supply what is demanded by their market. Library staff skills and library services all have to shift from book?centric to user?centric.

As the academic library continues to redefine its role in teaching and research in the digital environment, it needs to leverage its strengths, such as physical space and collections, and to innovate responsive and convenient services.

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Future role and Challenges of Libraries / LIS education

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Abstract :-

In every type of humankind, knowledge represents the sum of what is created by all previous generations, to which the present generation adds its own. In continuous, developing and live nature of knowledge -that which has no beginning and that which has no end. To face challenges of acquiring and providing access to electronic knowledge resources require librarians to change their role from traditional librarian to information scientist by learning and applying new skills to understand the evolving technologies to manage and provide quality on-line information services to the society. The main objective of this study is to examine and discover the changing vision and the roles of future academic library professionals accordingly to face challenges in the digital environment. This paper emphasizes about the necessity of changes in the curriculum of Library and Information Science and skills of library professionals to meet the requirements of education Society.

It also highlights the impact of ICT on, and paradigm shift in academic libraries Appreciates library consortia, institutional repositories, and open access archives as strategic response to the contradictory situation of growing digital documents and declining library budgets.

Keywords: Academic Libraries, Libraries, Digital Technology, Digital Resources.

Introduction:-

Libraries are playing an important role in academic and research system and therefore, libraries were considered to be the heart of educational / research institutions (Radhakrishnan, 1949). No college, university or higher education institution can ensure quality education or good research process without a library. Considering the importance of libraries in higher education and research UGC and other educational platform came out with some standard parameters and norms. The primary objective of libraries is to organize and provide access to information. This objective will never change, although the format and therefore the methods that are used can change dramatically, providing new opportunities and challenges. Higher education, scholarship, technology and economics, which are all interrelated, play a crucial role in understanding the requirements of libraries. In this paper, the term technology refers to computer technology, communications technology, and information technology. A librarian who is conscious of all of those three technologies can face the challenges of the new millennium. Like their colleagues everywhere, library professionals in India, particularly those serving high-tech institutions, are already subject to varied challenges. The introduction of computers was a challenge to all or any librarians. New technology may call for organizational change in the traditional library. Librarians may need to function more like consulting information engineers than because the traditional, passive custodians of data and dispensers of documents, moving from a collection-centered model to at least one that is access- and service-oriented. Ranganathan fifth law of library science¹ tells us about the ever-growing nature of libraries. To support this growth, resources must be accumulated. The need for both resources and for the infrastructure to support them causes many libraries Change in Educational policy

Objectives :-

The primary objective of this study is to analyze and explore the changing vision and the roles of future academic library professionals accordingly to meet the changes and challenges in the digital environment.

To document the various changes and challenges evolved before the academic library professionals in the e-learning environment.

To discuss about the various skills needed for the library professional to meet the present online and digital needs of the user.

Change in Educational policy

Libraries hold great potential to bring about positive change (NKC, 2007). As the NKC has identified, libraries are a crucial component of the Indian knowledge society. They support India's national progress, have the potential to address inequalities, and can make information accessible to marginalized segments of Indian society.

A broad point of view of LIS education in the developing and developed nations gives suggestion that LIS education in India needs to enhance some of the critical aspects such as large scale integration of the allied subject fields. Coordination of teaching-learning programmes, collaboration and exchange, use of the facilities offered by international and global organizations and induction of the equity components are absolutely must to get recognition in the national and international job market. These days, the concept of assessment and accreditation has taken roots in the higher education system. Establishment of few model schools of LIS education on the pattern of Royal School of LIS, Denmark, will encourage and enrich the quality of LIS education to suit the multiple requirements of employers in the job market. In view of this, it is desirable that the library schools in India must adapt themselves to the changing situations so that they can turn out better professionals who can meet the challenges posed by the changing environment. Library schools that are not able to adapt themselves may become irrelevant and have to close down sooner or later in the years to come. History has a lesson to teach. In the USA, those library schools which did not move with the time, were either closed or merged with other schools dealing with information science/information studies.

21st century librarians and their curriculum, leading curriculum lacking behind the stress of educational industry. India has world's largest higher education system i.e. approximately 700 universities and approximately 35000 college's affiliated to different universities and these are increasing day by day. Out of those approximately 150 universities impart library and knowledge science (LIS) education. But there's lack of practical training even though within the case of correspondence cases its condition is very bad.

UGC has played a major role in promoting career development for academic librarians to keep current with skills, knowledge, and competencies to face new challenges. One major step was the launching of Academic Staff Colleges at various Universities and initiating training programmes to library personnel in universities and colleges through refresher courses and various professional developmental activities. In 1986, Mehrotra committee of UGC recommended National Eligibility Test (NET) as a requirement for lecturers, assistant librarians, documentation officers and college librarians to improve the standards of the profession. According to Bhattacharya (1994), the continuing education programmes must take account of the following: Sponsor conferences, symposia, seminars, workshops, refresher courses, special lectures, etc.

Offer opportunities to professionals to attend the continuing education programmes; Identify areas appropriate for refresher courses, and support their organization by competent implementing agencies

Human resource development should be the most focus of India. It has rightly said within the report of the National Knowledge Commission (NKC) that, The ability of a nation to use and make knowledge capital determines its capacity to empower and enable its citizens by increasing human capabilities. India today stands suspended to gather the advantages of a rapidly growing economy and a serious demographic advantage which will see the country having the most important pool of young people in the world in the next few decades. In the words of our Prime Minister. The time has come to make a second wave of institution building and of excellence within the field of education, research and capability building in order that we are better prepared for the 21st century. (NKC, 2007, 1). It is with this broad task in mind, the National Knowledge Commission (NKC) was constituted on 13th June 2005 with a time-frame of three years, from 2nd October 2005 to 2nd October 2008. As a high level advisory body to the Prime Minister of India, Libraries Play a vital Role in meeting the information needs of users. This Paper reviews application of ICT in Libraries as an opportunity, that affect information technology in modern librarianship

Challenges and Opportunities

With the ascent of digital documents and digital libraries, library and information professionals role has expanded and challenges have increased many fold. These challenges relate to collection management, knowledge organization, digital preservation, online searching, content management, knowledge management, and promoting the utilization of libraries and networks. Library professionals are required to form as leaders, managers, and facilitators. The ICT and therefore the Internet has thrown open the doors to the Library professionals to several opportunities. Now 24x7 access to information is out there around the clock and therefore the traditional constraints of space and time stand collapsed. Library professionals have the chance to supply global reach to the indigenous knowledge. Similarly, we will get access to worlds knowledge and knowledge through the web provided we've the desire, skill, and therefore the appropriate attitude. These opportunities and challenges can be handled effectively by competent library personnel. Sound knowledge domain, significant skills and pro-active positive state of mind are the essential components of library and knowledge professional. Do we have that? If not, then the longer

term of educational libraries is certainly uncertain. If yes, then there's no reason to stress about the longer term of educational libraries

Skills to build up

The digital environment of the 21st century will demand a range of skills from by library and information science (LIS) professionals, including:

1. Technical skills
2. Information Technology skills
3. Managerial skills

Users may turn for help and advice on search techniques, database quality, database development, and the range of databases that are available. Librarians will need organized training programs, which can be in the form of workshops, conferences, seminars, symposia We are required to put a question to ourselves. The question is "Why the end-user is going to the Google by leaving behind the library?" Perhaps we have failed to come up to the expectations of the end users. The horizontal and vertical lines cross each other. In other words, where there is the perfect matching of end users' information needs, and library and information professionals' competence to meet those needs. Are we doing that? We must put this question to ourselves, and we will get a perfect answer to our worries about the future of academic libraries.

Today the librarians have to manage knowledge and trained themselves to fit into the information age acting as knowledge manager. In this context, the following challenges faced by them:

1. Sharing of Existing Knowledge
2. Transferring the Information
3. Library as an knowledge management centre
4. Library as access providers
5. Filtering the information

Conclusion :-

A librarian with various talents and training, and who is flexible, will be able to meet the challenges of future library scene. An ideal librarian is one who is competitive and assertive, who is cooperative and willing to compromise, one who is academically committed, who is equipped with technical and managerial competencies, who is enthusiastic to the needs of new technology at the same time not being emotionally attached to any one system. Librarians should be ready to participate in the process of generating and distributing information and knowledge for quality of life and education for all.

The paper is based on the assumption that the directive of the academic library is unbroken, only its role has expanded and format has changed. With the impact of ICTs, we are having digital libraries, as well as library and information networks. Academic libraries need to respond to the growing and diversifying information needs of the end-users. Academic libraries must become a local gateway to world's knowledge and information. The biggest and critical issue is how to manage change in the academic libraries so that we do not suffer the future of dinosaur. The future is uncertain but bright. We will have to create a relative balance of printed publications and digital documents. Our future library must be a hybrid library which must be user-centered and expert-assisted. To produce competent professionals, it's suggested that imparting education of LIS

1. Organizations should regularly update their curriculum.
2. Add or incorporating new area of knowledge and eliminating/removing irrelevant area from the curriculum.
3. Prepare a roadmap to supply directions for future to supply most effective and effect LIS services to the users of technology era.

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Models of Information Literacy and Academic Library

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Abstract :-

In this paper attempt to present how information literacy in academic libraries plays the most important role to educate the users or students in academic environment for effective use of information. We are finding ourselves in a rapidly growing and complex digital environment which has in turn increased our dependency on information.

Keywords : Literacy, Information Literacy, Academic Library

When the student crosses the boundary of school education and enters into the world of college life, he needs guidance. They need it because; they have to face the competition in the various exams and needs to do practice to deal with it. The students take admission in the college with an aim to build his career. The University plans various courses to assist the students to face such challenges. The teachers too help and guide the students and try to take out something good out of them. The class room teaching does not help much to the students to sustain in the competitive world and they need to be self-reliant in gaining knowledge at their own. Therefore, the college library should be oriented to that direction so that the students derive much benefit from the Library. The today's need is to make students aware of this information explosion and make them literate in this regard.

Introduction :-

In the twenty-first century information literacy has become a crucial issue for the political, economic social and cultural development in all countries. Information literacy has been known by many different names library orientation ; bibliographic instruction ; user education ; information skills training. These forms of information literacy are closely related to each other. While library orientation concentrates on how to use a physical building and bibliographic instruction and user education on the mechanics of using particular resources. Information literacy is becoming a strong pillar of knowledge society. The most important role of the academic libraries and librarians is to educate the users or students in academic environment for effective use of information either through print texts or electronic text via internet. In academic libraries information literacy helps the students to learn about and how to utilize information tools and materials in their own libraries.

What is information?

The knowledge of events in the past, present and future and its written or arithmetic reflection in any form is called knowledge.

According to Hopes, the knowledge and information arises out of the analysis of the facts with experience of the thought process, imagination and other psychological things.

The facts which have occurred in the past, present and future and affected the thinking process and imagination give a rise to the social welfare and develop the thought process. The need of this process is more considering the technological development and information explosion. Therefore, each and everyone need to be aware of the information literacy.

The Characteristics of the Information

- a) It is trustworthy.
- b) It is meaningful
- c) It contains surprising elements
- d) It conforms to the tradition of early knowledge.
- e) It is dynamic.

What is (Information) Literacy?

Literacy means knowledge about importance, usefulness & utility of any factor. It also means reading writing and knowledge about arithmetic.

The Information Literacy consists of two words information & Literacy which means information literacy.

Information Literacy :-

Ability to recognize when information is needed and to locate, evaluate and use effectively needed.

Information " ALA 1989 reports that Information Literacy is a survival skill in the information age ". They should be able to take a lead role in developing & delivering learning support strategic to endure the true meaning of Information Literacy.

Information Literate People :-

- 1) Determine the nature and extent of the information needed.
- 2) Access the needed information effectively and efficiently.
- 3) Evaluate information and its sources critically.
- 4) Incorporate selected information into one's knowledge base.
- 5) Use information effectively to accomplish a specific purpose.
- 6) Understand the economic legal and social issues surrounding the use of information.
- 7) Access and use information ethically & legally.

Those who have learned to learn, they know how to learn because they know how knowledge is organized, how to find information and how to use information so that others can learn from them. They are people prepared for lifelong learning because they can always find the information needed for any task or decision at hand." (ALA 2000)

Importance of Academic Libraries :-

Students need their own internal navigation system to manage the information rich environment that now surrounds them. Incoming students have far more experience with the internet and far less experience with the print than most of their professors. Academic librarians are the natural in-house experts for teaching both students and faculty colleges how to find, evaluate and use information effectively.

Organisation of the Library Information Literacy

In today's world of technological development, it has become necessary to execute the program of information literacy to develop the character of the readers and complete the library process a view to develop reading habits among the readers. Various programs are organized in which the information about e-books, e-journals, e-governance & e-commerce and available sources is disseminated to readers through the following ways.

- a) **Library Guidance :** The reader in the library is to be provided with the information about the library at the beginning of the session. The librarian should personally visit the class rooms and should provide information to the newly admitted students about the available resources in the library, like literature, journals, magazines, and newspaper etc. This will lead to maximum footfalls in the library and readers will come to know the rules of the library and its usages.
- b) **Organisation of Workshop :** A workshop of 2-3 hours may be organized to introduce the new technology and concept, to the students by the experts in the field. This will solve some of their problems.
- c) **Books Exhibition :** The books exhibition helps the students and research scholars to know about the sources available in the library in the sphere of entertainment and information. The book exhibition is the solid medium for this purpose.
- d) **Guidance about Employment and Career :** Various advertisements appearing in the newspapers are pasted in the notice board. What course would be beneficial for career enhancement can be determined and this will attract the student to the library.
- e) **Guidance about Competitive Exams :** In today's world, there is competition in every field. The library will provide information to its readers. What book is to be referred to what exam and what book is available for what exam need to be informed to the students and readers. Once in a year, competitive exam practice is conducted.
- f) **Readers' Forum :** The readers' forum is to be established for the regular visitors to the library. Through this forum, programs like, competitive exams, debate competition, essay contests, reading competition etc. are organized. This will pave the way for growth in reading habits and students will make most of the use of library.
- g) **Internet :** The computer literacy in today's competitive world, has carved a niche in the information age. The students are taught to use internet for the educational purpose which includes, software, credit, debit, ATM e-banking, e-journals, and other information about the subjects like tourist education, scientific and also entertainment.
- h) **Transaction of Books :** Issue and receipt of books is an important function of the library. Every student of the college is made the member of the library and they are made familiar to the rules of the library and made information literate.
- i) **New Arrival :** The new arrivals of books and journals are displayed in the library. This

- published list gives the information to the students and makes them information literate.
- j) **Information about Seminars, Conferences and Workshops :** The information about the Seminars, Conferences and Workshops are given to the readers and the concerned e-mail, website and Brochure is displayed on the Notice Board. Through this information, the readers can send their papers and attend the activities.

Faculty and administrators often remain stuck in their conception of the library as a collection and of librarians as research assistants.

- Librarians are often bound to their self image as experts. and often resist only form of teaching.
- Lower student use of the library and librarians make them hard to reach.
- Information Literacy Skills :-

Skills required to be information literate require an understanding of

- A need for information
- The resources available
- How to find information
- The need to evaluate results
- How to work with or exploit results
- Ethics and responsibility of use
- How to communicate or share your findings
- How to manage your finding.

Competencies of Librarians :-

Personal - represent a set of skills attitudes and value that enable librarians to work efficiently be good communicators focus on continuing learning throughout their careers demonstrate the value added nature of their contributions and survive in the new world or work equipped with the knowledge skills and competencies. Librarians are now employed as technology consultants, coordinators heads of digital information literacy etc. since librarians work in a service oriented organization the new roles being played now should also be integrated with total quality service.

Thus libraries and librarians are truly and significant contributors to the success of their organizations or institutions as well as active partners in information literacy education for lifelong learning.

Need for Information Literacy :-

- It is the solution to data smog.
- It allows us to scope by giving us the skills to know when we need information and where to locate it affectively and efficiently.
- It includes the technological skills needs to use the modern library as a gateway to information.
- It enables us to analyze and evaluate the information we find.

Libraries :- The right information to the right person at the right time is the key to success for any organization. An information literacy practicing library can successfully enable easy access to information resources in all formats while taking responsibility for its currency and relevance. Identify and acquire the materials of most relevance, organize those materials in an easily accessible manner, train readers to access and exploit relevant information resources in the most effective way and take the lead in raising the levels of information literacy within the organization information literacy skills allow library and information professionals to create develop and manage a library or information unit which meets the specific information need of their organization.

Conclusion

In today's world of expanded electronic access to information and the impact ubiquitous Internet searching has had on students entering or returning to post secondary education. New strategies must be employed education, facilitate instruction that goes beyond procedural skills the conceptual aspects of information literacy and critical thinking must come to the forefront of library and classroom instruction. Libraries and librarians as information literacy change agents. Information literacy is important beyond the domain of libraries and librarianship.

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Technology and Innovations in Libraries

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Abstract:

This paper aims at mapping out the innovations as change in library system under the special impact of technology and advancement in technology. It is fact that Information technology and Information Communication Technology (ICT) have created greater impact on both the stakeholders of the library i. e. one the information seeking, who are the users and services providers the library system and the librarians. Today the information needs have been changed from asking for a book or a journal to an article or a topic with the provision of E-resources. In this context, in the present research, the special focus is also given on the effectiveness of use of technology in library services.

Key words: innovations, ICT, Library services, e- resources

Introduction

In the recent works on study of library services one major aspect come out regarding change in the information-seeking behavior and users needs. One striking point emerged is the demand of E-resources by the users. And on the other hand the limitations on the part of the librarians and the library as service providers also came up. In spite of some problem in using E- resources almost every user need E-resources in one or the other form. The need of E- resource and provision for availability of E-resources has shown a rapid growth in research and academic development. On the side, this information explosion, increasing needs of users, lack of self sufficiency and increased financial crunch has led to the formation of consortia all over the world. The libraries have to adapt with this huge change ridden on technological innovations as a challenge to its traditional set up.

Similarly this change has put in a greater challenge to the librarians once who were considered only the custodians of the library collection, but the change in information media from print to electronic has shown the new sunrise in the life of librarians. The basic aim of a library is to meet the teaching, learning, scholarly-research and other information needs of its faculty, students and research scholars and that too effectively and with efficiency. With the easy availability of office computers and the transformation of media, the popularity and usage of digital and virtual libraries has been increased manifold. World Wide Web has totally changed the meaning of a library. Physical presence has been decreased rapidly with the invention of virtual library. There is a universal assumption that man was born innocent or ignorant and should actively seek knowledge. Information seeking behavior is the purposive seeking for information as a consequence of a need to satisfy some goal. In the course of seeking, the individual may interact with manual information systems such as a newspaper or a library, or with computer-based systems such as the World Wide Web. The Information seeking behavior also involves personal reasons for seeking information, the kinds of information which are being sought and the ways and sources with which needed information is being sought. In this way the information seeking behavior is expressed in various forms, from reading printed material to research and experimentation. Scholars, students and faculties actively seek current information from the various media available in libraries, e.g. encyclopedias, journals and more currently, electronic media subscriptions.

In this age of rapid growth in technological innovations availability of electronic media apart from the print media when the users had no choice except going to the library and search for the material in books, journals and archives for hours. Search was very time consuming in print phase. Changing needs of users have changed the role of a librarian, which has transformed a librarian into information professional. Librarians have always acted as a link between knowledge source and its users. Today the librarians are playing the role of an electronic middleman. They are now helping the readers in the best possible way by using the latest technology and searching techniques. Users are being connected to the information resources via Internet for hyper-links and for many more options and choices for advance search.

It is true that the change in the information-seeking behavior is the result of the invention of E-resources. Readers felt relaxed with this invention and inclination towards these resources was natural. There are many types of E-resources like E- books, E-journals, various open sources, gateways and databases. Chronologically we can divide these resources specifically journals as, in-print journals, on-

line journals free with print, only on-line journals, on-line databases. In the era of digital technology, the readers demand has become significant as they ask for an article or topic in place of a book or journal and at the same time they prefer to search online databases to fulfill their needs. With the invention E-resources quantity and quality of research both have been affected. Different search techniques are undertaken by library users to search and locate relevant information. To understand how users of libraries search and locate relevant documents, we librarians, need to understand the search techniques and what resources and sources of information they generally use and require.

However, the information professionals and users both suffer from the problem of exhaustive information, from a wide range of sources and shortage of time to find, manage and evaluate. Sometimes users search internet indiscriminately without knowing the facts. Here librarian plays an important role by making the users aware of the importance of the evaluation of the retrieved information by guiding them, how to retrieve, what to retrieve and how to further use that retrieved information, which is called evaluation of information. The challenge posed by the information explosion is being successfully met by electronic information sources. Further this information explosion, diversity of user need, financial crunch and impossibility of self-sufficiency has led to the formation of consortia at local, regional, national and international level.

Library Accountability

Nowadays technology systems and library technology with the advent of the information age and the radical change in library materials, media and means of access to information, the nature of certain types of building systems have changed accordingly. The most dramatic of these changes was the evolution of building communications and its associated equipment into the broad category of technology systems. Technology systems in a building now encompass any digital device, digital media, routing devices, operating systems, digital networks and servers, audio-visual systems, cabling systems and digital wireless devices, that are used to provide access to sources of digital information, modify that information, or even create information. The technology infrastructure is the name usually given to the equipment, the control and operating subsystems, the network connections, and the cabling of the total technology system as it resides in the building.

The building's technology infrastructure is connected to utility services outside the building, such as telephone or cable service; this incoming service is referred to as the technology utility. The technology infrastructure in a building continues to evolve in complexity and in its features and characteristics, and a new type of design professional has emerged with the type of expertise required to analyze, plan and design the technology system and its infrastructure. The technology consultant must not only be an expert in state-of-the-art technology systems, but must also be capable of anticipating the directions of development of new technologies as well as understand the physical interaction of components of the system with users and with the building.

To sum up it is apt to recall the unspoken truth that the information professionals that are users no longer visit the most trusted and tested path of a library these days. This decline in the physical visit to the library is sometimes depressing but virtual and digital library has replaced the physical ones, which is again a creation of information professionals. Users prefer to do the search in their own comfort zone at their preferred time and place. Library professionals should see this trend in a positive way. With maximum sources available to scholars without the time and place constraints, they are producing more research. This in turn has rapidly increased the further research work, which should be further analyzed through citation databases.

However notwithstanding the meager negativities, it is a positive and significant move that the, the profession of librarianship is growing and the credit goes to the E-resources, IT, ICT and ultimately consortia. In regard to information seeking behavior of users in medical libraries, it is recommended that library staff or reference librarians could use their time in a better way by focusing on assisting users. Librarians should also assist users in learning the use of OPAC, search engine, e-mail and CD-ROM techniques and inform them of the web sites available through the various networks. Hence, the library must provide adequate ICT facilities for reference librarians, such as Internet, laser printers, scanners, fax machine, telephone, etc to offer various services in the library.

To available the resources, e-resources properly, orientation programs is necessary. It is better to be suggested that advanced training for users at different levels should be started. The focus on the content of training programs should be somewhat like (a) Basic introduction to library services and facilities; (b) Using OPAC; (c) Methods and tools for searching information resources; (d) Using the Internet; (e) Using online and CD-ROM databases; (f) Using electronic journals; (g) Introducing reference books; (h) Introducing audio/video materials; and (i) Introducing appropriate indexes and abstracts.

Conclusion

The success and implementation of operation of any library depends to a large extent on the choice of library collections. The choice of the collection should meet the need and requirements of the end users. Similarly, the librarians must be aware of how the user community connected to that library seeks information. Surveys revealed respondents, those who never or rarely visited a library are not sufficient. Online databases are the most preferred form in contrast to the print only format that is the least preferred one. This observation directly shows the shift of the preferences of the users from print to the online formats which is again the result of technological innovations.

The commonly faced obstacles in the information-seeking process identified include lack of time, doubt about the existence of relevant information, retrieval of too much information and difficulties with navigation and searching. It is found that the internet search engines, E- print services, author websites, full-text databases, electronic journals and print resources are all used to some extent by most of the users. Speed of access, ability to download, print and send articles are top advantages of electronic journals and databases for all groups. It can be further concluded that consortia ridden on technological tools of high speed are playing an important role in meeting the increasing needs of the users and their vibrant E-databases help them to achieve their objectives.

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Cloud Computing

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Abstract:-

"Cloud" is a collective term for a large number of developments and possibilities. It is not an invention, but more of a "practical innovation Details are abstracted from end-users, who no longer have need for expertise in, or control over; the technology infrastructure "in the cloud" that supports them. Cloud computing describes a new supplement, consumption, and delivery model for IT services based on Internet protocols, and it typically involves provisioning of dynamically scalable and often virtualized", combining several earlier inventions into something new and compelling Cloud Computing is a popular phrase that is shorthand for applications that were developed to be rich Internet applications that run on the Internet (or "Cloud").resources It is a byproduct and consequence of the ease-of-access to remote computing sites provided by the Internet. This frequently takes the form of web-based tools or applications that users can access and use through a web browser as if it were a program installed locally on their own computer

Keywords :- Advantages, disadvantages , Types of cloud computing, Cloud Computing Deployment Model

What Is Cloud Computing ?

Simply put, cloud computing is the delivery of computing services - including servers, storage, databases, networking, software, analytics and intelligence- over the internet or "the cloud" to offer faster Innovation, flexible resources, and economies of scale. You typically pay only for cloud services you use, helping lower your operating costs, run your infrastructure more efficiently and scale as your needs change.

Image result for cloud computing images

History of Cloud Computing-

Cloud computing was popularized with Amazon.com releasing its Elastic Compute Cloud product in 2006.

References to the phrase "cloud computing" appeared as early as 1996, with the first known mention in a Compaq internal document.

The cloud symbol was used to represent networks of computing equipment in the original ARPANET by as early as 1977, and the CSNET by 1981-both predecessors to the Internet itself. The word cloud was used as a metaphor for the Internet and a standardized cloud-like shape was used to denote a network on telephony schematics. With this simplification, the implication is that the specifics of how the end points of a network are connected are not relevant for the purposes of understanding the diagram.

The term cloud was used to refer to platforms for distributed computing as early as 1993, when Apple spin-off General Magic and AT&T used it in describing their (paired) Telescript and PersonalLink technologies. In Wired's April 1994 feature "Bill and Andy's Excellent Adventure II", Andy Hertzfeld commented on Telescript, General Magic's distributed programming language:

Types of Cloud Computing

Not all clouds are the same and not one type of cloud computing is right for everyone. Several different models, types and services have evolved to help offer the right solution for your needs.

First, you need to determine the type of cloud deployment or cloud computing architecture , that your cloud services will be implemented on . There are three different ways to deploy clouds services: on a public cloud, Private cloud or hybrid cloud.

There are three types of cloud computing:-

1. IaaS - (Infrastructure as a Service)
2. PaaS- (Platform as a Service)
3. SaaS- (Software as a Service)

1) IaaS (Infrastructure as a Service)

IaaS businesses offer services such as pay-as-you-go storage, networking, and virtualization. IaaS gives users cloud-based alternatives to on-premise infrastructure, so businesses can avoid investing in

expensive on-site resources.

IaaS Delivery: Over the internet.

IaaS Advantages:

Maintaining on-premise IT infrastructure is costly and labor-intensive.

It often requires a significant initial investment in physical hardware, and then you will probably need to engage external IT contractors to maintain the hardware and keep everything working and up-to-date.

IaaS solutions are highly flexible and you can replace it whenever you need without losing money on your initial investment.

Another advantage of IaaS is it puts control over the infrastructure back in your hands.

You no longer need to place faith in an external IT contractor; you can access and oversee IaaS platforms yourself if you wish (without being an IT whizz).

IaaS Characteristics:

IaaS platforms are:

- Highly flexible and highly scalable.
- Accessible by multiple users.
- Cost-effective.

IaaS examples: AWS EC2, Rackspace, Google Compute Engine (GCE), Digital Ocean, Magento 1 Enterprise Edition.

2) PaaS (Platform as a Service).

A PaaS vendor provides hardware and software tools over the internet, and people use these tools to develop applications. PaaS users tend to be developers.

PaaS Delivery: Over the internet.

PaaS Advantages:

PaaS is primarily used by developers who are building software or aThis means developers don't need to start from scratch when creating applications, saving them a lot of time (and money) on writing extensive code. PaaS is a popular choice for businesses who want to create unique applications without spending a fortune or taking on all the responsibility. It's kind of like the difference between hiring a venue to put on a show vs. building a venue to put on a show. The venue stays the same, but what you create in that space is unique.

PaaS Characteristics:

PaaS platforms are:

- Accessible by multiple users.
- Scalable - you can choose from various tiers of resources to suit the size of your business.
- Built on virtualization technology.
- Easy to run without extensive system administration knowledge.

PaaS Examples : hardware and software tools available over the internet.

3) SaaS (Software as a Service).

SaaS platforms make software available to users over the internet, usually for a monthly subscription fee.

SaaS Delivery: Over the internet.

SaaS Advantages:

With SaaS, you don't need to install and run software applications on your computer (or any computer).

Everything is available over the internet when you log in to your account online.

You can usually access the software from any device, anytime (as long as there is an internet connection).

The same goes for anyone else using the software. All your staff will have personalized logins, suitable to their access level. SaaS providers also offer out-of-the-box solutions that are simple to set up (if you need a basic package), with more complex solutions for larger organizations.

You could have the basic software up and running within a matter of hours - and you'll have access to customer service and support along the way.

SaaS Characteristics:

SaaS platforms are:

- Available over the internet.
- Hosted on a remote server by a third-party provider.
- Scalable, with different tiers for small, medium, and enterprise-level businesses.

- Inclusive, offering security, compliance, and maintenance as part of the cost.

SaaS Examples : software that's available via a third-party over the internet.

Advantage of Cloud Computing -

1. **Cost Savings** - Cost saving is the biggest benefit of cloud computing. It helps you to save substantial capital cost as it does not need any physical hardware investments. Also, you do not need trained personnel to maintain the hardware. The buying and managing of equipment is done by the cloud service provider.
2. **Strategic edge** - Cloud computing offers a competitive edge over your competitors. It helps you to access the latest and applications any time without spending your time and money on installations.
3. **High Speed** - Cloud computing allows you to deploy your service quickly in fewer clicks. This faster deployment allows you to get the resources required for your system within fewer minutes.
4. **Back-up and restore data** - Once the data is stored in a Cloud, it is easier to get the back-up and recovery of that, which is otherwise very time taking process on-premise.
5. **Automatic Software Integration** - In the cloud, software integration is something that occurs automatically. Therefore, you don't need to take additional efforts to customize and integrate your applications as per your preferences.
6. **Reliability** - Reliability is one of the biggest pluses of cloud computing. You can always get instantly updated about the changes.
7. **Mobility** - Employees who are working on the premises or at the remote locations can easily access all the cloud services. All they need is an Internet connectivity.
8. **Unlimited storage capacity** - The cloud offers almost limitless storage capacity. At any time you can quickly expand your storage capacity with very nominal monthly fees.
9. **Collaboration** - The cloud computing platform helps employees who are located in different geographies to collaborate in a highly convenient and secure manner.
10. **Quick Deployment** - Last but not least, cloud computing gives you the advantage of rapid deployment. So, when you decide to use the cloud, your entire system can be fully functional in very few minutes. Although, the amount of time taken depends on what kind of technologies are used in your business.

Other Important Benefits

Apart from the above, some other advantages of cloud computing are:

- On-Demand Self-service
- Multi-tenancy
- Offers Resilient Computing
- Fast and effective virtualization
- Provide you low-cost software
- Offers advanced online security
- Location and Device Independence
- Always available, and scales automatically to adjust to the increase in demand
- Allows pay-per-use
- Web-based control & interfaces
- API Access available.

Disadvantages of Cloud Computing

Here, are significant challenges of using Cloud Computing:

1. **Performance Can Vary** - When you are working in a cloud environment, your application is running on the server which simultaneously provides resources to other businesses. Any greedy behavior or DDOS attack on your tenant could affect the performance of your shared resource.
2. **Technical Issues** - Cloud technology is always prone to an outage and other technical issues. Even the best cloud service provider companies may face this type of trouble despite maintaining high standards of maintenance.
3. **Security Threat in the Cloud** - Another drawback while working with cloud computing services is security risk. Before adopting cloud technology, you should be well aware of the fact that you will be sharing all your company's sensitive information to a third-party cloud computing service provider. Hackers might access this information.
4. **Downtime** - Downtime should also be considered while working with cloud computing. That's

because your cloud provider may face power loss, low internet connectivity, service maintenance, etc.

5. **Internet Connectivity** - Good Internet connectivity is a must in cloud computing. You can't access cloud without an internet connection. Moreover, you don't have any other way to gather data from the cloud.
6. **Lower Bandwidth** - Many cloud storage service providers limit bandwidth usage of their users. So, in case if your organization surpasses the given allowance, the additional charges could be significantly costly
7. **Lacks of Support** - Cloud Computing companies fail to provide proper support to the customers. Moreover, they want their users to depend on FAQs or online help, which can be a tedious job for non-technical persons.

Conclusion :

Despite all the pros and cons, we can't deny the fact that Cloud Computing is the fastest growing part of network-based computing. It offers a great advantage to customers of all sizes: simple users, developers, enterprises and all types of organizations. So, this technology is here to stay for a long time.

Cloud Computing Deployment Models

Cloud deployment models indicate how the cloud services are made available to users. The four deployment models associated with cloud computing are as follows:

- **Public cloud** - As the name suggests, this type of cloud deployment model supports all users who want to make use of a computing resource, such as hardware (OS, CPU, memory, storage) or software (application server, database) on a subscription basis. Most common uses of public clouds are for application development and testing, non-mission-critical tasks such as file-sharing, and e-mail service.
- **Private cloud** - True to its name, a private cloud is typically infrastructure used by a single organization. Such infrastructure may be managed by the organization itself to support various user groups, or it could be managed by a service provider that takes care of it either on-site or off-site. Private clouds are more expensive than public clouds due to the capital expenditure involved in acquiring and maintaining them. However, private clouds are better able to address the security and privacy concerns of organizations today.
- **Hybrid cloud** - In a hybrid cloud, an organization makes use of interconnected private and public cloud infrastructure. Many organizations make use of this model when they need to scale up their IT infrastructure rapidly, such as when leveraging public clouds to supplement the capacity available within a private cloud. For example, if an online retailer needs more computing resources to run its Web applications during the holiday season it may attain those resources via public clouds.
- **Community cloud** - This deployment model supports multiple organizations sharing computing resources that are part of a community; examples include universities cooperating in certain areas of research, or police departments within a county or state sharing computing resources. Access to a community cloud environment is typically restricted to the members of the community. With public clouds, the cost is typically low for the end user and there is no capital expenditure involved. Use of private clouds involves capital expenditure, but the expenditure is still lower than the cost of owning and operating the infrastructure due to private clouds' greater level of consolidation and resource pooling. Private clouds also offer more security and compliance support than public clouds. As such, some organizations may choose to use private clouds for their more mission-critical, secure applications and public clouds for basic tasks such as application development and testing environments, and email services.

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MOOCs : A new era of learning in LIS Profession

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Abstract:

Massive Open Online Courses (MOOCs) have emerged and evolved as a digital paradigm that is revolutionizing conventional methods of teaching and learning in Library and Information Science Profession. LIS professionals have the opportunity to learn innovative technology, upgrade their knowledge and improve professional skills. In this paper author aims to understand new learning strategy and intended to understand the concept as well as applications of MOOCs in LIS profession.

Keywords: Online learning, MOOCs, LIS profession, SWAYAM, Integration of MOOCs, Emerging technology.

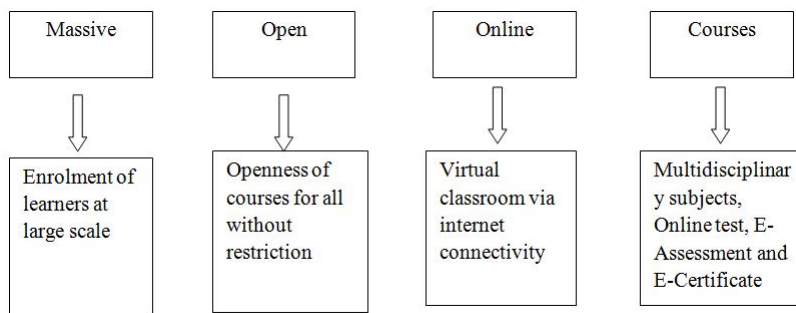
Introduction:

In modern information era, requires librarians to be lifelong and continuous learners. They should take benefits of available golden opportunity to improve and develop their professional growth. In this information age, digital resources are quick and easily available on the internet. The main purpose is to explore their knowledge with professional skill and perform each task very confidently at their work place. Recently, MOOC phenomenon became global in the educational sector including library and information science. Basically, MOOCs platform is the basic step for learning in virtual environment with new concept, ideas, knowledge and vision towards professional achievement in LIS profession. Online learning is beneficial to student, faculty, library professionals and research scholars.

Library professionals must be self motivated, well focused, lifelong learners who are willing to advantage of available opportunities for their professional growth and development. Online learning and lifelong learning is a continuous learning activity aimed at updating knowledge, improving the skills, and competencies of a professional. MOOCs are virtual learning classrooms where subject expert (instructor) and learners (participants) interact to impart knowledge for professional skills. Various MOOCs providers like SWAYAM, Coursera, EdX, Course Ware, Udacity, and Future Learn. The program initiated by the Government of India, Ministry of Human Resources Development (MHRD) department launched SWAYAM for all learners and educators. SWAYAM is a and designed to achieve the three cardinal principles of educational policy, that is, access, equity and quality

Meaning: Massive Open Online Courses (MOOCs)

MOOCs are the online and open access courses which are available through virtual platform.



Concept of MOOCs:

The main objective is to provide multidisciplinary educational courses to anyone with internet connectivity. Open access to enrol in learning through different format like video lectures, tutorials, test, assignment, quiz, discussion forum and various types of online learning resources. Assessment and evaluation of particular course will be done by using automated system. If enrolled learners fulfil certain criteria related to course performance, they often receive acknowledgment in the form of grade, badges or certificates.

Types of MOOCs:

The main objective of MOOC is to bring large number of learners together in a common platform to take advantage of available opportunities to improve their professional competence continuously.

cMOOCs:

It is based upon constructivist and connecting learners to increase subject knowledge for good academic performance. The enrolled learner has to take particular key tasks of reflection and practice.

xMOOCs:

In this category of MOOCs are having traditional lecture format & content based format. This type of online courses offering by universities in collaboration with commercial organisations and their aim is to gain profit. It emphasis on traditional learning approach through video lectures, assignment, quizzes, discussion forum for discuss with the course instructor and students. Such type of xMOOCs providers are like EdX, Coursera, Udacity. xMOOC is more effective for allowing expert learners to acquire higher order creative skills.

Integration of MOOCs in LIS profession:

MOOCs are latest technology in distance and online learning platform started in 2011. In LIS profession, important function of MOOC is that knowledge must be shared freely and accessed by any learner who has desire to learn without any discrimination in demographic, financial and geographical constraints. MOOCs are going to be a revolution in the LIS profession. An informative, innovative and transformative approach is planned across all the level of higher education including LIS profession. In India, specific MOOCs platform,

SWAYAM: (Study webs of Active Learning for young aspiring minds)

SWAYAM is an educational portal and indicating self learning and skill development programme. In SWAYAM, learners can register and enrol themselves free of cost in any courses. This portal launched by honourable prime minister of India, Shri. Narendra Modi on 15th August 2016. With the help of IITs, IIM Bangalore, University of Delhi offer courses in various educational areas. It provides great opportunity to the students to learn without any fear and stress.

National MOOCs Coordinators:

The following National MOOCs Coordinators and sectors for the purpose of development of the e-content for SWAYAM:

S No.	National MOOCs Coordinator	Sectors
1	University Grants Commission (UGC)	Non Technology Post Graduation Degree Programme
2	NPTEL	Technical / Engineering UG & PG degree programme
3	Consortium for Educational Communication	Non Technology Under Graduation degree programme
4	IGNOU	Diploma & Certificates programme
5	NECRT	School Educational Programmes from Class 9th to 12th
6	NIOS	Out of school children Educational Programmes from Class 9th to 12th.
7	IIM Bangalore	Management programmes
8	NITTR, Chennai	Teacher Training programme.

Source: <http://ugcmoocs.inflibnet.ac.in/>

This platform will provide free and online education to backward class students in rural areas can have access lectures from the standard institutes as well as best professors across the India. The UGC has declared online course credit framework for online learning courses through SWAYAM which allows for transfer of credit points earned from this courses into the academic record of the students. The objectives of MOOCs in LIS profession are quality, affordability, skill development, employability and professional growth. Programme structure of SWAYAM online courses are as follows:-

- Online Registration
- Create user account & Login
- Upcoming and Ongoing Courses
- Find and Select courses
- Course enrollment
- National Coordinators

- Subject Category
- Course Duration
- Exam start and end date
- Course Outline/Layout
- Video lectures, Study resources
- Online Test, Quiz, assignments & submission
- Announcement
- Discussion Forum
- E-mail alerts & Notification
- Online registration for exam & centres
- Assessment & Evaluation
- Progress report
- E-Certificate
- Course credits

In above structure, each course work has systematic layout and pattern for completing course with good progress report. It has power to control content of coursework and online assessment. It also helps to learn innovative technology and save time as well as money. Now days, online refresher courses are available on SWAYAM portal in library and information science under ARPIT (Annual Refresher Program in Teaching) also FDP (Faculty Development Programme) in various subjects available for educators. In LIS profession, use of ICT and disruptive technologies has increased by providing authentic online courses.

In SWAYAM portal, covers topics related to library and information science, management of libraries and information centres, Information and communication technology, Digital library, emerging trends & technology in library science, library automation, Information sources and services, scientometrics, Knowledge society, e-content development and many more related to library and information science.

National and International level MOOCs providers:

Weblinks of MOOC Courses Offered to the Learners:

Name of the MOOC provider	Weblink
SWAYAM	https://SWAYAM.gov.in/
Coursera	https://www.coursera.org/
edX	https://www.edx.org/
ALISON	https://alison.com/
ARcampus	https://campus.aynrand.org/
Aquent Gymnasium	https://thegymnasium.com/
Canvas Network	https://www.canvas.net/
Complexity explorer	https://www.complexityexplorer.org/
Futurelearn	https://www.futurelearn.com/
Federica	http://www.federica.eu/mooc/
udacity	https://in.udacity.com/
udemy	https://www.udemy.com/
Openlearning	https://www.openlearning.com/
miridax	https://miridax.net/home
Iversity	https://iversity.org/
Open University	http://www.open.ac.uk/
edukart	http://www.edukart.com/

Source: <https://nlist.inflibnet.ac.in/>

Applications of MOOCs in LIS profession:

This profession needs to move ahead with latest technology and increase standard level of this profession. It requires meeting the emerging new technology and fulfils demands of learners through new concepts and ideas.

1. Educational training and practice for professional skill development
2. Usage of ICT application to understand new technologies in LIS profession
3. Helps in improve communication skill
4. Research based programme
5. Improve academic performance
6. Lifelong learning
7. Critical thinking and better learning outcome
8. Group discussion through discussion forum

Conclusion:

MOOCs is offering various opportunities to develop skills for LIS professionals. LIS profession is very small in our nation and facing so many challenges to deal with problems due to shortage of human resource, funds, professional skills, and availability of resources and infrastructure. Therefore MOOCs is giving opportunity to improve skills of LIS professional. In this paper, explained about integration of MOOCs in library and information profession.

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Research Productivity of Library professionalin Dr. BAMU, Aurangabad on Google Scholar

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Abstract :

There are many online mediums for viewing your published publications. This research article discusses Google Scholar search engine today in order to properly marine reading material and to reference others. Google Scholar is an internet-based search engine designed to locate scholarly information, including peer-reviewed articles, theses, books, preprints, abstracts, and court opinions from academic publishers, professional societies, online repositories, university, and other Web sites. In this article, The College Librarian, University Librarian, and University Library Science Department have been studying the contributions of Google scholar under Dr. BAMU Aurangabad.

Keywords- Google Scholar, h-index,i-index, college librarian.

Introduction :

Google Scholar is a freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of publishing formats and disciplines. Released in beta in Launched 20 November 2004; 15 years ago, the Google Scholar index includes most peer-reviewed online academic journals and books, conference papers, theses and dissertations, preprints,, abstracts, technical reports, and other scholarly literature, including court opinions and patents. While Google does not publish the size of Google Scholar's database, scientometric researchers estimated it to contain roughly 389 million documents including articles, citations and patents making it the world's largest academic search engine in January 2018. Google Scholar arose out of a discussion between Alex Verstak and Anurag Acharya, both of whom were then working on building Google's main web index.

1.2 Conceptual Analysis-

1.2.1 Google Scholar Citation -

Citation quantifies the citation usage of scholarly works. It is result of citation analysis or bibliometrics. Among the measures that have emerged from citation analysis are the citation counts for an individual article, an author, and an academic journal.

Google Scholar Citations provide a simple way for authors to keep track of citations to their articles. You can check who is citing your publications, graph citations over time, and compute several citation metrics. You can also make your profile public, so that it may appear in Google Scholar results when people search for your name, e.g., Rahul k. Deshmukh

Best of all, it's quick to set up and simple to maintain - even if you have written hundreds of articles, and even if your name is shared by several different scholars. You can add groups of related articles, not just one article at a time; and your citation metrics are computed and updated automatically as Google Scholar finds new citations to your work on the web. You can choose to have your list of articles updated automatically or review the updates yourself, or to manually update your articles at any time.

Your "Cited by" counts come from the Google Scholar index. You can change the articles in your profile, but citations to them are computed and updated automatically as we update Google Scholar.

1.2.2 h-index

The h-index is short for the Hirsch index, which was introduced by Jorge E. Hirsch (2005) as a way to quantify the productivity and impact of an individual author. Similar to how the IF is now be used to measure a journal or an author to their scientific field, the h-index has become another measure of relative impact of scientific publications.

The h-index is defined as the maximum value of h such that the given author/journal has published h papers that have each been cited at least h times. (McDonald, Kim). The h-index is an author level metric that attempts to measure both the productivity and citation impact of the publications of a scientist or scholar. The index is based on the set of the scientist's most cited papers and the number of citations that they have received in other publications. The index can also be applied to the productivity and impact of ascholarly journals as well as a group of scientists, such as a department or university or country. (Suzuki, Helder)h-index is the largest number h such that h publications have at least h citations.

The second column has the "recent" version of the metric which is the largest number h such that h publications have at least h new citation in the last 5 years.

1.2.3 i10-index -

The i10-index is the newest in the line of journal metrics and was introduced by Google Scholar in 2011. It is a simple and straightforward indexing measure found by tallying a journal's total number of published papers with at least 10 citations.

i10-index is the number of publications with at least 10 citations. The second column has the "recent" version of this metric which is the number of publications that have received at least 10 new citations in the last 5 years. Created by Google Scholar and used in Google's My Citations feature.

i10-Index = the number of publications with at least 10 citations.

This very simple measure is only used by Google Scholar, and is another way to help gauge the productivity of a scholar. Very simple and straightforward to calculate. Disadvantages of i10-Index Used only in Google Scholar

1.3 Objectives of Study-

The following are the major objective of this study.

- To find out the Awareness or consciousness the contribution of librarians to Google Scholar.
- To find out the District-wise librarians discover participation in Google scholar.
- To analysis the Google scholar h-index, i10 index scores.

1.4 Scope & Limitation of Study-

The study consists of Affiliated Dr. BAMU, Aurangabad in of granted all college, Dr. BAMU Library & Department of Library & Information science in urban & rural areas. In the study is limited to Google Scholar search engine whose Citations provide a simple way for authors to keep track of citations to their articles. The result indicates that there were total 26 Members (on Dated 20 January 2020) documents on Dr. BAMU, Aurangabad under library science Research Contributions in Google scholar during the period.

2. Review of related literature-

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3. Response of Google Scholar DR.BAMU affiliated college Librarians & Department

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (DR.BAMU), in all college Librarian out of 144 librarians, viz. KRC in university & Department of Library science Dr. Babasaheb Ambedkar Marathwada University. Aurangabad is one of the second universities in the Marathwada region. Marathwada region comes under the four districts which are Aurangabad, Jalna, Beed, and Osmanabad. There are 123 Colleges affiliated to DR.BAMU. Interpretation of the data obtained from librarians working at college libraries affiliated to Dr. Babasaheb Ambedkar Marathwada University. Aurangabad Number of

colleges with no libraries Publication Status on Google scholar of College Librarians Affiliated to Dr.BAMU, & Department of library science Aurangabad the collected data are analyzed in Table 1

Table-1 Affiliated colleges having no librarians & Library Professions

Sr. No.	Area	No. Librarian Library Staff	Response on Google scholar	Gender		%
				M	F	
01	Aurangabad	46	07	3	4	4.86
02	Jalna	14	02	2	0	1.38
03	Beed	40	06	6	0	4.16
04	Osmanabad	23	04	4	0	2.77
05	Department of LIB	02	02	1	1	1.38
06	KRC	19	05	5	0	3.47
	Total	144	26	21	5	18.02
			%	14.58	3.47	

The table no. 01 above shows that Google Scholar is contribution with 26 (18.02%) library professions under Dr. BAMU, Aurangabad. This includes 25 (14.58%) women's library professions and 05 (3.47) men library professions.

3.1 District wise Response

There are four districts under Dr. BAMU University. These include Aurangabad, Jalna, Beed, and Osmanabad. The following is a pattern of participation in Google Scholar's library professions in this district.

A) Aurangabad District

1) College Librarian

Following college librarians Contribution of Google scholar

Table No.02

Sr. No.	Library	M/F	Number of Article On Google scholar	Number of Citation	h-index	i-index
1	Dr. Daya Dalve (Patil)	F	38	94	4	4
4	Dr. Priya Surudkar	F	13	20	3	0
2	Dr. Sudesh Dongare	M	18	7	2	0
3	Dr. Veena Kamble	F	10	3	2	0
5	Dr. Siddiqui Eraj Azeza	F	14	1	1	0
6	Raju Tupe	M	2	0	0	0
7	Syeda sarwat F.	M	2	0	0	0

Above Table no. 02 Dr. Google Scholar's contribution to the College Librarian under Aurangabad District. 38 articles of Daya Dalve (Patil) have received 94 citations. Dr. Priya Surudkar's 13 articles have 20 citations. And Dr. Sudesh Dongre has 18 citations for 18 articles.

2) KRC (Knowledge Resource Center) Dr. BAMU, Aurangabad Staff

Following Knowledge Resource Center in Dr. BAMU, Aurangabad Contribution of Google scholar

Table No.03

Sr. No.	Library	M/F	Number of ArticleGoogle scholar	Number of Citation	h-index	i-index
1	Mr. Khiste Gajanana	M	74	361	13	16
2	Dr. D.K.Veer	M	40	114	6	5
3	Dr. Satish Padame	M	8	22	3	0
4	Mr. Surwade yogesh	M	39	6	1	0
5	Mr. Gawali Datta	M	5	1	1	0

Above Table no. 03 Dr. Google Scholar's contribution to the KRC (Knowledge Resource Center) Dr.BAMU, Aurangabad under Aurangabad District. 74 articles of Mr. Khise Gajanana P. have received highest 361 citations. Dr. D.K.Veer 40 articles have 114 citations. And Dr. Satish Padame has 22 citations for 08 articles.

3) Department of Library & Information Science (Dr.BAMU)

Following Department of Library & Information Science in Dr.BAMU, Aurangabad Contribution of Google scholar

Table No. 04

Sr. No.	Library	M/F	Number of ArticleGoogle scholar	Number of Citation	h-index	i-index
01	Dr. Vaishali Khaparde	F	80	304	10	10
02	Dr. Shashank S. Sonwane	M	136	109	6	5

Above Table no. 04 Dr. Google Scholar's contribution to the Department of Library & Information Science Dr.BAMU, Aurangabad under Aurangabad District. 80 articles on Google scholar of Dr. Vaishali Khapardehas received highest 304 citations. Dr. Shashank S. Sonwane136 articles on Google scholar have 109 citations.

B) Jalna District

Following college librarians Contribution of Google scholar

Table No. 05

Sr. No.	Library	M/F	Number of ArticleGoogle scholar	Number of Citation	h-index	i-index
01	Dr. Shivshankaar Ghumare	M	11	17	3	0
02	Dr.Kumbhar K.N.	M	36	07	2	0

Above Table no. 05 Dr. Google Scholar's contribution to the College Librarian under Jalna District. 11 articles on Google scholar of Dr. Shivshankaar Ghumarehave received 17 citations. Dr.Kumbhar K.N.36 articleson Google scholar have 07 citations.

C) Beed District

Following college librarians Contribution of Google scholar

Table No. 06

Sr. No.	Library	M/F	Number of ArticleGoogle scholar	Number of Citation	h-index	i-index
01	Mr. Dahyanshwar B. Maske	M	19	83	5	3
02	Dr. Pagore Ranjeet	M	16	23	1	1
03	Dhande S. A	M	17	6	0	0
04	Datta S. Solanke	M	5	1	1	0
05	Mr. Gopal L. Sagar	M	3	0	0	0
06	Dr. Sanjay Bhedekar	M	2	0	0	0

Above Table no. 06 Dr. Google Scholar's contribution to the College Librarian under Beed District. 19 articles on Google scholar of Mr. Dahyanshwar B. Maske have received 83 citations. Dr. Pagore Ranjeet. 16 articles on Google scholar have 23 citations.

D) Osmanabad District

Following college librarians Contribution of Google scholar

Table No. 07

Sr. No.	Library	M/F	Number of ArticleGoogle scholar	Number of Citation	h-index	i-index
2	Dr. Rahul K. Deshmukh	M	51	206	9	9
1	Dr. Mandanshing D. Golwal	M	17	120	7	6
3	Dr. B.V. Chalukya	M	41	2	1	0
4	Dr. Vijay Yadav	M	2	0	0	0

Above Table no. 07 Dr. Google Scholar's contribution to the College Librarian under Osmanabad District. 51 articles on Google scholar of Dr. Rahul K. Deshmukh have received 206 citations. Dr. Mandanshing D. Golwal 17 articles on Google scholar have 120 citations.

3.2 Overall Ranking

All 26 Library Professionals have been given their ranking of number of citation participants in Google scholar.

Table No. 08

Sr. No.	Library	Number of Article	Number of Citations	Highest citation one article	h-index	i-index	Number of article in this year (2012-2020)										Rank
							12	13	14	15	16	17	18	19	20		
1	Mr. Khiste Gajanana	74	361	24(2017)	13	16	0	0	0	0	0	0	12	312	34	0	01
2	Dr. Vaishali Khaparde	80	304	35(2013)	10	10	0	20	31	34	82	27	60	37	1	02	
3	Dr. Rahul K. Deshmukh	51	206	24(2017)	9	9	0	0	0	0	0	0	169	36	0	03	
4	Dr. Mandanshing D. Golwal	17	120	16(2008)	7	6	5	7	7	3	16	16	32	14	0	04	
5	Dr. D.K.Veer	40	114	17(2018)	6	5	0	0	1	2	4	7	93	5	0	05	
6	Dr. Shashank S. Sonwana	136	109	18(2012)	6	5	3	7	7	4	22	12	30	14	0	06	
7	Dr. Daya Dalve (Patil)	38	94	37(2012)	4	4	0	3	7	10	15	12	20	22	2	07	
8	Mr. Dahyanshwar B. Maske	19	83	21(2018)	5	3	0	0	0	0	0	0	13	10	0	08	
9	Dr. Pagore Ranjeet	16	23	22(2011)	1	1	1	4	1	6	3	3	2	3	0	09	
10	Dr. Satish Padame	8	22	6(2012)	3	0	0	0	1	4	5	0	5	7	0	10	
11	Dr. Priya Surudkar	13	20	7(2012)	3	0	0	0	4	2	2	2	5	4	0	11	
12	Dr. Shivshankar Ghumare	11	17	8(2018)	3	0	0	2	0	0	1	2	8	3	0	12	
13	Dr. Sudesh Dongare	18	7	3(2015)	2	0	0	0	0	1	1	2	2	1	0	13	
14	Dr. Kumbhar K.N.	36	7	3(2016)	2	0	0	0	0	0	0	2	2	3	0	13	
15	Dhanda S. A	17	6	3(2014)	0	0	0	0	0	1	0	1	2	2	0	14	
16	Surwade yogesh	39	6	3(2018)	1	0	0	0	0	0	0	0	3	3	0	14	
17	Dr. Veena Kamble	10	3	2(2012)	2	0	0	0	0	0	0	0	2	0	0	15	
18	Dr. B.V. Chalukya	41	2	2(2015)	1	0	0	0	0	2	0	0	0	0	0	16	
19	Dr. Siddiqui Eraj Azeeda	14	1	1(2018)	1	0	0	0	0	0	1	0	0	0	0	17	
20	Datta S. Solanke	5	1	5(2018)	1	0	0	0	0	0	0	0	4	1	0	17	
21	Gawali Datta	5	1	1(2017)	1	0	0	0	0	0	0	1	0	0	0	17	
22	Raju Tupe	2	0	0	0	0	0	0	0	0	0	0	0	0	0	18	
23	Syeda sarwat F.	2	0	0	0	0	0	0	0	0	0	0	0	0	0	18	
24	Mr. Gopal L. Sagar	3	0	0	0	0	0	0	0	0	0	0	0	0	0	18	
25	Dr. Sanjay Bhedekar	2	0	0	0	0	0	0	0	0	0	0	0	0	0	18	
26	Dr. Vijay Yadav	2	0	0	0	0	0	0	0	0	0	0	0	0	0	18	

Above Table No. 08 Participation in Google Scholar is highest first ranking among Mr. Khiste Gajanana (Information Scientist)DR BAMU in KRC. He has received 74 articles of 361 citations and has

an h-index of 13 and i10-index is number of 16. Second ranking Contribution of Dr. Vaishali Khaparde (Department of Library science). 80 articles of 304 citations and has an h-index of 10 and i10-index is number of 10. & Third ranking Dr. Rahul K., Deshmukh (College Librarian) has 51 articles on Google scholar of 206 citations and has an h-index 9 and i10 index 09.

Correlation

Google Scholar provides a simple way to broadly search for scholarly literature. From one place, you can search across many disciplines and sources: articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites. Google Scholar helps you find relevant work across the world of scholarly research. If all the above tables were prepared, it would be clear that the participation of ordinary Library Professionals under DR BAMU was low in Google Scholar. It requires improvement and awareness.

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Style Manual, Plagiarism Software and Impact Factor Journals Used by the LIS Professionals

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Abstract :

Conducted the study on Style Manual, Plagiarism Software and Impact Factor Journals Used by the LIS Professional in Research Productivity. Present study is based on survey, interview and observation of the LIS Professionals. The collected data have been analyzed with using following parameters such as Gender wise, age group wise, designation wise, use languages to research publication, main purpose of doing research, style manual used for research, use of plagiarism software and impact factor journals preferred for research. It is found that majority of 97.82% respondents have given preference to English language for research publications. It can be also seen that majority of 31 (67.39%) respondents having the main purpose of doing research is to upgrade knowledge. Majority of 39 (84.78%) researcher used APA style manual use for research publication. Majority of 32 (69.56%) researcher used turnitin and urkund plagiarism software for research publication and highest number of 20 (43.47%) researcher preferred one to two impact factor journals for research publication.

Keywords- Research Productivity, Style Manual, Plagiarism Software, Impact Factor

Introduction :

Libraries play an important role in broadcast the collected knowledge to the future generation and also creating new knowledge through research. Research in library and information science is increase. e. g. library automation, OPAC, computerized SDI, CAS, Electronic-mail service, use of electronic-resources library 2.0 etc. Librarians not only play the essential role store house of knowledge but also work as the administrator of research activities. In the age of information librarians and Library professionals are facing number of problems. It is only research that helps to solve those problems, expand the human knowledge base and develop better and advanced tools and techniques for their work situations.

2. Statement of the Research Problem

The Problem under Investigation is "Style Manual, Plagiarism Software and Impact Factor Journals Used by the LIS Professionals".

3. Objectives of the Study

1. To know the gender, age group and designation wise respondents.
2. To know the preferred languages for research publication.
3. To know the main purpose of doing research.
4. To know the Style Manual, Plagiarism Software and impact factor journals preferred for research by the LIS professionals.

4. Scope and Limitation of the Study

There are total 10 non-agricultural universities are available in Maharashtra state and these universities were included in the population. There are totals 54 LIS professional are working in LIS departments. The questionnaire was distributed to 54 LIS professional and 46 (85.18 %) have been returned the questionnaire duly filled.

5. Research Methodology -

Present study has done with the help of survey method. Survey research is distinguished by its reliance upon the selection of person from large and small population and the making of observation. So that inference can be applied to present population.

6. Results and Discussion

6.1. Gender Wise Respondents

It can be observed from the table no.1 of 47.83% were male whiles the remaining 52.17% were female. This means that the females were the highest respondents used. Finally it is concluding that highest respondents participated for the studies are Female.

Table No.1 Gender Wise Respondents

Sr. No.	Gender	No. of Respondents	%
1	Male	22	47.83
2	Female	24	52.17
Totals		46	100.00

6.2 Age Group Wise Respondents -

It can be observed from table no. 2 age group wise distribution of respondents of LIS professionals. Highest of 69.57% were from the age group of more than 40. While remaining 17.39% professionals were from 30-35 age groups and 13.04% professionals were from 35-40 age groups. Finally it is concluded that majority of the respondents were from the age group of more than 40 participated for the study.

Table No.2 Age Group Wise Respondents

Sr. No.	Age Group	No. of Respondents	%
1	30-35	8	17.39
2	35-40	6	13.04
3	More Than 40	32	69.57
Totals		46	100.00

6.3 Designation Wise Respondents

The table no 4.4 and figure no. 4.3 shows that designation wise distributions of the respondents. It can be seen that 36.95% were assistant librarian while the remaining 15.21% were assistant professor, 10.86% were dy. librarian, information scientist and professor, 8.69% were director knowledge resource centre and 6.52% were associate professor. It is concluded that majority of the respondents were assistant librarian.

Table No. 3 Designation Wise Respondents

Sr. No.	Designation Wise Respondents	No. of Respondents % n=46	%
1	Director Knowledge Resource Centre	4	8.69
2	Dy. Librarian	5	10.86
3	Assistant Librarian	17	36.95
4	Information Scientist	5	10.86
5	Professor	5	10.86
6	Associate Professor	3	6.52
7	Assistant Professor	7	15.21
Totals		46	100.00

6.4 Preferred Languages to Research Publication

Table no. 4 shows that there are three languages mentioned in the table respectively English, Marathi and Hindi. The majority of 97.82% respondents have given preference to English language for research publications followed by 28.26% Marathi and 2.17% Hindi languages. Nobody uses any other languages for research purpose that mentioned above.

Table No. 4 Preferred Languages to Research Publication

Sr. No.	Preferred Languages to Research Publication	No. of Respondents % n=46	%
1	Marathi Languages	13	28.26
2	Hindi Languages	1	2.17
3	English Languages	45	97.82
4	Any Other Languages	0	0.00

6.5 Main Purpose of Doing Research

Table no. 5 shows that main purpose of doing research of LIS professionals in different universities of Maharashtra. It can be seen that majority of 31 (67.39%) respondents having the main purpose of doing research is to to upgrade knowledge followed by 28 (60.86%) is to achieve professional growth, 15 (32.60%) is to get promotion, 5 (10.86%) is to maintain social status and 4 (8.69%) to get job and any other purpose of doing research. Finally it is concluded that majority of respondents having the main purpose of doing research is to upgrade knowledge.

Table No. 5 Main Purpose of Doing Research

Sr. No.	Purpose of Doing Research	No. of Respondents % n=46	%
1	To get job	4	(8.69)
2	To get promotion	15	(32.60)
3	To upgrade knowledge	31	(67.39)
4	To maintain social status	5	(10.86)
5	To achieve professional growth	28	(60.86)
6	Any other	4	(8.69)

6.6 Style Manual Used for Research

Table no. 6 shows that style manual use for research publications of LIS professionals in different universities of Maharashtra. Majority of 39 (84.78%) researcher used APA style manual use for research publication followed by 11 (23.91%) used MLA, 7 (15.21%) used chikago and 5 (10.86%) used hardward. Nobody used any other style manual use for research. Finally it is concluded that majority researcher used APA style manual use for research publication.

Table No. 6 Style Manual Used for Research

Sr. No.	Style Manual Use For Research	No. of Respondents % n=46	%
1	APA Style Manual	39	(84.78)
2	MLA Style Manual	11	(23.91)
3	Chikago Style Manual	7	(15.21)
4	Hardward Style Manual	5	(10.86)
5	Any other Style Manual	0	(0.00)

6.7 Used of Plagiarism Software

Table no. 7 shows that plagiarism software used for research publications of LIS professionals in different universities of Maharashtra. Majority of 32 (69.56%) researcher used turnitin and urkund plagiarism software for research publication followed by 14 (30.43%) used Ithenticate plagiarism software and 3 (6.52%) used other plagiarism software for research publication. Finally it is concluded that majority researcher used turnitin and urkund plagiarism software for research publication.

Table No. 7 Use of Plagiarism Software

Sr. No.	Use of Plagiarism Software	No. of Respondents % n=46	%
1	Turnitin Plagiarism Software	32	(69.56)
2	URKUND Plagiarism Software	32	(69.56)
3	Ithenticate Plagiarism Software	14	(30.43)
4	Other Plagiarism Software	3	(6.52)

6.8 Impact Factor Journals Preferred for Research

Table no. 8 shows that impact factor journals preferred for research publications of LIS science professionals in different universities of Maharashtra. Majority of 20 (43.47%) researcher preferred one to two impact factor journals for research publication followed by 13 (28.26%) preferred two to three impact factor journals, 10 (21.73%) preferred three to four impact factor journals, 9 (19.56%) preferred above five impact factor journals and 8 (17.39%) researcher preferred zero to one impact factor journals for research publication. Finally it is concluded that majority researcher preferred one to two impact factor journals for research publication.

Table No. 8 Impact Factor Journals Preferred for Research

Sr. No.	Impact Factor Journals Preferred For Publication	No. of Respondents % n=46	%
1	Zero to One	8	(17.39)
2	One To Two	20	(43.47)
3	Two To Three	13	(28.26)
4	Three To Four	10	(21.73)
5	Above Five	9	(19.56)

9. Conclusion

LIS professionals in India have concentrated on conducting research work to develop a knowledge base for the profession. The main objective of this study was to highlight on the Style Manual, Plagiarism Software and Impact Factor Journals Used by the LIS Professionals in Research Productivity of universities in Maharashtra. The collected data have been analyzed with using following parameters such as Gender wise, age group wise, designation wise, use languages to research publication, main purpose of doing research, style manual used for research, use of plagiarism software and impact factor journals preferred for research.

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Library as Learning Resources with NAAC Revised Guidelines.

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When the reader refers to the title of the article, you get an idea about the topic of the article. All the Librarians focus the current issues of National Assessment and Accreditation Council (NAAC), since two decade Arts, Science; & Commerce Senior Colleges are adopting the NAAC procedures. Today every teaching institution is going for NAAC accreditation. The technical institutions undergo accreditation process with National Board of Accreditation (NBA) which is tough. Therefore, today Engineering and MBA colleges also face NAAC. Latest news is that even Medical colleges are going through the NAAC guidelines. In the article, the researcher has not mentioned about the fees structure of (NAAC), National Policy of Educations (NPE), what is the procedure AQAR and steps to apply for NAAC. The article here targets the 4.2 Library as a learning Resources with reference to old and new guidelines. In the article here, tabular form of representation is taken.

Table 1 - Distribution of weightages across Key Indicators (KIs)

Criteria	Key Indicators (KIs)	Universities	Autonomous Colleges	Affiliated / Constituent Colleges
4 Infrastructure and Learning Resources	4.1 Physical Facilities	30	20	30
	4.2 Library as a Learning Resource	20	20	20
	4.3 IT Infrastructure	30	30	30
	4.4 Maintenance of Campus Infrastructure	20	20	20
	Total	100	100	100

Table 2 - Key Indicator - 4.2 Library as a Learning Resource (20) Old Guidelines

Metric No.		Weight age
4.2.1. Q1M	<p>Library is automated using Integrated Library Management System (ILMS)</p> <p>Data Requirement for last five years: Upload a description of library with,</p> <ul style="list-style-type: none"> Name of ILMS software Nature of automation (fully or partially) Version Year of Automation <p>File Description:</p> <ul style="list-style-type: none"> Upload any additional information Paste link for Additional Information 	5
4.2.2. Q1M	<p><i>Collection of rare books, manuscripts, special reports or any other knowledge resources for library enrichment</i></p> <p>Data Requirement for last five years:</p> <p>Provide the description of library enrichment which includes</p> <ul style="list-style-type: none"> Name of the book/manuscript Name of the publisher Name of the author Number of copies Year of publishing <p>File Description:</p> <ul style="list-style-type: none"> Upload any additional information Paste link for additional information 	2

Metric	Weight													
4.2.3. Q _n M	<p><i>Does the institution have the following:</i></p> <ol style="list-style-type: none"> 1. e-journals 2. e-ShodhSindhu 3. Shodhganga membersip 4. e-books 5. Databases 	3												
	<p>Option:</p> <table style="border: none;"> <tr> <td style="border: none;"> <ol style="list-style-type: none"> A. Any 4 of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above </td> <td style="border: none; vertical-align: middle;">} Opt One</td> </tr> </table> <p>Data Requirement for last five years: (As per Data Template in Section B)</p> <ul style="list-style-type: none"> • Details of membership: • Details of subscription: <p>File Description:</p> <ul style="list-style-type: none"> • Upload any additional information • Details of subscriptions like e-journals, e-ShodhSindhu, Shodhganga Membership etc (Data Template) 	<ol style="list-style-type: none"> A. Any 4 of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above 	} Opt One											
<ol style="list-style-type: none"> A. Any 4 of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above 	} Opt One													
4.2.4. Q _n M	<p><i>Average annual expenditure for purchase of books and journals during the last five years (INR in Lakhs)</i></p> <p>4.2.4.1 Annual expenditure of purchase of books and journals year wise during last five years (INR in Lakhs)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Year</td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> </tr> <tr> <td>INR in Lakhs</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>Data Requirement for last five years: (As per Data Template in Section B)</p> <ul style="list-style-type: none"> • Expenditure on the purchase of books • Expenditure on the purchase of journals in ith year • Year of Expenditure: <p>Formula:</p> $\frac{1}{5} \times \sum_{i=1}^5 Expd_i$	Year						INR in Lakhs						5
Year														
INR in Lakhs														
	<p>File Description (Upload)</p> <ul style="list-style-type: none"> • Any additional information • Audited statements of accounts • Details of annual expenditure for purchase of books and journals during the last five years (Data Template) 													
4.2.5. Q _n M	<p><i>Availability of remote access to e-resources of the library</i></p> <p>Yes/No Data Requirements (As per Data Template in Section B)</p> <ul style="list-style-type: none"> • E-resource • Contact person details • Connectivity Bandwidth available <p>File Description: (Upload)</p> <ul style="list-style-type: none"> • Any Additional Information • Details of remote access to e-resources of the library (Data Template) 	1												

4.2.6	<p><i>Percentage per day usage of library by teachers and students (current year data)</i></p> <p>Q_nM</p> <p>4.2.6.1. Number of teachers and students using library per day over last one year</p> <p>Data Requirement (As per Data Template Section B)</p> <ul style="list-style-type: none"> • Upload last page of accession register details • Method of computing per day usage of library • Number of users using library through e-access • Number of physical users accessing library <p>Formula:</p> $\frac{\text{Number of teachers and students using library per day}}{\text{Total number of teachers and students}} \times 100$ <p>File Description(Upload)</p> <ul style="list-style-type: none"> • Any additional information • Details of library usage by teachers and students (Data Template) 	4
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Table 3 - Key Indicators – 4.2 Library as a Learning Resource (20) with Revised Guidelines

Metric No.		Weight age
4.2.1.	<p>Library is automated using Integrated Library Management System (ILMS)</p> <p>Q_nM</p> <p>Data Requirement for last five years: Upload a description of library with,</p> <ul style="list-style-type: none"> • Name of ILMS software • Nature of automation (fully or partially) • Version • Year of Automation <p>File Description:</p> <ul style="list-style-type: none"> • Upload any additional information • Paste link for Additional Information 	4
4.2.2.	<p><i>The institution has subscription for the following e-resources</i></p> <ol style="list-style-type: none"> 1. <i>e-journals</i> 2. <i>e-ShodhSindhu</i> 3. <i>Shodhganga Membership</i> 4. <i>e-books</i> 5. <i>Databases</i> 6. <i>Remote access to e-resources</i> <p>Options:</p> <ol style="list-style-type: none"> A. Any 4 or more of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above <p>Data Requirement for last five years: (As per Data Template)</p> <ul style="list-style-type: none"> • Details of membership: • Details of subscription: <p>File Description:</p> <ul style="list-style-type: none"> • Upload any additional information • Details of subscriptions like e-journals, e-ShodhSindhu, Shodhganga Membership etc (Data Template) 	6

4.2.3 Q _n -M	<p><i>Average annual expenditure for purchase of books/e-books and subscription to journals/e- journals during the last five years (INR in Lakhs)</i></p> <p>4.2.3.1 Annual expenditure of purchase of books/e-books and subscription to journals/e- journals year wise during last five years (INR in Lakhs)</p> <table border="1"> <tr> <td>Year</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>INR in Lakhs</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>Data Requirement for last five years: (As per Data Template)</p> <ul style="list-style-type: none"> Expenditure on the purchase of books/e-books Expenditure on the purchase of journals/e-journals in ⁱth year Year of Expenditure: <p>Formula:</p> $\frac{1}{5} \times \sum_{i=1}^5 \text{Expd}_i$ <p>Where:</p> <p>Expd_i= Expenditure in rupees on purchase of books/e-books and subscription to journals/e- journals in ⁱth Year</p> <p>File Description (Upload)</p> <ul style="list-style-type: none"> Any additional information Audited statements of accounts Details of annual expenditure for purchase of books/e-books and journals/e- journals during the last five years (Data Template) 	Year						INR in Lakhs						5
Year														
INR in Lakhs														
4.2.4 Q _n -M	<p><i>Percentage per day usage of library by teachers and students (foot falls and login data for online access)</i></p> <p><i>(Data for the latest completed academic year)</i></p>	5												
	<p>4.2.6.1. Number of teachers and students using library per day over last one year</p> <p>Data Requirement</p> <ul style="list-style-type: none"> Upload last page of accession register details Method of computing per day usage of library Number of users using library through e-access Number of physical users accessing library <p>Formula:</p> $\frac{\text{Number of teachers and students using library per day}}{\text{Total number of teachers and students}} \times 100$ <p>File Description(Upload)</p> <ul style="list-style-type: none"> Any additional information Details of library usage by teachers and students 													

Metric No	Old guidelines of NAAC January 2019	Weightage	Revised guidelines of NAAC December 2019	Weightage
4.2.1	Library is automated using Integrated Library Management System (ILMS)	5	Library is automated using Integrated Library Management System (ILMS)	4

Library as a Learning Resource

4.2.1	Library is automated using Integrated Library Management System (ILMS)	5	Library is automated using Integrated Library Management System (ILMS)	4
4.2.2	Collection of rare books, manuscripts, special reports or any other knowledge resources for library enrichment	2	The institution has subscription for the following e-resources 1. e-journals 2. e-ShodhSindhu 3. Shodhganga Membership 4. e-books 5. Databases 6. Remote access to e-resources	6
4.2.3	Does the institution have the following: 1. e-journals 2. e-ShodhSindhu 3. Shodhganga membership 4. e-books 5. Databases	3	Average annual expenditure for purchase of books/e-books and subscription to journals/e-journals during the last five years (INR in Lakhs)	5
4.2.4	Average annual expenditure for purchase of books and journals during the last five years (INR in Lakhs) 4.2.4.1 Annual expenditure of purchase of books and journals year wise during last five years (INR in Lakhs)	5	Percentage per day usage of library by teachers and students (foot falls and login data for online access) (Data for the latest completed academic year) 4.2.6.1. Number of teachers and students using library per day over last one year	5
4.2.5	Availability of remote access to e-resources of the library Yes/No Data Requirements (As per Data Template in Section B)	1	-	
4.2.6	Percentage per day usage of library by teachers and students (current year data) 4.2.6.1. Number of teachers and students using library per day over last one year	4	-	

Table 5 - Documents and Softcopy for Key indicator 4.2 as per new guidelines

When a college applies for NAAC cycle, it is important that the college website is updated as the link for documents is to be given. The IQAC link takes the viewer to the Vision, Mission, Minutes of meeting, AQAR upload, IQAC committees and other links.

Metric No	Revised Guidelines	Hard Copy(Documents)	Soft Copy
4.2.1	Library is automated using Integrated Library Management System (ILMS)	Purchase Order, Invoice, Annual Maintenance Charge, Training Certificate, Receipts. (If OPAC usage report is available)	If your library software is cloud based directly see online. Otherwise you show snap of Homepage of the Software.
4.2.2	The institution has subscription for the following e-resources 1. e-journals 2. e-ShodhSindhu 3. Shodhganga Membership 4. e-books 5. Databases	Purchase Order, Invoice, Receipts, Usage Report.	Simply give the link of NLIST
	6. Remote access to e-resources		

4.2.3	Average annual expenditure for purchase of books/ e-books and subscription to journals/ e-journals during the last five years (INR in Lakhs)	Book/ Journal Invoice, Receipt, Audited Statement.	Upload audited statement of college websites (give link)
4.2.4	Percentage per day usage of library by teachers and students (foot falls and login data for online access) (Data for the latest completed academic year) 4.2.6.1. Number of teachers and students using library per day over last one year	Accession Register, Library Software Issues/ Return Report, In-Out Register Record of Digital Library, In-Out Register Record of Library.	Give Library link for various Reports.

Evidence of 4.2.2

4-2-2

Sub: Queries Regarding Shodhganga and e-ShodhSindhu being received from Colleges: Clarifications

The INFLIBNET Centre receives numerous queries from Colleges regarding membership to Shodhganga and e-ShodhSindhu. Following clarifications are being provided in this regard:

Shodhganga: Shodhganga is an Open Access Repository of full-text theses submitted to universities in India. Membership is not required to browse, view, search and download these available in Shodhganga. However, INFLIBNET signs MoUs with universities so as to facilitate submission of electronic version of theses into Shodhganga and synopses/approved research proposals into Shodhganga. The eligible universities that signs MoUs with INFLIBNET Centre on Shodhganga are provided access to anti-plagiarism software. Colleges are not eligible for this benefit. (Details are available at <http://shodhganga.inflibnet.ac.in>)

e-ShodhSindhu: Colleges that are covered under 12(B) & 2(f) Sections of the UGC Act and are under direct purview of UGC are entitled to get access to e-resources under NLIST programme except for Colleges imparting education in Agriculture, Engineering, Management, Medical, Pharmacy, Dentistry and Nursing. NLIST is college component of e-ShodhSindhu. NLIST subscribes to a sub-set of e-resources that are subscribed under e-ShodhSindhu. (As such, Colleges that are already getting access to e-resources under NLIST do not require membership of e-ShodhSindhu. (More details are available at <http://nlist.inflibnet.ac.in/members.php>)

http://www.inflibnet.ac.in/less/less_queries.pdf

Date: 15/01/2020

Time: 15:28 pm

Quantitative Metrics (QmM) of 4.2.2 & 4.2.3 Library as a Learning Resource

Key Indicator - 4.2 Library as a Learning Resource (20)					
4.2.2 The institution has subscription for the following e-resources (6) 1. e-journals, 2. e-ShodhSindhu, 3. Shodhganga membership, 4. e-books, 5. Databases, 6. Remote access to e-resources					
4.2.3 Average annual expenditure for purchase of books/ e-books and subscription to journals/e-journals during the last five years (INR in Lakhs) (5)					
Year 1					
Library resources	If yes, details of memberships/subscriptions	Expenditure on subscription to e-journals, e-books (INR in lakhs)	Expenditure on subscription to other e-resources (INR in lakhs)	Total Library Expenditure	Link to the relevant document
Books					
Journals					
e-journals					
e-books					
e-ShodhSindhu					
Shodhganga					
Databases					
Local and / or Remote access to e-resources (Specify)					
Year 2					
Library resources	If yes, details of memberships/subscriptions	Expenditure on subscription to e-journals, e-books (INR in lakhs)	Expenditure on subscription to other e-resources (INR in lakhs)	Total Library Expenditure	Link to the relevant document
Books					
Journals					
e-journals					
e-books					
e-ShodhSindhu					
Shodhganga					

The Snap continue with Year 3, Year 4 and Year 5.

In the article here, we refer to 4.2 library as a learning resource with appropriate documents, proofs, the researcher has purposefully avoided to write the introduction to National Policy of Education (NPE), National Assessment and Accreditation Council (NAAC), University Grant Commission (UGC), Higher Education in India (HEI), the objectives, hypotheses and conclusions. The article focuses on the comparisons between January 2019 (old) and December 2019 (Revised Guidelines of 4.2 Library as a Learning Resources)

References:

1. <http://www.naac.gov.in/> (Date :- 15/01/2020 and time:- 01.28 pm)
2. <http://www.naac.gov.in/apply-now/19-quick-links/103-old-manual-for-general-institutions> (Date:- 15/01/2020 and Time :- 01.37 pm)

Cloud Computing

Dr Mrs.S, P. Bidarkar-Lehekar
Librarian, Govt.Institute of Science
Aurangabad

Sapna. D. Kamble
Research Student (M.Phil.)

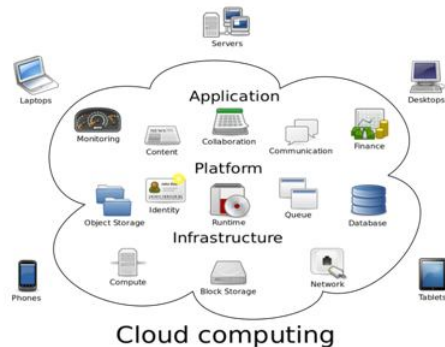
Abstract :

This paper highlights the Cloud computing using the advanced development models like SaaS (Software as a Service), PaaS (Platform as a Service), IaaS (Infrastructure as a Service), HaaS (Hardware as a Service) to distribute the powerful computing capacity to end-users.

Keywords- Cloud Computing, SaaS, IaaS, PaaS

Introduction :

Cloud computing is the delivery of different services through the Internet. These resources include tools and applications like data storage, servers, databases, networking, and software. Rather than keeping files on a proprietary hard drive or local storage device, cloud-based storage makes it possible to save them to a remote database. As long as an electronic device has access to the web, it has access to the data and the software programs to run it. Cloud computing is a popular option for people and businesses for a number of reasons including cost savings, increased productivity, speed and efficiency, performance, and security. Cloud computing can be both public and private. Public cloud services provide their services over the Internet for a fee. Private cloud services, on the other hand, only provide services to a certain number of people. These services are a system of networks that supply hosted services. There is also a hybrid option, which combines elements of both the public and private services.



Basic Concepts :

There are certain services and models working behind the scene making the cloud computing feasible and accessible to end users. Following are the working models for cloud computing

Deployment Models

Service Models

DEPLOYMENT MODELS :

Deployment models define the type of access to the cloud, i.e., how the cloud is located? Cloud can have any of the four types of access: Public, Private, Hybrid and Community.

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PUBLIC CLOUD:

The Public Cloud allows systems and services to be easily accessible to the general public. Public cloud may be less secure because of its openness, e.g., e-mail

PRIVATE CLOUD:

The Private Cloud allows systems and services to be accessible within an organization. It offers increased security because of its private nature.

COMMUNITY CLOUD :

The Community Cloud allows systems and services to be accessible by group of organizations.

HYBRID CLOUD :

The Hybrid Cloud is mixture of public and private cloud. However, the critical activities are performed using private cloud while the non-critical activities are performed using public cloud.

SERVICE MODELS :

Service Models are the reference models on which the Cloud Computing is based. These can be categorized into three basic service models as listed below:

1. Infrastructure as a Service (IaaS)

2. Platform as a Service (PaaS)

3. Software as a Service (SaaS)

[* File contains invalid data | In-line.JPG *]

INFRASTRUCTURE AS A SERVICE (IAAS)

IaaS provides access to fundamental resources such as physical machines, virtual machines, virtual storage, etc.

PLATFORM AS A SERVICE (PAAS)

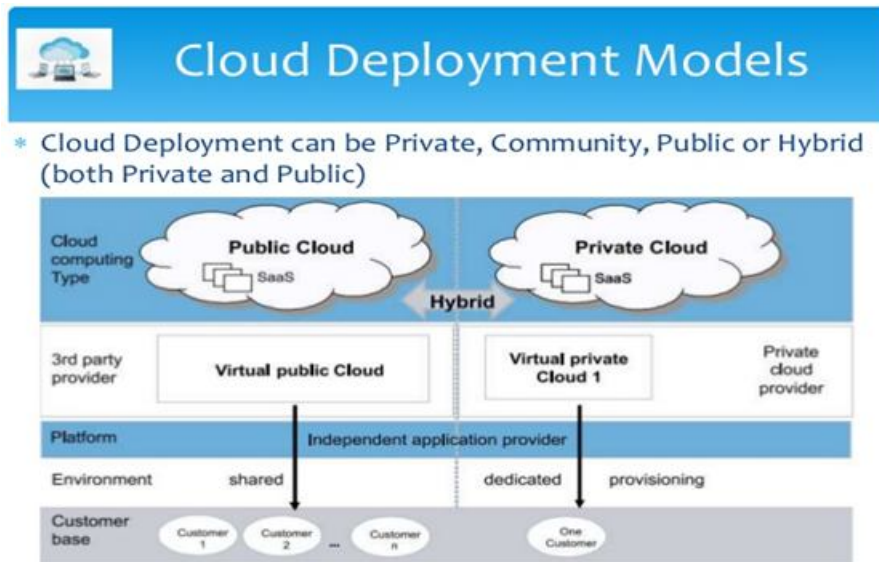
PaaS provides the runtime environment for applications, development & deployment tools, etc.

SOFTWARE AS A SERVICE (SAAS) SaaS

Model allows to use software applications as a service to end users.

History

The concept of Cloud Computing came into existence in 1950 with implementation of mainframe computers, accessible via thin/static clients. Since then, cloud computing has been evolved from static clients to dynamic ones from software to services. The following diagram explains the evolution of cloud computing:



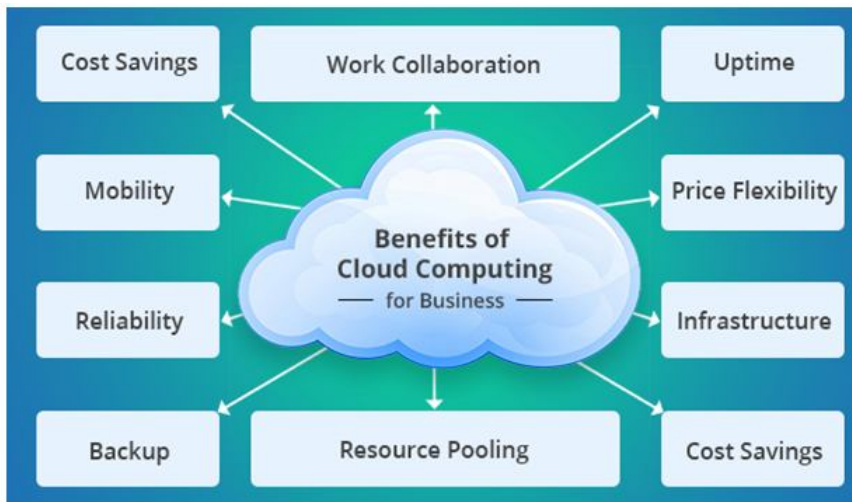
Benefits

Cloud Computing has numerous advantages. Some of them are listed below:

- One can access applications as utilities, over the Internet.
- Manipulate and configure the application online at any time
- It does not require to install a specific piece of software to access or manipulate cloud application
- Cloud Computing offers online development and deployment tools, programming runtime environment through Platform as a Service model.
 - Cloud resources are available over the network in a manner that provides platform independent access to any
 - Type of clients. Cloud Computing offers on-demand self-service. The resources can be used

without interaction with cloud

- Service provider. Cloud Computing is highly cost effective because it operates at higher efficiencies with greater utilization. I
- Just requires an Internet connection. Cloud Computing offers load balancing that makes it more reliable.



Characteristics

There are four key characteristics of cloud computing. They are shown in the following diagram:
Advantages of Cloud Computing

1) Cost-Saving

Organizations benefited from cloud computing by cutting cost that is incurred in setting up infrastructure and software. Even with the minimum expense, the organizations can reap many benefits. Much cost can be saved as the organizations need not install any software or in running or maintaining the same.

In cloud computing, the organizations only need to pay for the services and discontinue it whenever required. Organizations need not expand infrastructure if required they can lease it. Earlier, it was a myth that cloud is quite expensive but now it has become quite affordable.

2) Reliability

To cater to the need of larger audience of the diverse category, organizations need to maintain wide infrastructure. Through cloud computing, the organizations can now cater to the needs of various customers consistently and provide them with better service and functionalities. Even round the clock assistance is also provided by many cloud vendors, that is close to 100% availability. The user now needs not to be worried about server maintenance or server hosting.

3) Manageability

With cloud computing, users need not be worried about maintaining the server. Server management can be easily done by the cloud service providers and organizations can focus only on application or software. Server hosting, maintenance or security has not been their concern. Businesses can remain worried free about server maintenance and help their customers in other ways. They can provide timely service in a required manner to their clients.

4) Strategic Edge

In this competitive world, you may have to remain technically advanced and cloud computing helps the organizations in staying technically advance. Without performing any installation and maintenance user can now access the applications. Organizations can only focus on their keybusiness aspects and plan their goals and business strategies easily. A strategic edge is an

Disadvantages of Cloud Computing

Cloud computing also has the following disadvantages:

1) Technical Outages

As many external vendors are involved in cloud computing so it is possible that the user may have to face the technical outages. Business can be temporarily even become sabotage due to such technical failures. Moreover, in the case of internet unavailability, it may become impossible to access the data,

application or software when you need it. So, to access the application and software you may have to be dependent on internet and other aspects.

2) Security Issues

Cloud computing comes with the risk of confidentiality of your data and information. If you are using the service of cloud computing provider then basically you are risking your data and information. Cloud service providers have to face many security-related challenges when it comes to the safety of data and information. If hackers will find any flaw or loophole in the framework then they will access the data and so it can be at high risk. Whether in the case of in-house software or application management lower risk is involved. In a multi-tenant architecture, hacker attacks are more likely to occur, as data can be stored by various users. Cloud computing service providers prevent the data thefts and thus try to reduce the security of the data or information.

3) Limited Controls

Now as the vendor is separate so the organizations have little control over their data and applications. Organizations have little control over their data and apps as the data is loaded on the server and no access. Here, the user has limited control and can access data as per privilege that is provided to him by the administrator.

Cloud Computing Challenges

Despite its growing influence, concerns regarding cloud computing still remain. In our opinion, the benefits outweigh the drawbacks and the model is worth exploring. Some common challenges are:

1) Data Protection

Data Security is a crucial element that warrants scrutiny. Enterprises are reluctant to buy an assurance of business data security from vendors. They fear losing data to competition and the data confidentiality of consumers. In many instances, the actual storage location is not disclosed, adding onto the security concerns of enterprises. In the existing models, firewalls across data centers (owned by enterprises) protect this sensitive information. In the cloud model, Service providers are responsible for maintaining data security and enterprises would have to rely on them.

2) Data Recovery and Availability

All business applications have Service level agreements that are stringently followed. Operational teams play a key role in management of service level agreements and runtime governance of applications. In production environments, operational teams support

- Appropriate clustering and Fail over
- Data Replication
- System monitoring (Transactions monitoring, logs monitoring and others)
- Maintenance (Runtime Governance)
- Disaster recovery
- Capacity and performance management

If, any of the above mentioned services is under-served by a cloud provider, the damage & impact could be severe.

3) Management Capabilities

Despite there being multiple cloud providers, the management of platform and infrastructure is still in its infancy. Features like „Auto-scaling for example, are a crucial requirement for many enterprises. There is huge potential to improve on the scalability and load balancing features provided today.

4) Regulatory and Compliance Restrictions

In some of the European countries, Government regulations do not allow customer’s personal information and other sensitive information to be physically located outside the state or country. In order to meet such requirements, cloud providers need to setup a data center or a storage site exclusively within the country to comply with regulations. Having such an infrastructure may not always be feasible and is a big challenge for cloud providers.

With cloud computing, the action moves to the interface that is, to the interface between service suppliers and multiple groups of service consumers. Cloud services will demand expertise in distributed services, procurement, risk assessment and service negotiation — areas that many enterprises are only modestly equipped to handle.

CONCLUSION

In this paper we have discussed the key concepts of cloud computing of Cloud Computing, service models and. Benefits, Characteristics and some of the cloud computing challenges If the cloud providers are too slow to provide safe, secure, reliable data storage and application services, they may miss one of the greatest opportunities of this century.

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आधुनिक काळातील ग्रंथालयात क्लाऊड कॉम्प्युटिंगचा उपयोग

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ता. हिमायतनगर ता. हिमायतनगर जि. नांदेड
सार :-

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अहमदपूर ता. अहमदपूर जि. लातूर

संगणकाने अलीकडच्या काळात मोठ्या प्रमाणावर प्रगती केलेली आहे. 'क्लाऊड कॉम्प्युटिंग' हा त्यांमधील प्रगत संशोधनाचा एक भाग. ग्रंथपाल ग्रंथाचा पालक राहिलेला नसून आधुनिक तंत्रज्ञानोबत वाटचाल करित आहे. विविध स्तरावरील ग्रंथपाल आर्थिक व तांत्रिक परिस्थितीमुळे मागे राहिलेला आहे. या परिस्थितीवर एक सक्षम पर्याय म्हणून आपणास क्लाऊड कॉम्प्युटिंग चा वापर आपण महाविद्यालयीन ग्रंथालयात करू शकतो.

प्रस्तावना :-

आपण संगणकांच्या विकासाच्या महत्वाच्या उंबरठ्यावर उभे आहोत. दिवसेंदिवस वेगवेगळे तंत्रज्ञान विकसित होत आहे. संगणक तंत्राचा विकास होताना त्यात आलेले बदल त्याचप्रमाणे संगणकीकरणात आधी वापरलेले तंत्रज्ञान बदलून नवीन तंत्रज्ञानासह ते वापरात आणले गेले.

उदा :- e-Publications Digital Libraries, Internet usage, web tools applications ईतर सर्व साधनांचा वापर करताना संगणक तंत्राचा वापर करताना त्याचा व्याव संगणकाच्या ठिकाणी केंद्रित होता. प्रत्येक ग्रंथालयात आवश्यक आज्ञाली (Software), सर्वर, क्लायट, मशीन्स आणि वर्ड प्रोसेसिंगची लायसन्सेस हे सर्व ग्रंथालय ठिकाणी निर्माण केलेली माहिती, तंत्रज्ञान सामग्रीचे एकत्रीकरण पाहायला मिळते. मोठ्या प्रमाणात डेटा एकत्रित होऊ लागला. संगणक तंत्राचा विकास होत असताना या सर्व गोष्टींवर खर्च करणे कोणत्याही ग्रंथालयात शक्य नव्हते त्यामुळे यावर सक्षम उपाय म्हणून 'क्लाऊड कॉम्प्युटिंग' या नव्या संकल्पनेचा उदय झाला.

संशोधनाचा उद्देश :-

१. क्लाऊड कॉम्प्युटिंगच्या वापरामुळे ग्रंथालय संगणकीकरणावर होणाऱ्या लाखो रूपयांवर बचत होईल.
२. या संकल्पनेद्वारे माहिती साठवण, माहिती प्रतिप्राप्ती व डेटा शेअरिंग आज्ञावली या साधनांचा एकत्रित वापर
३. क्लाऊड कॉम्प्युटिंग वापरामुळे ग्रंथालयातील संशोधकांना उपयुक्त माहिती कमीत-कमी वेळेत देता येईल.
४. क्लाऊड कॉम्प्युटिंग द्वारे जगभरात डेटा कोठेही पाहता येईल.

क्लाऊड कॉम्प्युटिंग म्हणजे :-

क्लाऊड कॉम्प्युटिंग म्हणजे, "ग्रंथालयात संगणकीकृत कामासाठी ग्रंथालयाच्या ठिकाणी असलेली क्लाऊड कॉम्प्युटिंगची व्यवस्था न वापरता त्यासाठी रिमोट किंवा ति-हार्डट ठिकाणच्या कॉम्प्युटिंग स्रोत व व्यवस्थेचा वापर करणे होय"

क्लाऊड कॉम्प्युटिंग विषयी विवेचन :-

Building Digital Library :-

आज मोठ्या प्रमाणावर Digital Library ही संकल्पना तयार होत आहे. क्लाऊड कॉम्प्युटिंगमुळे एका ठिकाणाहून आपल्याला वेगवेगळ्या विषयांचा ग्रंथालयांची माहिती उपलब्ध होऊ शकते. वेगवेगळे

Research Paper, Journal, E-books ईतर आपल्याला ग्रंथालयात बसून आपण त्याबद्दलची माहिती मिळवू शकतो.

Searching Library Data :-

OCLC हे क्लाऊड कॉम्प्युटिंगचे चांगले उदाहरण देता येईल. OCLC - Online Computer Library Centre. World Car Service अंतर्गत दर्जेदार तालीकीकरणासाठी ग्रंथालयांना प्रोत्साहन मिळाले आहे. या

प्रकल्पांतर्गत ग्रंथालयांच्या महत्वाच्या कामाच्या माहिती आपल्याला ई-स्वरूपात मिळते.

Website Hosting :-

यात वेगवेगळ्या ग्रंथालयाचा डेटा, त्यांचा OPAC - वेबसाईडच्या सहाय्याने आपल्याला पाहता येते. त्यामुळे नवीन कोणकोणत्या नवीन संकल्पना येत आहे. याची माहिती मिळते त्यासाठी स्वतःची Wbsite ग्रंथालयांनी तयार केलेली असते.

Searching Scholarly Content :-

शैक्षणिक उपयोगासाठी याचा वापर करता येतो. Research Paper, Journal शोधण्यासाठी क्लाऊड चा वापर करता येतो.

File Storage :-

आपल्या ग्रंथालयाला उपयुक्त लागणारी महत्वाची माहिती आपण स्टोअर करून ठेवू शकतो. क्लाऊड कॉम्प्युटिंग मुळे माट्या प्रमाणावर आपण माहिती स्टोअर करून ठेवू शकतो. लागेल तेव्हा त्याचा उपयोग करू शकतो.

Building Community Power :-

ग्रंथालय नेटवर्किंगमुळे माहिती शास्त्राचे लोक एकत्रित आले व त्याचबरोबर नवीन वापर कर्ते सुद्धा एकत्र आले. त्यामुळे प्रत्येक ग्रंथालयाच्या माहितीचा प्रसार होत गेला व त्यानुसार त्यात सुधारणा होत गेल्या. उदा. Facebook

Library Automation :-

क्लाऊड स्टोअरेजच्या वापरामुळे संपूर्ण ग्रंथालय संगणकीकृत करता येते. देवघेव पद्ध, नियतकालिका व्यवस्थापन, Registration, Purchase Order, Bills Statement इतर सर्व सेवा Automation करून साध्य होऊ शकतात.

क्लाऊड कॉम्प्युटिंगची वैशिष्ट्य :-

Self Healing :-

जर एखादी Service क्लाऊड कॉम्प्युटिंग अंतर्गत चालत असेल तर तो त्या स्वतःहून सुधारणा करतो. जर एखादे Application अचानक बंद पडले तरी त्याचा Backup दुसऱ्या तयार असतो.

Multi-Tentancy :-

एकाच वेळी अनेक जण एकाच वेळी एकावर काम करू शकतात.

Library Oriented :-

वेगवेगळ्या गोष्टीची माहिती आपल्याला माहित होते. आपल्या ग्रंथालयात कोणकोणते बदल होत आहे. याची माहिती आपणास क्लाऊड कॉम्प्युटिंगद्वारे माहित होते.

Virtualized :-

आभासी सेवेत प्रत्यक्षपणे काम झालेले दिसत नाही. परंतु झालेले काम एका विशिष्ट ठिकाणी साठवले जाते व पाहिजे तेव्हा साठवलेला डेटा जगाच्या कुठल्याही काना-कोपरच्यात पाहता येतो त्यासाठी Login ID व Password दिलेले असतात.

Flexible :-

क्लाऊड कॉम्प्युटिंगमध्ये पाहिजे तसे बदल करता येतात. साठवण क्षमता वाढवता येते.

क्लाऊड कॉम्प्युटिंगचे फायदे :-

१. वापरकर्त्याला जशी हवी तशी सेवा प्रदान केली जाते.
२. क्लाऊड कॉम्प्युटिंगमुळे ग्रंथालयातील कर्मचारी व वाचकांचा वेळ वाचेल.
३. अनेकजण एकावेळी एकावर काम करू शकतात.
४. विविध कॉम्प्युटिंगचे एकत्रीकरण.
५. OPAC/web OPAC चे सुविधा.

निष्कर्ष :-

१. क्लाउड कॉम्प्युटिंग मुळे एका ठिकाणाहून आपल्याला वेगवेगळ्या विषयांची माहिती ग्रंथालयांत उपलब्ध होऊ शकते.

२. Research Paper आणि Journal शोधण्यासाठी क्लाउडचा वापर करता येतो.

३. ग्रंथपाल व ग्रंथालय कर्मचाऱ्यांना आधुनिक तंत्रज्ञानाची ओळख होईल.

संदर्भ सूची :-

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ऑनलाईन लर्निंगसाठी उपलब्ध असलेले प्लॅटफॉर्म व सुविधा: एक दृष्टिक्षेप

सहा. प्रा. बर्फे विजय उत्तमराव

वसंतराव नाईक कला, विज्ञान व वाणिज्य महाविद्यालय, शहादा.

डॉ. कापडे दिपक

कवि कुलगुरू कालीदास संस्कृत विद्यापीठ, रामटेक, नागपूर.

प्रस्तावना

आजच्या या माहिती तंत्रज्ञान युगात ऑनलाईन लर्निंग वा कोर्स आता मुख्य प्रवाहातील शिक्षणासारखे लोकप्रिय होत आहे. देशातील व जगातील विविध विद्यापीठ आपल्या विद्यार्थ्यांना विविध अभ्यासक्रम उपलब्ध करून देत आहे. आज मॅसिव्ह ऑनलाईन लर्निंग वा कोर्सचा एवढा भडीमार होत आहे की त्यामधून योग्य त्या कोर्सची निवड करणे आवश्यक आहे. आज विविध असे प्रयाय उपलब्ध आहे किंवा होत आहे. म्हणून प्रस्तुत लेखतुन ऑनलाईन लर्निंग वा कोर्ससाठी उपलब्ध असलेल्या प्लॅटफॉर्म व सुविधा विषयी चर्चा करण्यात आली आहे.

ऑनलाईन लर्निंग वा ई-लर्निंग

माहिती संप्रेषण तंत्रज्ञानचा वाढता वापर वा नित्याने होणारा विकास याचा विशेष प्रभाव दिसून येतो. जसेई-बुक, ई-जर्नल, ई-गव्हर्नस तसेच ई-लर्निंग होय. ज्याच्या क्षेत्रात माहिती संप्रेषण तंत्रज्ञानाचा वापर केला गेला त्याच्या क्षेत्राच्या संकल्पनेत वा नावात ई हा शब्द जोडला आहे.

थोडक्यात, अध्ययन व अध्यापन प्रक्रियेत माहिती संप्रेषण तंत्रज्ञानाचा वापर केल्यामुळे परंपरागत शिक्षण पध्दतीचा विकास होऊन ई-लर्निंग संकल्पनेचा उदय झाला आहे.

प्रेषक आणि ग्राहक या दोघांमध्ये विविध ईलेक्ट्रॉनिक संचार माध्यमाच्याव्दारे अध्ययन संदर्भात माहितीची देवघेव म्हणजे ई-लर्निंग होय. (चव्हाण, २००४)

ऑनलाईन लर्निंग

अध्ययन व अध्यापन प्रक्रियेत माहिती संप्रेषण तंत्रज्ञानाचा वापर तसेच इंटरनेट वा सिडीरोम वा इतर मिडीयाचा वापर करून देण्यात येणारे शिक्षण म्हणजे ऑनलाईन लर्निंग होय.

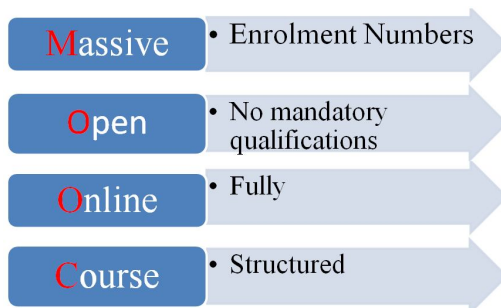
ऑनलाईन लर्निंगसाठी उपलब्ध असलेले प्लॅटफॉर्म

लर्निंग मॅनेजमेंट सिस्टीम (LMS)

ही एक व्यापक संज्ञा असून या मध्ये अध्ययन प्रक्रियेचे व्यवस्थापन करण्यासाठी विद्यार्थ्यां व शिक्षकांसाठी डिझाइन केलेल्या अज्ञावली म्हणजे लर्निंग मॅनेजमेंट सिस्टीम. एक अशी अज्ञावली की, जी इंटरनेटचा उपयोग करून अभ्यासक्रमाचा विकास व वितरणाची सुविधा उपलब्ध करून देते.

• MASSIVE OPEN ONLINE COURSE (MOOC)

ऑनलाईन ओपन कोर्सचे म्हणजे जास्तीत जास्त विद्यार्थ्यांचा सहभाग, कोणत्याही पात्रतेची आवश्यकता नाही तसेच सर्व कोर्स एका स्ट्रक्चर केलेले असते. तसेच MOOC चे वैशिष्ट्ये म्हणजे 3 A's होय, जसे Anytime, Anyone and Anywhere.



ऑनलाईन ओपन कोर्सचे वैशिष्ट्ये लक्षात घेता दिवसेंदिवस त्यांचे वापरकर्ते वाढत आहे. आजमीतीस ऑनलाईन ओपनकोर्स उपलब्ध करून देणाऱ्या विविध प्लॅटफॉर्मवर उपलब्ध असणाऱ्या संख्येवरून आपणास लक्षात येईल.

TOTAL NO. USERS

Sr.no.	MOOC Providers	Users
01	Coursera	37 Million
02	edX.org	20 Million
03	XuetangX	14 Million
04	Udacity	10 Million
05	FutureLearn	8.7 Million
06	Sywam	1.19 Million

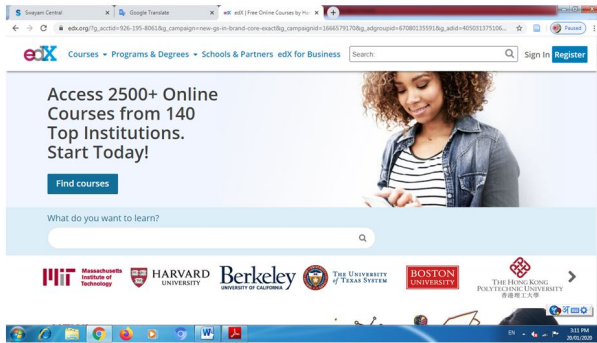
ऑनलाईन ओपन कोर्सचे प्लॅटफॉर्म

ऑनलाईन ओपन कोर्स वा ई-लर्निंग उपलब्ध प्रवाहाचा विचार करता आज भारतात तसेच जगात विविध प्लेटफॉर्म उपलब्ध आहेत. ते आपणास पुढील प्रमाणे सांगता येईल.

• edX.org

हा एक ऑनलाईन ओपनकोर्स उपलब्ध करून देणारा महत्वपूर्ण असा प्लॅटफॉर्म असून जगातील विविध प्रकारच्या विद्या शाखांचे विद्यापीठीय स्तरावरील अभ्यासक्रम निशुल्क उपलब्ध करून देत आहे. तसेच दिवसेंदिवस ते त्यामध्ये नवनविन सुधारणा करतांना दीसून येत आहे. तसेच यामधून प्रामुख्याने संगणक शास्त्र, भाषाशास्त्र, व्यवस्थापन शास्त्र, अभियांत्रिकी, डेटासायंस व मानवविद्या शाखा इत्यादींचा प्रामुख्याने समावेश होतो. आज या प्लॅटफॉर्मवर २५०० पेक्षा जास्त ऑनलाईन ओपनकोर्स तसेच १४० संस्थांचा समावेश आहे.

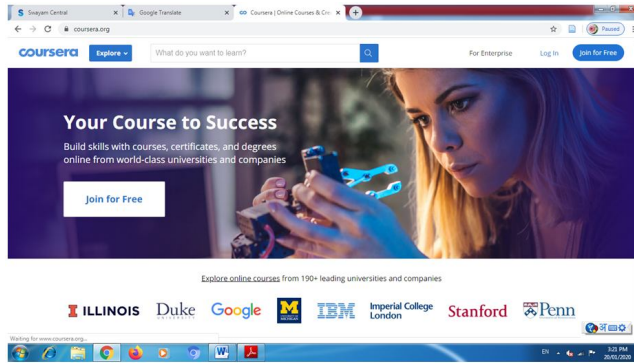
Funded and owned by	MIT & Harvard University
Web Address	https://www.edx.org
Launched on	May 2012
Participating Institutes	As on Jan. 2020 140 Partners



• Coursera

Coursera हा एक ऑनलाईन ओपनकोर्स प्लेटफॉर्म असून जगातील महत्वपूर्ण असे विद्यापीठ तसेच शिक्षण संस्थेच्या मदतीने कोणत्याही व्यक्तीस निशुल्क तसेच काही अभ्यासक्रम शुल्क भरून उपलब्ध करून दिले जात आहे. आज या प्लेटफॉर्मवर १९० पेक्षा जास्त संस्था तसेच विविध कंपन्यांचा समावेश आहे.

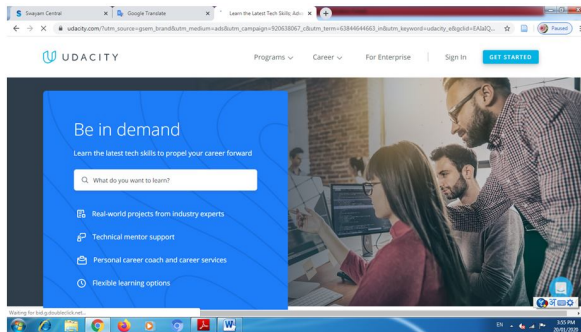
Funded and owned by	Andrew Ng & Daphne Koller
Web Address	https://www.coursera.org
Launched on	April 2012
Participating Institutes	As on Jan. 2020 190 Partners



- **Udacity**

ऑनलाईन ओपन कोर्सची सुरवात खऱ्या अर्थाने एका प्रयोगाच्या माध्यमातून झाली. Thrun and Peter Norvig यांनी आपल्या "Introduction to Artificial Intelligence" कोर्ससाठी निशुल्क देण्याची घोषणा केली तेव्हा त्यांना अभुतपूर्व असा प्रतिसाद मिळाला. त्यावेळी १९० देशातील १६०,००० पेक्षा जास्त विद्यार्थ्यांनी नोंदणी केली. तेव्हा ही नोंद थक्क करणारी अशी होती. पुढे यात आणखी सुधारण होऊन आज एका वेगळ्या उंचीवर पोहचले आहे.

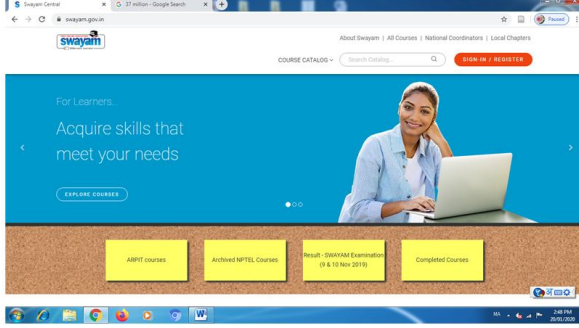
Funded and owned by	Sebastian Thrun & David Stavens
Web Address	https://www.udacity.com
Launched on	April 2012
Participating Institutes	As on Jan. 2020 10 Million students



- **Swayam**

स्वयं महाकार्यक्रम भारत सरकारव्दारे तयार करण्यात आलेला शैक्षणिक प्रक्रियेतील महत्त्वपूर्ण असा कार्यक्रम असून याव्दारे शैक्षणिक धोरणातील तीन मूलभूत तत्त्व जसे, प्रवेश समानता आणि गुणवत्ता साध्य करण्यात आली आहे. याव्दारे शैक्षणिक प्रवाहापासून दूर गेलेल्या विद्यार्थ्यांना शैक्षणिक प्रवाहात आणण्यासाठी तसेच शैक्षणिक प्रक्रियेत गुणवत्ता प्रदान करण्यासाठी उपयोग केला जात आहे. या प्रणालीतुन ९ व्या वर्गापासुन ते पदवीपर्यंतच्या

सर्व शिक्षणाची वा अभ्यासक्रमाची सुविधा उपलब्ध करण्यात आली आहे. स्वयंमवर उपलब्ध असलेले अभ्यासक्रमाचे चार विभागात विभजन करण्यात आले असून ते आपणास पुढील प्रमाणे सांगता येईल.



सारांश

ऑनलाईन लर्निंग वा कोर्स वाढती लोकप्रियता लक्षात घेता आज प्रत्येक विद्यापीठ या कार्यप्रणालीशी जोडले गेले आहे. तसेच आज भारतात देखिल स्वयंम या ऑनलाईन लर्निंग प्लेटफॉर्मवर आज विविध अभ्यासक्रमाची वाढ लक्षणीय आहे. या ऑनलाईन लर्निंग वा कोर्सच्या माध्यमातून शैक्षणिक प्रवाहापासून दूर गेलेल्या विद्यार्थ्यांना शैक्षणिक प्रवाहात आणण्यासाठी खूप महत्वपूर्ण अशी भूमिका निभावतांना दीसून येत आहे.

संदर्भ

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ओपन सोर्स सॉफ्टवेअर्स आणि ग्रंथालये

गणेश दराडे

ग्रंथपाल

जयवंतराव सावंत वाणिज्य व विज्ञान

महाविद्यालय, पुणे

ग्रंथालयामध्ये येणाऱ्या सर्व वाचकांना सहजपणे माहिती उपलब्ध होण्यासाठी माहिती तंत्रज्ञानाचा प्रभावी वापर करणे आवश्यक आहे. यासाठी माहिती तंत्रज्ञान सहजपणे उपलब्ध झाले पाहिजे. ओपन सोर्स सॉफ्टवेअर हा माहिती तंत्रज्ञानाचा एक महत्त्वाचा घटक आहे. वाचकांना/वापरकर्त्यांना हवी ती माहिती सहजपणे उपलब्ध करून देण्यासाठी सॉफ्टवेअर विनामूल्य पुरावित असा व्यापक विचार तज्ञांनी केला आणि त्यातूनच ओपनसोर्स सॉफ्टवेअरचा उगम झाला. सदर लेखामध्ये ओपनसोर्स सॉफ्टवेअर म्हणजे काय? आणि ग्रंथालयाशी संबंधित असणारी ओपनसोर्स सॉफ्टवेअरचा परिचय देण्यात आला आहे.

अमृता शिंदे

सहाय्यकप्राध्यापक

तुळजाराम चतुरचंद कला, वाणिज्य व विज्ञान,

महाविद्यालय बारामती, जि.पुणे

संज्ञा-Open Source Software, Koha, New Gen Lib, Digital Library, Library Automation

१) प्रास्ताविक:

ओपनसोर्स सॉफ्टवेअर ही कमी खर्चिक आणि आपल्या दैनंदिन कामांच्या प्राधान्य क्रमानुसार उपलब्ध होऊ शकणारी आज्ञावली म्हणून ओळखली जाते. ओपनसोर्स सॉफ्टवेअरच्या वापरामुळे ग्रंथालयामधील सेवांमध्ये सुधारणा झाल्याचे पहावयास मिळते. ओपनसोर्स सॉफ्टवेअरच्या माध्यमातून ग्रंथालयाचे संगणकीकरण करून वेळेची व श्रमाची बचत, कामकाजात शिस्त, अचूकता व वेग इत्यादी गोष्टी या साध्य होण्यासारख्या आहेत. आपल्या आवश्यक गरजेनुसार या सॉफ्टवेअरमध्ये बदलही करता येत असल्याने ती अधिकच उपयुक्त ठरतात.

खाजगी सॉफ्टवेअरचे निर्माते त्यांच्या सॉफ्टवेअरचा सोर्सकोड कोणालाही सांगत नाहीत. परंतु व्यापक समाजहिताचा विचार करणारे सॉफ्टवेअर तज्ञ त्यांच्या सॉफ्टवेअरचा सोर्सकोड सर्वांनाच उपलब्ध करतात. म्हणून सोर्सकोडसह मोफत उपलब्ध असणाऱ्या सॉफ्टवेअरसोबत ओपनसोर्स सॉफ्टवेअर म्हणतात. थोडक्यात, ओपनसोर्स सॉफ्टवेअर म्हणजे-

अ)मोफत / विनामूल्य सॉफ्टवेअर

ब) सॉफ्टवेअर बरोबरच सोर्सकोडही उपलब्ध

क)असे सॉफ्टवेअर वापरण्यासाठी काही अटींचे पालन करावे लागते. त्याला General Purpose License म्हणतात.

२) व्याख्या :

www.opensource.org नुसार “सोर्सकोड मधील नवनवीन बदल, भर व त्यातील दर्जात्मक सुधारणेद्वारे ओपन सोर्स हे त्या आज्ञावलीची गुणवत्ता व विश्वासाहता वाढविण्यास मदत करते. ओपनसोर्स म्हणून घेण्यासाठी लायसन्सच्या पाठबळाद्वारे आज्ञावली वाचवण्याचा, पुनर्वितरणाच्या, सुधारणेच्या व मोफत वापरण्याच्या हक्कांची हमी द्यावी लागते.”

३) ओपनसोर्स सॉफ्टवेअरचे फायदे :

३.१ विनामूल्य

ओपनसोर्स सॉफ्टवेअर हे सर्वांना विनामूल्य उपलब्ध असतात. त्यामुळे ज्या ग्रंथालयांना सॉफ्टवेअरसाठी निधीची अडचण भासते त्यांना ही सॉफ्टवेअर विनामूल्य उपलब्ध होतात.

३.२ सहज प्रसार

ओपनसोर्स सॉफ्टवेअर मोफत उपलब्ध असल्यामुळे त्याचा प्रसार मोठ्या प्रमाणावर होतो.

३.३ आवश्यक ते बदल करणे शक्य

ओपनसोर्स सॉफ्टवेअरचा उपभोक्तात्याला हवा तसा बदल करू शकतो. त्याला महत्त्वाचा असा वाटणारा

बदल तो केव्हाही करू शकतो.

४) ग्रंथालयाशी संबंधित ओपनसोर्स सॉफ्टवेअर

४.१ Library Automation

४.१.१ कोहा (Koha)

ग्रंथालयाकरिता निर्माण झालेल्या ओपनसोर्स सॉफ्टवेअरपैकी 'कोहा' हे पहिले इंटीग्रेटेड सॉफ्टवेअर आहे. न्यूझीलंडमधील 'Library Trust' करिता 'Katipo Communication' ने १९९९ मध्ये कोहाची निर्मिती केली. जानेवारी २००० मध्ये तो सर्वप्रथम कार्यरत झाले. २००५ मध्ये कोहाकरिता 'LibLime' या वेगळ्या कंपनीची ओहियो येथे स्थापना करण्यात आली. पुढे जाऊन 'Zebra' या इंटीग्रेटेड सपोर्टची कोहाला जोड देण्यात आली. सध्या सहा मॉड्यूलस मध्ये उपलब्ध असणारी ३.०.३ ही कोहाची नवी आवृत्ती २००९ मध्ये प्रसिध्द झाली आहे. मोफत उपलब्धतेकरिता 'कोहा' GNU लायसन्सद्वारा प्रसारित केलेले आहे.

४.१.२ Php My Bibli (PMB)

My Bibli (PMB) ही Linux वा Windows ऑपरेटिंग सिस्टीमवर कार्यरत होणारी, PHP प्रोग्रामिंग भाषेत तयार केलेली इंटीग्रेटेड ओपनसोर्स ग्रंथालय आज्ञावली आहे. 'अॅनोऑक्स' या सार्वजनिक ग्रंथालयाचे प्रमुख फ्रन्काइजलंमाचेड (Francois Lemarchand) यांनी ऑक्टोबर २००२ मध्ये या सॉफ्टवेअरच्या प्रकल्पाची सुरवात केली. ऑक्टोबर २००८ मध्ये PMB ची नवीन आवृत्ती ३.२.० उपलब्ध झाली असून त्यात आणखी नवनवीन वैशिष्ट्यांची भर घालण्याचे काम सुरूच आहे.

४.१.३ New Gen Lib (New Generation Library)

Verus Solutions Pvt. Ltd. आणि Kesavan Institute of Information & Knowledge Management या हैद्राबाद मधील कंपनीने विकसित केलेले 'New GenLib' हे ओपनसोर्स इंटीग्रेटेड लायब्ररी मॅनेजमेंट सॉफ्टवेअर आहे. सन २००५ मध्ये या सॉफ्टवेअरची १.० ही पहिली आवृत्ती प्रसिध्द झाली. ही पहिली आवृत्ती ओपनसोर्स म्हणून मोफत उपलब्ध नव्हती, पुढे ९ जानेवारी २००८ ला 'Uerus Solution' या कंपनीने General Public License (GNU)च्या अन्वये या आज्ञावलीला ओपनसोर्स म्हणून घोषित केले.

४.१.४ Evergreen

Evergreen ची पहिली आवृत्ती १.० सप्टेंबर २००६ मध्ये जॉर्जियाच्या राज्य सार्वजनिक ग्रंथालयाने विकसित केली. सन २००७ मध्ये Evergreen Development Team ने या आज्ञावलीचा विकास, प्रशिक्षण व सेवा याकरीता 'एक्झिकॉक्स सॉफ्टवेअर' या व्यावसायिक कंपनीची स्थापना केली. Linux सर्वर आणि PostgreSQL या बॅकएंड टेडाबेसवर चालणारी 'Evergreen' ही आज्ञावली General Public License (GNU) द्वारे मोफत उपलब्ध आहे. १.४.०.६ ही 'Evergreen' ची नवी आवृत्ती नुकतीच सप्टेंबर २००९ मध्ये उपलब्ध झाली आहे.

४.१.५ E-Granthalaya

ई-ग्रंथालय आज्ञावली ही राष्ट्रीय माहिती विज्ञान केंद्र (National Information Center) आणि भारत सरकारचे इलेक्ट्रॉनिक्स आणि माहिती तंत्रज्ञान ग्रंथालय यांनी सन २००३ मध्ये प्रसिध्द केले आहे. सदर आज्ञावलीच्या चार मुख्य आवृत्त्या प्रसिध्द झाल्या आहेत. यामध्ये e-G 1.0, e - G 2.0, e - G3, e-G 4.0 या मुख्य तसेच त्याच्या वेळोवेळी सुधारीत आवृत्त्या प्रसिध्द झाल्या आहेत.

४.२ डिजिटल ग्रंथालय सॉफ्टवेअर

४.२.१ ग्रीनस्टोनडिजिटललायब्ररी

General Public License (GNU) च्या अटी अंतर्गत ग्रीनस्टोन डिजिटल लायब्ररी हे ओपनसोर्स सॉफ्टवेअर सर्वाकरीता उपलब्ध केले जात आहे. हे सॉफ्टवेअर न्यूझीलंड येथील वायकॅटो विद्यापीठाने सन १९९७ मध्ये विकसित केले आहे. या सॉफ्टवेअर मध्ये डब्लिनकोर (Dublin Core) या मेटा डेटा प्रमाणकाचा वापर केला आहे. माहिती संकलन आणि सादरीकरणासाठी ग्रीनस्टोन डिजिटल लायब्ररी सॉफ्टवेअरही एक ओपनसोर्स प्रणाली आहे.

४.२.२ डिस्पेस (Dspace)

डिस्पेस सॉफ्टवेअर ह्यूलेटपॅकर्ड (Hewlett Packard) आणि मॅसॅच्युसेटस इन्स्टिट्यूट ऑफ टेक्नॉलॉजी (Massachusetts Institute of Technology) या संशोधन संस्थांच्या सहकार्यातून सन २००२ मध्ये प्रथम विकसित करण्यात आले आहे. हे सॉफ्टवेअर जावा (Java) या प्रोग्रॅमिंग लॅंग्वेजवर आधारित आहे.

४.२.३ ई-प्रिंट (E-Print)

E-Print ही आज्ञावली University of Southampton School of Electronic and Computer Science ने सन २००२ मध्ये विकसित केली आहे. ई-प्रिंट ही आज्ञावली Institutional Repository म्हणून ओळखली जाते.

निष्कर्ष:

ग्रंथालय संगणकीकरण ही खर्चिक बाब असली तरी त्याचे फायदे लक्षात घेता. सर्वच ग्रंथालयांमध्ये संगणकीकरणाच्या कामाला चालना मिळाली आहे. वेळ व श्रमाची बचत, कामकाजात शिस्त, अचूकता व वेग, परंपारिक व दैनंदिन सेवामध्ये लक्षणीय बदल इत्यादी फायदयामुळे सर्वच ग्रंथालये बाजारात उपलब्ध इंटरिग्रेटेड आज्ञावलींचा अवलंब करताना दिसतात. परंतु आजमितीस बाजारात उपलब्ध असणाऱ्या आज्ञावलींच्या किमती या फार मोठ्या आहेत. त्या सर्वच ग्रंथालयांना घेणे शक्य होत नाही. त्यामुळे ओपनसोर्स सॉफ्टवेअरचा उपयोग करणे फायद्याचे ठरत आहे. त्यासाठी निशुल्क अशा विविध आज्ञावली या आज उपलब्ध आहेत. त्यांचा वापर ही मोठ्या प्रमाणामध्ये ग्रंथालयामध्ये होताना दिसून येत आहे.

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संशोधनातील समानता तपासण्या संदर्भातील ज्ञान स्रोत केंद्र, संत गाडगे बाबा अमरावती विद्यापीठाचा प्रयत्न : एक अभ्यास

कु. स्नेहा श. कथलकर
ज्ञान स्रोत केंद्र

संत गाडगे बाबा अमरावती विद्यापीठ, अमरावती.

कु. मीना वा. वानखडे
ज्ञान स्रोत केंद्र

संत गाडगे बाबा अमरावती विद्यापीठ, अमरावती.

Plagiarism म्हणजे वाड.मय चौर्य असा त्या शब्दाचा अर्थ होतो. Plagiarism हा शब्द Latin भाषेतून आला आहे. Plagiarism च्या व्याख्या खालील प्रमाणे देता येतील.

१. Plagiarism म्हणजे वाड्मय चौर्य हे वाड्मय चौर्य एका संशोधकाने दुसऱ्या संशोधकाचे जसेच्या तसेच Copy करून आपल्या संशोधनात दाखविले तर त्यास वाड्मय चौर्य किंवा Plagiarism असे म्हणतात.

२. वाड्मय चौर्याचा अर्थ मुळ संशोधकाने संशोधन केलेल्या काही साहित्याच्या भागाची अदयावत संशोधकाने केलेली नकल म्हणजे झश्ररसळरीळी होय.

एका संशोधकाने एखाद्या विशिष्ट विषयात केलेले संशोधन हे दुसऱ्या व्यक्तीने Copy करू नये त्या करिता Plagiarism Software ची सुविधा करण्यात आली आहे. या Plagiarism Software मुळे एक व्यक्ती हा दुसऱ्या व्यक्तीचे थोड्या Copy करू शकत नाही. संशोधना मध्ये Plagiarism च्या प्रवेशाची कारणे काय हे पाहणे देखील आवश्यक आहे. विद्यापीठ अनुदान आयोगाच्या धोरणामुळे उच्च शिक्षणात संशोधनाचे प्रमाण भरपूर प्रमाणात वाढले आहे. संशोधकांची संख्या वाढल्यामुळे संशोधन मोठ्या प्रमाणात होत आहे. या शिवाय इंटरनेटमुळे संशोधन करणे सुलभ झालेले आहे. त्यामुळे संशोधनाच्या दर्जावर परिणाम झालेला दिसून येतो. या माध्यमातूनच वाड्मय चौर्याच्या प्रमाणात वाढ होत असल्याचे निर्दर्शनात येते. यावर उपाय म्हणून -nti Plagiarism Software विकसीत झालेत. संशोधकाने केलेले विशिष्ट विषयातील दिर्घकालीन संशोधन हे दुसऱ्या व्यक्तीने Copy करू नये या गोष्टीला आळा बसावा या करिता nti Plagiarism Software आलेले आहे. संशोधनात झश्ररसळरीळी थांबविण्या करिता हे प्रयत्न केले जात आहे. विद्यापीठ अनुदान आयोगाने देखील या बाबीची दखल घेतलेली आहे त्यानुसार विद्यापीठ अनुदान आयोगाने २३ जुलै २०१८ रोजी रेग्युलेशन काढलेले आहे. जे ३१ जुलै २०१८ रोजी भारताच्या राज पत्रात या नावाने प्रसिध्द झाले आहे. Plagiarism वाढत असल्यास ते थांबविण्या करिता विद्यापीठातील ज्ञान स्रोत केंद्राने Anti Plagiarism Software ची सुविधा केली आहे. पुर्वी Turnitin या Software द्वारे Plagiarism Check केल्या जात होते. परंतु आता INFLIBNET शी झालेल्या करारा नुसार (URKUND) हे Software विद्यापीठाला प्राप्त झालेले आहे.

ज्या विद्यापीठांनी INFLIBNET शी करार केला आहे, अशा विद्यापीठांना पीजीपिव नावाचे -nti Plagiarism Software निशुल्क पुरविले आहे. त्यामुळे इतर विद्यापीठा प्रमाणेच संत गाडगे बाबा अमरावती विद्यापीठाला देखील हे Software निशुल्क प्राप्त झाले आहे. या नुसार अमरावती विद्यापीठाच्या ज्ञान स्रोत केंद्रा द्वारे संशोधन पर दस्ताऐजांची तपासणी केली जाते. ज्ञान स्रोत केंद्रात Plagiarism तपासणी करण्याची सुविधा विद्यापीठाने उपलब्ध करून दिलेली आहे. त्याच प्रमाणे Plagiarism मुळे संशोधनात बरेच परिणाम दिसून येत आहे. Plagiarism आल्यामुळे संशोधक हे आपले संशोधन योग्य मार्गानी करत आहेत. त्याच प्रमाणे संशोधक संशोधन करित असतांना संशोधन विषयाचे बारकावे व योग्य माहिती जाणून घेत आहेत. Plagiarism या Software मुळे संशोधक हा काळजी पुर्वक संशोधन करतो. त्यांच्या संशोधनातील माहिती ही उेू झिरींश नसून ते संशोधन संशोधकाने प्रामाणिक पणे केले आहे असे जाणवते.

SGB-U / KRC Information

संत गाडगे बाबा अमरावती विद्यापीठाची स्थापना १ मे १९८३ रोजी झाली. संत गाडगे बाबा विद्यापीठा अंतर्गत ५ जिल्हे येतात. १. अमरावती २. अकोला ३. यवतमाळ ४. बुलढाणा ५. वाशिम अशा पाच जिल्ह्यांचा समावेश अमरावती संत गाडगे बाबा अमरावती विद्यापीठा मध्ये होतो. वरिल पाच जिल्ह्यातील महाविद्यालयाचा संलग्नित कारभार हा अमरावती विद्यापीठाशी संबंधीत आहे. तसेच संत गाडगे बाबा अमरावती विद्यापीठाच्या

परिक्षेत्रात २६ शैक्षणिक विभाग आहे. येथे पदव्युत्तर विभाग आहेत. संत गाडगे बाबा अमरावती विद्यापीठा मध्ये ज्ञान स्रोत केंद्राची स्थापना सुध्दा १ मे १९८३ रोजी झाली आहे. ज्ञान स्रोत केंद्रात विद्यार्थ्यांना अभ्यासा विषयीची माहिती पुरविल्या जाते. त्याच प्रमाणे ज्ञान स्रोत केंद्रा मध्ये पुस्तकां विषयीची माहिती तसेच News Paper, Journal, Periodical तसेच संदर्भ ग्रंथ आणि Online माहिती सुध्दा खर्पीशीपशीं द्वारे मिळते. त्याच प्रमाणे ज्ञान स्रोत केंद्रात संशोधक, विद्यार्थी, तसेच संशोधन करणारे संशोधक हे त्यांचे Research Paper, Project Work असे वेगवेगळे साहित्याची सुविधा पुरविण्यात येतात.

उद्दिष्टे

१. ज्ञान स्रोत केंद्र संत गाडगे बाबा अमरावती विद्यापीठ द्वारे मागील ५ वर्षात URKUND या Software द्वारे तपासल्या जाणाऱ्या संशोधन पर दस्तावेजांची गणना करणे.

२. सदर ज्ञान स्रोत केंद्रा द्वारे तपासल्या गेलेले दस्तावेजांचे वर्गीकरण करणे.

३. तपासल्या गेलेल्या दस्तावेजां मधील समानता / सारखेपणा (Similarity) तपासणे.

संशोधनात वाडःमय चौऱ्याच्या समावेशाची कारणे

१. विद्यापीठ अनुदान आयोगाचे धोरण २००२ मध्ये विद्यापीठ अनुदान आयोगाने NET / SET मधुन सुट देण्याकरिता Ph.D पदवी ही आवश्यक केली होती. तसेच Ph.D पदवी असणे हि बाब वरिष्ठ महाविद्यालयातील शिक्षकां करिता उड करियर एडव्हान्समेंट स्किम (C-S) च्या माध्यमातुन बढती मिळण्याकरिता आवश्यक करण्यात आलेले आहे.

२. Internet चा उदय २१ व्या शतकात खर्पीशीपशीं चा वापर हा अतिशय मोठ्या प्रमाणात करण्याला सुरुवात झाली. बदलत्या काळा नुसार Internet च्या वापरामुळे विद्यार्थी व संशोधक यांना संशोधना करिता हवी असलेली माहिती Internet वर उपलब्ध होत असल्यामुळे संशोधकांना माहिती मिळविण्या करिता कमी प्रयास लागत आहे. पण तरी सुध्दा Internet वर असलेली माहिती हि संपुर्ण उपयोगाचीच असेल किंवा बरोबरच असेल असे गृहित धरल्या जाते. काही प्रमाणात Internet वरिल माहिती हि पण चुकिची असु शकते. पण बदलत्या काळा नुसार खर्पीशीपशीं वरिल माहिती हि बरेच संशोधक / विद्यार्थी बरोबर आहे असेच समजतात. त्यामुळे आवश्यक तीच माहिती खर्पीशीपशीं वरुन घेणे गरजेचे आहे.

३. संशोधनास मिळालेला अवास्तव वाव पुर्वी संशोधन करणाऱ्यांची संख्या फार कमी प्रमाणात होती. कारण संशोधन करणे हे त्या काळी आवश्यक नव्हते. म्हणुन विदर्भातुन महाराष्ट्रातुन आणि पुर्ण भारतातुन संशोधन करणाऱ्याची संख्या हि फार अल्प प्रमाणात होती. पुर्वीच्या काळी Ph.D करणे हे आवश्यक नव्हते त्यामुळे संशोधक संशोधन फार कमी प्रमाणात करत होते. पण २१ व्या शतकात. संशोधन करणे Ph.D ची डिग्री मिळविणे अत्यंत आवश्यक झाल्यामुळे संशोधकाच्या संशोधनाला अवास्तव वाव मिळत आहे. संशोधन करणे हि काळाची गरज समजल्या जात आहे. त्यामुळे विद्यार्थी, शिक्षक, प्राध्यापक Ph.D करण्यास तत्पर होत आहे.

तक्ता क्र. १ वर्षनिहाय तपासण्यात आलेले एकुण दस्तावेज

अ.क्र.	वर्ष	दस्तावेजांची संख्या	टक्केवारी
1	2015	9	0.64
2	2016	31	2.22
3	2017	117	8.38
4	2018	449	32.16
5	2019	790	56.59
		1396	100

प्रस्तुत संशोधनपर लेखांच्या प्रथम उद्दिष्टा नुसार मागील प्रत्येक वर्षात किती दस्तावेजे Urkund या -nti Plagiarism Software द्वारे तपासल्या गेले याची माहिती ज्ञान स्रोत केंद्रात उपलब्ध दस्तावेजांच्या माध्यमातुन एकत्रीत केल्या गेली. सदर माहिती तक्ता क्र. १ मध्ये वर्षनिहाय मांडण्यात आलेली आहे. तक्ता क्र. १ नुसार मागील ५ वर्षात एकूण १३९६ संशोधन पर दस्तावेज Software द्वारे तपासल्या गेले. सदर तक्त्या वरुन असे निर्दर्शनात येते कि, दरवर्षी या दस्तावेजांची संख्या वाढत आहे. २०१५ या वर्षी फक्त ९ दस्तावेजे तपासल्या गेलीत. म्हणजेच

एकूण दस्ताऐवजां पैकी फक्त 0.६४ % दस्ताऐवजे या वर्षात तपासल्या गेलीत. पुढे हि संख्या वाढत गेल्याचे निर्दर्शनात येते. २०१९ मध्ये याचे प्रमाण ५६.५९ % झाल्याचे आढळून येते. याचा अर्थ संशोधकां मध्ये Plagiarism बाबत जागरूक झाल्याचे दिसून येते.

तक्ता क्र. २ दस्ताऐवजांच्या प्रकारानुसार तपासण्यात आलेले दस्ताऐवज

अ.क्र.	दस्ताऐवजांचे प्रकार	एकूण दस्ताऐवज	टक्केवारी
1	Ph.D/Thesis	374	26.79
2	Dissertation	75	5.37
3	Project Work	778	55.73
4	Research Paper	134	9.60
5	Other	35	2.51
		1396	100

उद्दिष्ट क्र. २ नुसार तपासल्या गेलेल्या एकूण १३९६ दस्ताऐवजांचे वर्गीकरण करण्यात आलेले आहे. त्यामध्ये Ph.D Thesis चे प्रमाण २६.७९ % आहे. त्याच प्रमाणे Dissertation चे प्रमाण ५.३७ % आहे. त्यामध्ये Project work चे प्रमाण ५५.७३ % आहे. Project work चे प्रमाण जास्त असल्याचे आढळून येते. त्याच प्रमाणे Research paper चे प्रमाण ९.६० % प्रमाण आहे. Other मध्ये २.५१ % प्रमाण दिसून येते. उद्दिष्ट क्रमांक २ नुसार वरिल तक्त्याचे Category wise वर्गीकरण केले आहे.

तक्ता क्र. ३ आढळलेल्या समानते नुसार दस्ताऐवजांचे वर्गीकरण

अ.क्र.	समानता	एकूण दस्ताऐवज	टक्केवारी
1	0-10	685	49.06
2	11-20	257	18.40
3	21-30	123	8.81
4	31-40	64	4.58
5	41-50	57	4.08
6	51-60	24	1.71
7	61-70	15	1.07
8	71-80	5	0.35
9	81-90	4	0.28
10	91-100	9	0.64
11	नमुद नाही	153	10.95
		1396	100

उद्दिष्ट क्र. ३ नुसार तपासल्या गेलेल्या एकूण १३९६ दस्ताऐवजांचे Similarity wise वर्गीकरण करण्यात आले आहे. 0 ते १० दरम्यान समानतेचे प्रमाण ४९.०७ % आहे. ११ ते २० दरम्यान समानतेचे प्रमाण १८.४१ % आहे. २१ ते ३० दरम्यान समानतेचे प्रमाण ८.८१ % आहे. ३१ ते ४० दरम्यान समानतेचे प्रमाण ४.५८ % आहे. ४१ ते ५० दरम्यान समानतेचे प्रमाण ४.०८ % आहे. ५१ ते ६० दरम्यान समानतेचे प्रमाण १.७२ % आहे. ६१ ते ७० दरम्यान समानतेचे प्रमाण १.०७ % आहे. ७१ ते ८० दरम्यान समानतेचे प्रमाण ०.३६ % आहे. ८१ ते ९० दरम्यान समानतेचे प्रमाण ०.२९ % आहे. ९१ ते १०० दरम्यान समानतेचे प्रमाण ०.६४ % आहे. त्याच प्रमाणे Other चे प्रमाण १५३ असून त्याची टक्केवारी १०.९६ % आहे. वरील तक्त्यातील दस्ताऐवजांचे समानते नुसार वर्गीकरण केले आहे.

समानतेचे प्रमाण कमी करण्याकरीता ज्ञान स्रोत केंद्राचे प्रयत्न

विद्यापीठ अनुदान आयोगाच्या ३१ जुलै २०१८ च्या रेग्युलेशन नुसार संशोधना मध्ये १०% पर्यंत समानता आढळल्यास ही बाब मान्य करण्यात आलेली आहे. तथापी उपरोक्त तक्ता क्र. ३ नुसार अर्धपेक्षाही कमी संशोधनपर दस्ताऐवजां मध्ये १०% पेक्षा कमी समानता आढळते. त्यामुळे Plagiarism संदर्भात संशोधका मध्ये जागृकता येणे

अत्यंत गरजेचे आहे, असे म्हणता येईल. त्या दृष्टिने विद्यापीठाचे ज्ञान स्रोत केंद्र आपल्या स्तरावरून आवश्यक ते प्रयत्न करित आहे. या मध्ये ज्ञान स्रोत केंद्रा द्वारे संशोधका मध्ये जागृकता निर्माण करण्या करिता व्याख्याने दिली जातात. याशिवाय Anti Plagiarism Software द्वारे दस्ताऐवजे तपासतांना १०% च्या वर समानता आढळल्यास तेथील कर्मचारी वर्ग ही समानता कशी कमी करता येईल या संबंधी मार्गदर्शन करतात. तपासण्यात आलेल्या दस्ताऐवजां मध्ये समानतेचे प्रमाण जास्त आढळल्यास संशोधकांना सदर दस्ताऐवजात बदल करण्या करिता आवश्यक संगणक सामुग्री ज्ञान स्रोत केंद्र द्वारे पुरविली जातात. याचा परिणाम म्हणुन सदर दस्ताऐवजांची पुनःप्य तपासणी केल्यास ही समानता १०% पेक्षा कमी येते, असे आढळून आलेले आहे.

महाविद्यालयीन ग्रंथालयामध्ये माहिती साक्षरता उपक्रमाच्या अनुषंगाने प्रारूप विकसन (Model Develop)

डॉ.माधव देवबा वराडे

ग्रंथपाल

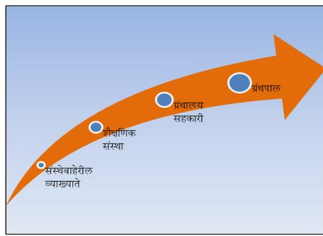
कला, वाणिज्य व विज्ञान महाविद्यालय, बोदवड

शिक्षणमुळेच कोणत्याही समाजाचा, राष्ट्राचा सर्वांगीण विकास होत असतो. शिक्षणचे कार्य गुणवत्तापूर्ण होण्यासाठी योग्य वाचकांना योग्य वाचनसाहित्य योग्य वेळेत उपलब्ध होणे गरजेचे असते. या गरजेतूनच ग्रंथालयांची निर्मिती झाली आहे. शिक्षणसाठी वाचनसाहित्य उपलब्ध करण्याबरोबरच ग्रंथालये मानवी अनुभवांचे आणि ज्ञानाचे ग्रंथरूपाने जनत करत असतात. म्हणजे एक प्रकारे जी सांस्कृतिक वारसा जतन करत असतात. शिक्षणची सहाय्यक यंत्रणा आणि सांस्कृतिक वारसा जतन करणारी यंत्रणा म्हणून ग्रंथालये गेली अनेक वर्षे कार्य करत आहेत. ही कार्ये यशस्वीपणे पूर्ण करण्यासाठी ग्रंथपालनशास्त्राने गेल्या अनेक वर्षांमध्ये विविध पद्धती, प्रक्रिया, सेवा, साधने, सुविधा निर्माण केल्या आहेत.

माहिती आणि संप्रेषण तंत्रज्ञानाचा समाजाच्या सर्वच क्षेत्रांवर विलक्षण प्रभाव पडला आहे, पडत आहे. माहिती तंत्रज्ञानाचा ग्रंथपालनावरही व्यापक प्रभाव पडलेला आढळतो. माहिती तंत्रज्ञानामुळे ग्रंथपालनाच्या विविध पैलूंमध्ये अमूलाग्र बदल होत आहेत. यांतील काही बदल लादलेले आहेत, तर काही बदल ग्रंथालय व्यावसायिकांनी जाणीवपूर्वक केलेले आहेत. उदाहरणार्थ, वाचनसाहित्याच्या प्राकृतिक स्वरूपातील मुद्रित ते इलेक्ट्रॉनिक असा बदल हा ग्रंथपालनावर लादलेला बदल आहे. तर तालिकेच्या स्वरूपात तसेच ग्रंथ देवघेवीच्या स्वरूपात ग्रंथालय व्यावसायिकांनी जाणीवपूर्वक बदल केला आहे.

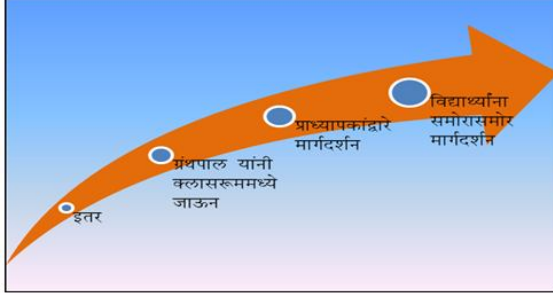
प्रारूप विकसन (Model Develop)

कल्पित संकल्पनांची पद्धतीच्या स्वरूपात मांडणी करणे, म्हणजे प्रारूप विकसित (Model Develop) करणे होय. प्रारूपाद्वारे विशिष्ट कार्यातील विविध घटक आणि त्या घटकांचे तर्कशुद्ध परस्पर संबंध स्पष्ट करता येतात. म्हणूनच अधिक परिणामकारकतेने कार्य करू शकेल अशी नवीन, सुधारित पद्धती प्रारूपाच्या मदतीने विकसित करणे सहजशक्य होते. थोडक्यात, प्रारूपाद्वारे पद्धतीच्या काल्पनिक संरचनेचे वास्तवीकरण आणि सुलभीकरण करता येते. प्रस्तावित पद्धती वास्तवामध्ये अधिक कार्यक्षम होण्यासाठी प्रस्तावित पद्धतीचे प्रथम प्रारूप (Model) तयार करण्यात येते. उदाहरणार्थ, डिजिटल संदर्भ सेवा देणे, ग्रंथालयाचे नेटवर्क तयार करणे, आंतरग्रंथालयीन ग्रंथ देवघेव सेवा देणे, संस्थात्मक संग्रहिका (Institutional repositories) तयार करणे इत्यादी कार्यासाठी प्रथम प्रारूप विकसित करणे उपयुक्त ठरेल.



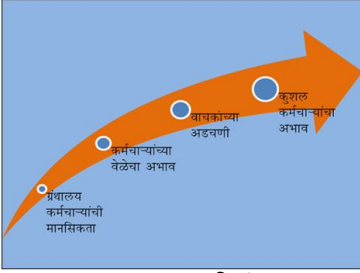
प्रारूप (Model) १: महाविद्यालयीन ग्रंथालयामध्ये माहिती साक्षरता उपक्रमाच्या अनुषंगाने आयोजित करण्यात येणाऱ्या कार्यक्रमांचे स्त्रोत

प्रारूप क्र. १ वरून असे निदर्शनास येते की, संस्थेबाहेरील व्याख्याते, शैक्षणिक संस्था, ग्रंथालय सहकारी व महाविद्यालयीन ग्रंथपाल हे माहिती साक्षरता उपक्रमाच्या अनुषंगाने विविध कार्यक्रम आयोजन करणारे मुख्य स्त्रोत आहेत. किंबहुना ग्रंथपालांची भूमिका इतर घटकांपेक्षा अधिक महत्वाची असल्याचे प्रस्तुत संशोधन कार्यात निदर्शनास आले.



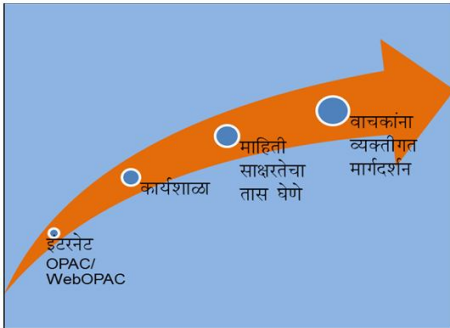
प्रारूप Model २: महाविद्यालयातील ग्रंथालयामार्फत माहिती साक्षरता पध्दतीचा वापर

प्रारूप क्र. २ यानुसार असे निदर्शनास येते की, महाविद्यालयातील ग्रंथालयात माहिती साक्षरता उपक्रमाच्या अनुषंगाने आयोजित करण्यात येणाऱ्या कार्यक्रमांच्या पद्धतींमध्ये सद्य परिस्थितीत प्रमाणीकरण झालेले नाही. या प्रारूपानुसार ग्रंथपालांनी क्लासरूम मध्ये जावून, तसेच प्राध्यापकाद्वारे मार्गदर्शन व विद्यार्थ्यांना समोरासमोर मार्गदर्शन या पद्धती जास्तीत जास्त महाविद्यालयात वापरण्यात येत असल्याचे आढळते.



प्रारूप Model ३: माहिती साक्षरता कार्यक्रम राबवितांना ग्रंथपालांना येणाऱ्या समस्यांचे स्वरूप

प्रारूप क्र. ३ नुसार असे निदर्शनास येते की, विविध महाविद्यालयातील ग्रंथालयात माहिती साक्षरता उपक्रमाच्या अनुषंगाने कार्यक्रमांचे आयोजन करताना विविध समस्यांचा ग्रंथपाल तसेच शिक्षण संस्थांना सामना करावा लागतो. या समस्यांमध्ये प्रामुख्याने कुशल कर्मचाऱ्यांचा अभाव, वाचकांच्या अडचणी, कर्मचाऱ्यांच्या वेळेचा अभाव व ग्रंथालय कर्मचाऱ्यांची मानसिकता इ. समस्या असल्याचे आढळले. एकंदरित पाहता यावरून असे निदर्शनास येते की, माहिती साक्षरता उपक्रमाच्या सफलतेसाठी ग्रंथालयांमध्ये संपूर्ण कर्मचाऱ्यांची नियुक्ती असणे आवश्यक आहे. त्याचप्रमाणे सर्व ग्रंथालयीन कर्मचाऱ्यांना नियमितरित्या प्रशिक्षण देवून त्यांच्या कौशल्याचा निरंतर विकास करणे देखील आवश्यक आहे



प्रारूप Model ४: माहिती साक्षरता उपक्रमासाठी महाविद्यालयीन ग्रंथालयात राबविण्यात येणारे उपक्रम

प्रारूप क्र. ४ नुसार असे निदर्शनास येते की, विविध महाविद्यालयातील ग्रंथालयात माहिती साक्षरता उपक्रमाच्या अनुषंगाने विविध प्रकारच्या कार्यक्रमांचे आयोजन करण्यात येते. या कार्यक्रमांमध्ये मुख्यतः वाचकांना व्यक्तीगत मार्गदर्शन, माहिती साक्षरतेचा तास घेणे व कार्यशाळा इत्यादींचा समावेश होतो. माहिती साक्षरतेमुळे महाविद्यालयीन विद्यार्थ्यांच्या केवळ शैक्षणिकच नव्हे तर सर्वांगीण विकासाला हातभार लागतो. वाचकांना व्यक्तीगत

मार्गदर्शन करणे या कार्यक्रमाच्या अनुषंगाने विविध क्षेत्रातील तज्ञ मंडळींची माहिती ग्रंथपालांना असणे अत्यावश्यक आहे. त्याचप्रमाणे माहिती साक्षरतेचा तास घेणे इ. आयोजन करण्याकरीता विविध प्रकाशांची देखील संपूर्ण माहिती ग्रंथालयात उपलब्ध असावी .

Conclusion

माहिती साक्षरता उपक्रम राबविण्यासाठी विविध स्तरावर आवश्यक कृती	
शासन स्तरावर कृती योजना	<ul style="list-style-type: none"> विद्यापीठ कायदा १९९४ २(३४) नुसार माहिती साक्षरता हा विषय शिकविण्यासाठी सर्व विद्यापीठांना पत्राद्वारे सुचित करावे. विद्यापीठ स्तरावरील अभ्यासक्रमांमध्ये माहिती साक्षरता या विषयाचा अंतर्भाव करणे.
विद्यापीठ स्तरावर कृती योजना	<ul style="list-style-type: none"> माहिती साक्षरता अभ्यास विद्याध्याना अनिवार्य करावा. उदा. पर्यावरणशास्त्र, सामान्यज्ञान प्रमाणे. ग्रंथपालांच्या सहकार्याने उपक्रमासंदर्भात अभ्यासक्रम निश्चित करावा व विद्यापीठाद्वारे महाविद्यालयाच्या प्राचार्यांना व ग्रंथपाल यांना पत्राद्वारे सुचित करावे.
महाविद्यालय स्तरावर कृती योजना	<ul style="list-style-type: none"> प्रथम वर्षाच्या शैक्षणिक वेळापत्रकात माहिती साक्षरता उपक्रमांच्या तासिकेचा समावेश करावा. माहिती साक्षरता उपक्रमासाठी आय.सी.टी. साधनांची उपलब्धता करावी. माहिती साक्षरता उपक्रमाचे वार्षिक वेळापत्रक तयार करावे. माहिती साक्षरता उपक्रम राबविण्यासाठी विशेष निधी उपलब्ध करून द्यावा. ग्रंथपालांमध्ये विद्यार्थी संख्येनुसार मनुष्यबळ उपलब्ध करून द्यावा.
ग्रंथालय स्तरावर कृती योजना	<ul style="list-style-type: none"> माहिती साक्षरता उपक्रम राबविणे वाढत नियोजन करावे. नियोजित कार्यक्रमांनुसार वर्षभरामध्ये उपक्रम राबविणे उदा. ग्रंथप्रदर्शन, तज्ञ व्यक्तींची व्याख्याने इ. आय.सी.टी द्वारे दिल्या जाणाऱ्या सेवांवाबत विद्याध्याना भवगत करावे. संगणक विशेषज्ञ व्यक्तीची नेमणूक करावी. विद्याध्यानांमध्ये वाचनाची आवड कशी निर्माण होईल यासाठी नविन कृती योजना आखावी
ग्रंथपाल यांची कृती योजना	<ul style="list-style-type: none"> Internet, OPAC इ. सेवांवाबत मार्गदर्शन करावे. ग्रंथ प्रदर्शन, कार्यशाळा, ग्रंथालय परिचय उपक्रम राबवावे तज्ञ व्यक्तींचे व्याख्याने आयोजित करावे. आय.सी.टी. वाबत विद्याध्याना भवगत करणे, इंटरनेट वरती माहिती कशी शोधावी याबद्दल मार्गदर्शन, WhatsApp पाहण्याच्या सवयीपेक्षा वाचनाची सवय किती उपयुक्त आहे हे विशद करणे, चर्चासत्रे आयोजित करावे.

संदर्भ ग्रंथसूची

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Education aims to impart knowledge and makes good citizens. New education policy goals of Access, Equity, Quality, Affordability and Accountability. Since education is both a training of minds and training of souls, it should give both knowledge and wisdom. Libraries are the repositories of knowledge and form an integral part of education. Academic libraries are considered to be the nerve centre of academic institutions to support teaching, research, and other academic programmes.

Academic Libraries must provide maximum information with limited resources. Libraries have changed from closed-access libraries to hybrid, digital, and virtual libraries by using the latest technology. With the advent of computers, the nature and services of libraries have changed dramatically. Computers are being used in libraries to process, store, retrieve and disseminate information. As a result, the traditional concept of library is being redefined from a place to access books to remote access to a wide range of resources. Libraries have now metamorphosed in partially digital form. Now libraries are surrounded by networked data, cloud based that is connected to a vast ocean of Internet-based services.

Academic library is heart of an institution in education system. There is considerable importance for ICT in new education policy. So there is need to reinvent the Academic libraries. In this view, the MUCLA Dr. BAMU Sectional Council has decided to provide the common Academic Platform for the library Professionals to discuss these points in the form of this Conference. Hence it has been decided to organize the National conference on ***"Reinventing Academic Libraries for New Education System in Digital Age: Challenges and Opportunities"***



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